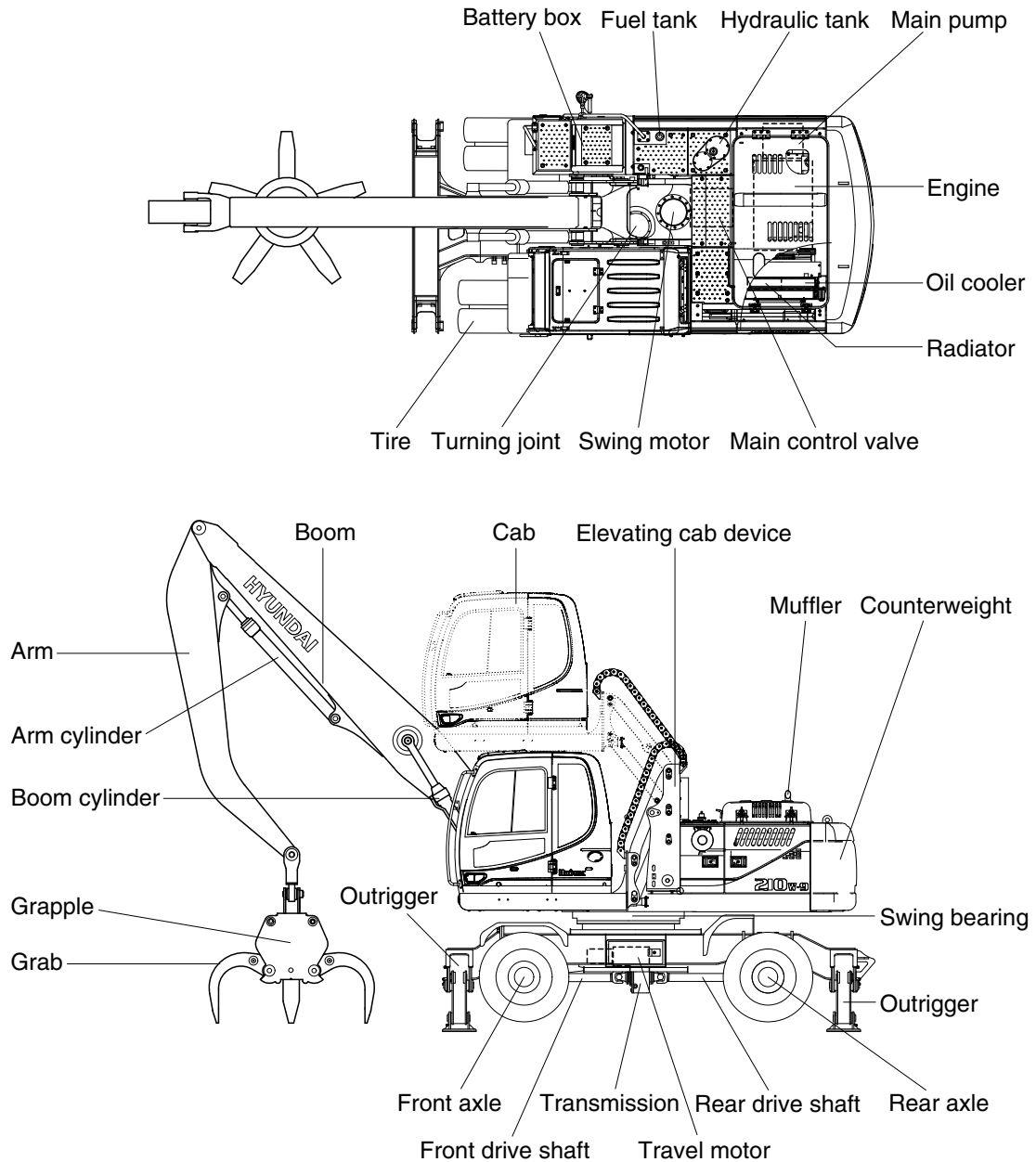


SPECIFICATIONS

1. MAJOR COMPONENT

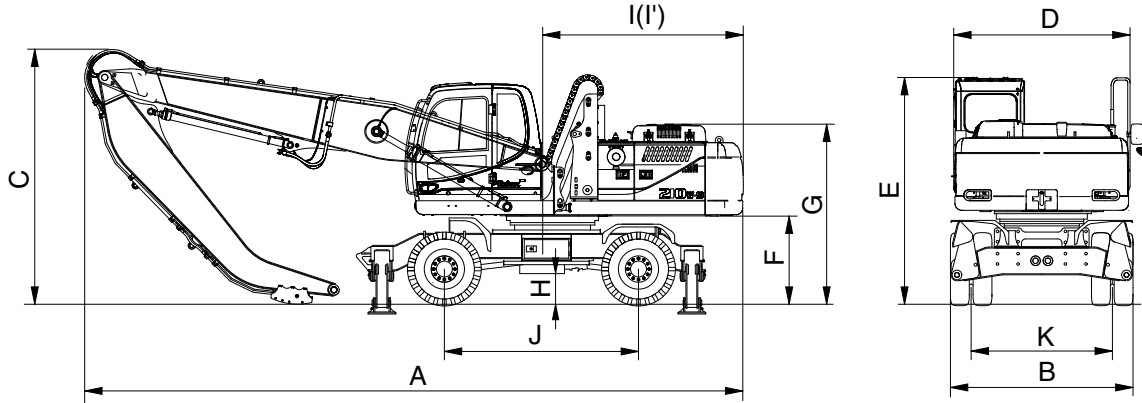
- 6.5 m (21' 4") BOOM, 4.5 m (14' 9") ARM AND ELEVATING CAB



