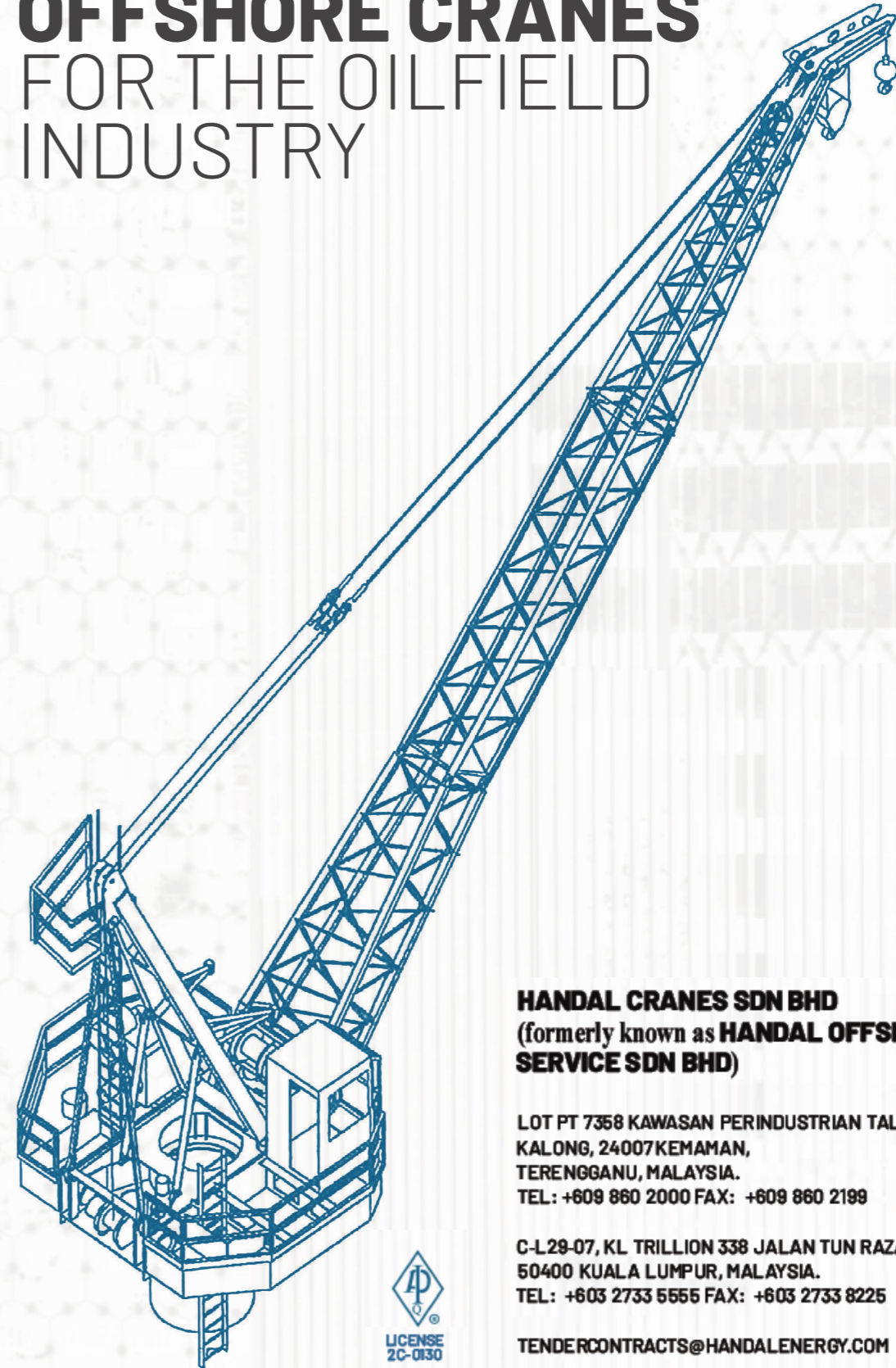


HANDAL

R350

OFFSHORE CRANES
FOR THE OILFIELD
INDUSTRY



HANDAL CRANES SDN BHD
(formerly known as **HANDAL OFFSHORE**
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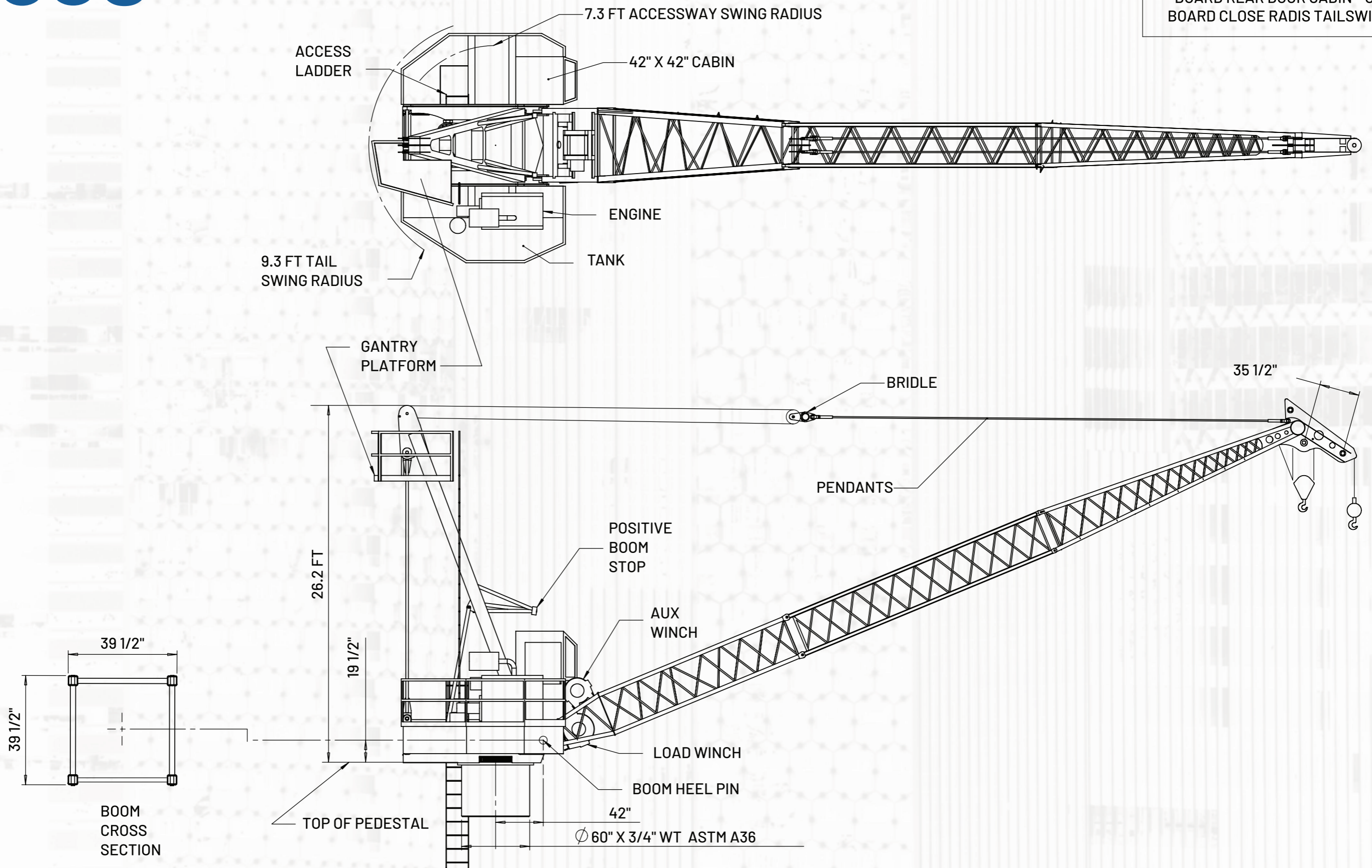
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TENDERCONTRACTS@HANDALENERGY.COM

HANDAL R350

CONFIGURATION ILLUSTRATED:
300 HP DIESEL ENGINE - ON
BOARD REAR DOOR CABIN - ON
BOARD CLOSE RADIS TAILSWING



TECHNICAL SPECIFICATIONS

R350

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 - MAX CAPACITY	30 short tons.
MAXIMUM ROPE SIZE	3/4"
SHEAVE DIAMETER	15"
MAX LINE FALL	8
WINCH MOUNTING	In boom - eliminates two blocking by luffing down; frees deck space.

AUXILIARY HOOK - MAX. CAPACITY	5 short tons
MAXIMUM ROPE SIZE	3/4"
SHEAVE DIAMETER	15"
MAXIMUM LINE FALLS	2
WINCH MOUNTING	On boom - eliminates two blocking by luffing down; frees deck space.

LUFFING - TYPE Rope luffing. Bridle & pendant lines ease change of boom & minimise amount replacement running rope.

ROPE 5/8" dia Dyform 6 rope for higher strength & crush resistance.

SHEAVE DIAMETER 12 1/2"
SPEED @ FLOW 1 1/2 minutes max. to min. radius @ 58GPM . Limit flow 80 GPM

LINE FALLS 8
MOTOR PRESSURE Max pressure 2050 psi. Limit pressure 2600 psi
MIN BOOM ANGLE 0 degrees working, minus 10 degrees for maintenance.
MAX BOOM ANGLE 83 degrees working limit , 83 degrees to positive stop.
AUX. HOLDING Ratchet & pawl remains engaged in up luffing, auto release on boom lowering

WINCH TRANSMISSON High speed hydraulic motor. Fully enclosed planetary gear reduction, failsafe multi-disk wet static brake. Brake remains engaged during raising mode.