210W9MH2SP01

2. SPECIFICATIONS

- 6.5 m (21' 4") BOOM, 4.5 m (14' 9") ARM, 4 OUTRIGGER AND ELEVATING CAB

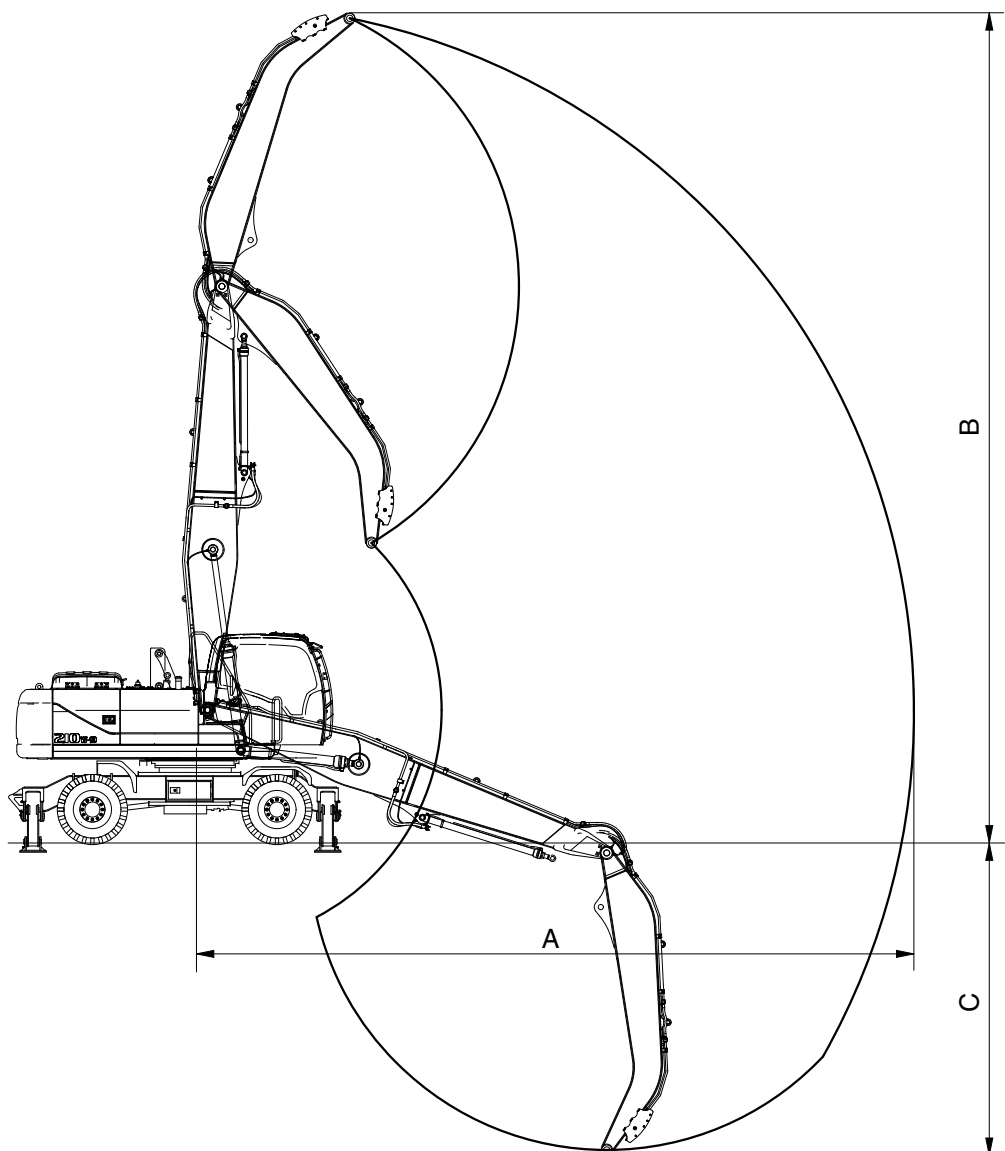


20W92SP02MH

Description		Unit	Specification
Operating weight		kg (lb)	25700 (56660)
Overall length	A	mm (ft-in)	9600 (31' 6")
Overall width	B		2530 (8' 4")
Overall height	C		3720 (12' 2")
Upperstructure width	D		2530 (8' 4")
Cab height	E		3240 (10' 8")
Ground clearance of counterweight	F		1295 (4' 3")
Engine cover height	G		2565 (8' 5")
Minimum ground clearance	H		345 (1' 2")
Rear-end distance	I		2768 (9' 1")
Rear-end swing radius	I'		2790 (9' 2")
Wheel base	J		2800 (9' 2")
Tread	K		1874 (6' 2")
Travel speed	Low	km/hr (mph)	9.3 (5.8)
	High		35 (21.7)
Swing speed		rpm	10.3
Gradeability		Degree (%)	31.5 (61)
Max traction force		kgf (lbf)	11900 (26200)

3. WORKING RANGE

- 6.5 m (21' 4") BOOM



210W9MH2SP05

Description		4.5 m (14' 9") Arm
Max working reach	A	11000 mm (36' 1")
Max working height	B	12650 mm (41' 6")
Max working depth	C	4710 mm (15' 5")

4. WEIGHT

Item	R210W-9MH	
	kg	lb