ROPE FLEET ANGLE 1.2 Degrees

WINCH CONTROL Power control lowering - automatic hydraulic dynamic braking with lock valve requiring power to lower load; no free fall or friction brake lowering.

DRUM 10.63" diameter. 18 wraps remain on drum

BOOM Medium strength square tubing chords. Mild steel tubular lacing. Construction provides for maximum strength / economy and ease of repair.

CONSTRUCTION
PENDANT ROPE TYPE Dyform 6 for high strength to weight.
ROPE SIZE 1 1/8"
LINE FALLS 2

ROPE REEVING Nylon sheaves with sealed anti friction bearings. Retainers prevent rope from leaving sheave groove. 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 sheaves.

MARINE DUTY Seal welding to suit harsh offshore enviroment, 3 coat marine paint system.

Drive components and brakes are sealed and running in oil. Centralized anti pollution spill containment provided below decking & machinery.

QUALITY Official API 2C Monogram. API Q1 & ISO 9001 quality standards. Full material traceability. Welding to AWS D1.1. Through NDE and testing.

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. 11/4" SAE J429 strength grade 8, impact toughness per API 2C, anti-corrosion coating.

PEDESTAL Precision machined flange. Flange meets

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

LIQUID CAPACITY 120 gallons fuel, 250 gallons hydraulic oil.

RADIUS (Ft)	MAXIMUM SWLH - ONBOARD LIFT BOTTOM SUPPORTED CRANE BASE API SPEC 2C 7 TH						
	50 FT BOOM	60 FT BOOM	70 FT BOOM	80 FT BOOM	90 FT BOOM	100 FT BOOM	
Minimum	61,000	61,000	61,000	56,300	45,700	37,500	
15	61,000	61,000	-	-	-	-	
20	61,000	61,000	61,000	55,200	45,400	-	
25	61,000	59,500	54,600	50,500	44,000	36,600	
30	51,900	49,800	46,300	43,000	40,100	35,600	
35	44,100	44,000	40,300	37,700	35,200	33,000	
40	38,300	38,300	38,200	33,500	31,400	29,500	
45	33,900	33,800	33,800	33,000	28,400	26,700	
50	29,900	30,300	30,200	29,900	28,400	24,500	
55	-	27,400	27,400	27,200	26,000	24,500	
60	-	23,900	24,900	24,900	24,000	22,900	
65	-	-	22,900	22,700	22,200	21,200	
70	-	-	19,700	21,100	20,400	19,800	
75	-	-	-	19,100	19,400	18,400	
80	-	-	-	16,500	17,700	17,100	
85	-	-	-	-	15,900	16,200	
90	-	-	-	-	13,900	14,800	
95	-	-	-	-	-	13,400	
100	-	-	-	-	-	11,700	
MAX	21,200	17,800	15,000	12,800	10,900	9,200	
Foundation reactions	Max thrust (Lb)	159,475	160,176	160,883	153,043	133,218	117,559
	@ moment (Lb-Ft)	3,082,345	2,470,960	2,477,393	1,977,789	1,795,082	1,613,530
	Max mom. (Lb-Ft)	3,195,812	3,197,931	3,215,647	3,232,311	3,232,147	3,149,027
	@ thrust (Lb)	142,670	94,591	86,320	83,435	80,749	75,066
Ref:	R350_50_BOT_legacy_on	R350_60_BOT_legacy_on	R350_70_BOT_legacy_on	R350_80_BOT_legacy_on	R350_90_BOT_legacy_on	R350_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 7th 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	750+554 x L	L x 5.6 x 5.6
Gantry	20,100	26.3 x 7.8 x 11.2
Bridle	300	2.2 x 1.2 x 1.2
Boom heel	4650	21.0 x 5.5 x 3.9
Boom mid	75 x L	L x 3.5 x 3.8
Boom tip	2,400	23.8 x 3.4 x 6.2
Pendants + hook blocks	1,600	5.0 x 5.0 x 5.0
Gantry platform	500	7.0 x 4.9 x 4.0
Cabin / deck	3,500	12.9 x 5.7 x 9.1
Power unit / deck	5,400	12.1 x 5.7 x 9.1
Aft deck	1,400	16.0 x 2.5 x 6.0
Ladders -access & gantry	500	20.0 x 2.0 x 2.0
Accessories	varies	varies

L = Length in feet. Weight includes machinery. For illustrated configuration m001226. R350_wt_dim_revA

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

Ratings shown are maximum per API Spec 2C Ed. @ c_b = 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 hook block weight to determine the lifting capacity. Foundation reactions are based on dead load plus live load x 1.5 x c_b.