Upperstructure assembly	9470	20880
Main frame weld assembly	1760	3880
Engine assembly	560	1240
Main pump assembly	170	370
Main control valve assembly	220	490
Swing motor assembly	240	530
Hydraulic oil tank weld assembly	165	360
Fuel tank weld assembly	123	270
Counterweight	5000	11020
Cab assembly	500	1100
Lower frame weld assembly	2450	5400
Swing bearing	290	640
Travel motor assembly	80	176
Turning joint	120	265
Transmission assembly	135	300
Front axle assembly	755	1665
Rear axle assembly	585	1290
Front attachment assembly (6.5 m boom, 4.5 m arm, 0.70 m ³ grapple)	4965	10945
6.5 m boom assembly	1760	3880
4.5 m arm assembly	950	2095
0.70 m ³ grapple	1200	2650
Boom cylinder assembly	180/1EA	400/1EA
Arm cylinder assembly	290	640
Oscillating cylinder assembly	30/1EA	70/1EA
Dozer blade assembly	920	2030
Front outrigger assembly	390	860
Rear outrigger assembly	1020	2250
Outrigger cylinder assembly	100/1EA	220/1EA
Blade cylinder assembly	82/1EA	180/1EA

5. LIFTING CAPACITIES

(1) 6.5 m (21' 4") boom, 4.5 m (14' 9") arm, elevating cab riser and 4 outrigger down.

·  : Rating over-front

·  : Rating over-side or 360 degree

Load point height		Load radius												At max. reach		
		3.0 m (9.8 ft)		4.5 m (14.8 ft)		6.0 m (19.7 ft)		7.5 m (24.6 ft)		9.0 m (29.5 ft)		10.5 m (34.5 ft)		Capacity		Reach
																m (ft)
12 m (39.4 ft)	kg													*7345	*7345	4.03
	lb													*16194	*16194	(13.23)
10.5 m (34.4 ft)	kg					*5199	*5199							*5066	*5066	6.7
	lb					*11463	*11463							*11168	*11168	(21.99)
9.0 m (29.5 ft)	kg					*4839	*4839	*4499	*4499					*4394	*4394	8.29
	lb					*10669	*10669	*9919	*9919					*9686	*9686	(27.19)
7.5 m (24.6 ft)	kg					*4841	*4841	*4420	*4420	*4106	3955			*4047	3681	9.37
	lb					*10672	*10672	*9744	*9744	*9052	8719			*8922	8116	(30.75)
6.0 m (19.7 ft)	kg					*5121	*5121	*4541	*4541	*4102	3935			*3827	3231	10.12
	lb					*11289	*11289	*10011	*10011	*9043	8674			*8437	7124	(33.19)
4.5 m (14.8 ft)	kg	*9382	*9382	*6942	*6942	*5624	*5624	*4788	*4788	*4195	3861	*3700	3015	*3665	2970	10.59
	lb	*20684	*20684	*15305	*15305	*12400	*12400	*10557	*10557	*9248	8511	*8157	6647	*8081	6547	(34.76)
3.0 m (9.8 ft)	kg			*8225	*8225	*6224	*6224	*5080	4930	*4312	3762	*3689	2975	*3528	2830	10.84
	lb			*18132	*18132	*13722	*13722	*11200	10870	*9507	8293	*8132	6560	*7778	6239	(35.57)
1.5 m (4.90 ft)	kg			*9193	*9193	*6705	6520	*5306	4749	*4380	3662	*3617	2931	*3390	2785	10.88
	lb			*20268	*20268	*14781	14375	*11698	10471	*9656	8073	*7975	6461	*7473	6140	(35.69)
Ground Line	kg	*3150	*3150	*9362	*9362	*6855	6280	*5351	4608	*4314	3583	*3387	2902	*3226	2830	10.7
	lb	*6945	*6945	*20641	*20641	*15113	13844	*11796	10159	*9511	7900	*7467	6397	*7111	6240	(35.11)
-1.5 m (-4.9 ft)	kg	*4753	*4753	*8737	*8737	*6563	6157	*5110	4528	*4014	3544			*3001	2979	10.3
	lb	*10480	*10480	*19263	*19263	*14468	13574	*11266	9983	*8848	7813			*6617	6568	(33.8)
-3.0 m (-9.60 ft)	kg	*6437	*6437	*7453	*7453	*5773	*5773	*4477	*4477	*3310	*3310			*2660	*2660	9.65
	lb	*14190	*14190	*16430	*16430	*12726	*12726	*9871	*9871	*7297	*7297			*5863	*5863	(31.67)

Note 1. Lifting capacity are based on SAE J1097 and ISO 10567.

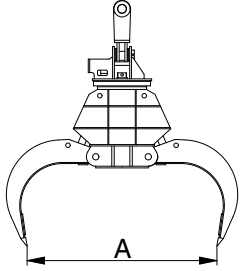
2. Lifting capacity of the ROBEX series does not exceed 75% of tipping load with the machine on firm, level ground or 87% of full hydraulic capacity.

3. The load point is the end pin point of front attachment.

4. *indicates load limited by hydraulic capacity.

▲ Failure to comply to the rated load can cause possible personal injury or property damage. Make adjustments to the rated load as necessary for non-standard configurations.

6. GRAPPLE GUIDE

Item	Lifting capacity	Max opening width (A)	Weight	
Orange grapple	0.70 m ³ (0.92 yd ³)	1820 mm (6' 0")	1200 kg (2650 lb)	

300E2SP10

7. SPECIFICATIONS FOR MAJOR COMPONENTS

1) ENGINE

Item	Specification
Model	HYUNDAI HE 6.7
Type	4-cycle turbocharged diesel engine, low emission
Cooling method	Water cooling
Number of cylinders and arrangement	6 cylinders, in-line
Firing order	1-5-3-6-2-4
Combustion chamber type	Direct injection type
Cylinder borexstroke	107×124 mm (4.2"×4.9")
Piston displacement	6700 cc (409 cu in)
Compression ratio	17.2 : 1
Rated gross horse power (SAE J1995)	176 Hp at 1900 rpm (131 kW at 1900 rpm)
Maximum torque at 1400 rpm	81.4 kgf·m (589 lbf·ft)
Engine oil quantity	24l (6.3 U.S. gal)
Dry weight	556 kg (1226 lb)
High idling speed	2000±50 rpm
Low idling speed	850±100 rpm
Rated fuel consumption	165.9 g/Hp·hr at 1900 rpm
Starting motor	Nippon denso (24 V-4.5 kW)
Alternator	Delco Remy (24 V-90 A)
Battery	2 × 12 V × 100 Ah

2) MAIN PUMP

Item	Specification
Type	Variable displacement parallel axis piston pumps
Capacity	2 × 117 cc/rev
Maximum pressure	350 kgf/cm ² (4980 psi) [380 kgf/cm ² (5400 psi)]
Rated oil flow	2 × 228 l /min (60.2 U.S. gpm / 50.2 U.K. gpm)
Rated speed	1900 rpm

[]: Power boost

3) GEAR PUMP

Item	Specification
Type	Fixed displacement gear pump single stage
Capacity	15cc/rev
Maximum pressure	40 kgf/cm ² (570 psi)
Rated oil flow	29.3 l /min (7.7 U.S. gpm/6.4 U.K. gpm)

4) MAIN CONTROL VALVE

Item	Specification
Type	9 spools
Operating method	Hydraulic pilot system
Main relief valve pressure	350 kgf/cm ² (4980 psi) [380 kgf/cm ² (5400 psi)]
Overload relief valve pressure	400 kgf/cm ² (5690 psi)

[]: Power boost

5) SWING MOTOR

Item	Specification
Type	Fixed displacement axial piston motor
Capacity	151 cc/rev
Relief pressure	265 kgf/cm ² (3770 psi)
Braking system	Automatic, spring applied hydraulic released
Braking torque	59 kgf · m (427 lbf · ft)
Brake release pressure	33~50 kgf/cm ² (470~711 psi)
Reduction gear type	2 - stage planetary

6) TRAVEL MOTOR

Item	Specification
Type	Variable displacement bent-axis axial piston motor
Rated pressure	380 kgf/cm ² (5400 psi)
Counter balance valve	Applied
Capacity	160/61 cc/rev

7) POWER TRAIN

Item	Description		Specification
Transmission	Type		2 speed power shift transmission
	Gear ratio	1st	4.87
		2nd	1.20
	Clutch pressure		30~32 kgf/cm ² (427~455 psi)
Parking brake	Type		Multi disc brake integrated in transmission
	Maximum braking torque		2937 kgf · m (21240 lbf · ft)
Axle	Type		4 wheel drive with differential
	Gear ratio		16.0
	Brake		Multi disc brake
	Brake pressure		80 kgf/cm ² (1140 psi)
	Steering pressure		185 kgf/cm ² (2630 psi)

8) REMOTE CONTROL VALVE

Item	Description	Specification
Type		Pressure reducing
Operating pressure	Minimum	6.5 kgf / cm ² (92 psi)
	Maximum	25 kgf / cm ² (360 psi)
Single operation stroke	Lever (1, 3 port)	90 mm (3.5 in)
	Lever (2, 4 port)	130 mm (4.4 in)

9) CYLINDER

Item		Specification
Boom cylinder	Bore dia × Rod dia × Stroke	∅ 120 × ∅ 85 × 1290 mm
	Cushion	Extend only
Arm cylinder	Bore dia × Rod dia × Stroke	∅ 140 × ∅ 100 × 1478mm
	Cushion	Extend and retract

※ Discoloration of cylinder rod can occur when the friction reduction additive of lubrication oil spreads on the rod surface.

※ Discoloration does not cause any harmful effect on the cylinder performance.

10) GRAPPLE

Item	Lifting capacity	Width	
		Max opening width	Overall length
R210W-9MH	0.70 m ³ (0.92 yd ³)	1820 mm (6' 0")	2400 mm (7' 10")

8. RECOMMENDED OILS

Use only oils listed below or equivalent.
Do not mix different brand oil.

Service point	Kind of fluid	Capacity ℓ (U.S. gal)	Ambient temperature °C(°F)							
			-50 (-58)	-30 (-22)	-20 (-4)	-10 (14)	0 (32)	10 (50)	20 (68)	30 (86)
Engine oil pan	Engine oil	24 (6.3)	★SAE 5W-40							
							SAE 30			
Transmission case		2.5 (0.66)	SAE 10W							
			SAE 10W-30							
			SAE 15W-40							
Swing drive	Gear oil	5.0 (1.3)★ ²	★SAE 75W-90							
		6.2 (1.7)	SAE 85W-140							
	Grease	1.2 (0.3)	★NLGI NO.1							
			NLGI NO.2							
Front axle	Gear oil	Center : 9.6 (2.5) Hub : 2.5×2 (0.7×2)	SAE 85W-90 LSD or UTTO							
Rear axle		Center : 13.5 (3.6) Hub : 2.5×2 (0.7×2)								
Hydraulic tank	Hydraulic oil	Tank: 165 (43.6) System: 340 (89.8)	★ISO VG 15							
			ISO VG 32							
			ISO VG 46							
			ISO VG 68							
Fuel tank	Diesel fuel	360 (95.1)	★ASTM D975 NO.1							
			ASTM D975 NO.2							
Fitting (Grease nipple)	Grease	As required	★NLGI NO.1							
			NLGI NO.2							
Radiator (Reservoir tank)	Mixture of antifreeze and soft water★ ¹	35 (9.2)	Ethylene glycol base permanent type (50 : 50)							
			★Ethylene glycol base permanent type (60 : 40)							

SAE : Society of Automotive Engineers

API : American Petroleum Institute

ISO : International Organization for Standardization

NLGI : National Lubricating Grease Institute

ASTM : American Society of Testing and Material

UTTO : Universal Tractor Transmission Oil

★ : Cold region

Russia, CIS, Mongolia

★¹ : Soft water

City water or distilled water

★² : Service when the grease inlet exists on the equipment