

# Specifications R380LC-9A

## ENGINE

MODEL	CUMMINS QSL9		
Type	Water cooled, 4 cycle Diesel, 6-Cylinders in line, direct injection, turbocharged, charged air cooled and low emission		
Rated flywheel horse power	SAE	J1995 (gross)	310 HP (231 kW) / 1,650 rpm
		J1349 (net)	290 HP (216 kW) / 1,650 rpm
	DIN	6271/1 (gross)	314 PS (231 kW) / 1,650 rpm
		6271/1 (net)	294 PS (216 kW) / 1,650 rpm
Max. torque	148.0 kgf.m (1,070 lbf.ft) / 1,400 rpm		
Bore x stroke	114 x 145 mm (4.5" x 5.7")		
Piston displacement	8,900 cc (540 in <sup>3</sup> )		
Batteries	2 x 12 V x 160 AH		
Starting motor	24 V; 7.5 kW		
Alternator	24 V; 95 Amp		

## HYDRAULIC SYSTEM

MAIN PUMP	
Type	Variable displacement piston pump
Max. flow	2 x 288.8 ℓ /min (76.3 US gpm / 63.5 UK gpm)
Sub-pump for pilot circuit	Gear pump

Cross-sensing and fuel saving pump system

### HYDRAULIC MOTORS

Travel	Two speed axial piston motor with brake valve and parking brake
Swing	Axial piston motor with automatic brake

### RELIEF VALVE SETTING

Implement circuits	330 kgf/cm <sup>2</sup> (4,690 psi)
Travel	360 kgf/cm <sup>2</sup> (5,120 psi)
Power boost (boom, arm, bucket)	360 kgf/cm <sup>2</sup> (5,120 psi)
Swing circuit	290 kgf/cm <sup>2</sup> (4,125 psi)
Pilot circuit	40 kgf/cm <sup>2</sup> (569 psi)
Service valve	Installed

### HYDRAULIC CYLINDERS

No. of cylinder-bore x stroke	Boom: 2-160 x 1,500 mm (6.3" x 59.1")
	Arm: 1-170 x 1,760 mm (6.7" x 69.3")
	Bucket: 1-150 x 1,295 mm (5.9" x 51.0")

## DRIVES & BRAKES

Drive method	Fully hydrostatic type
Drive motor	Axial piston motor, in-shoe design
Reduction system	Planetary reduction gear
Max. drawbar pull	32000 kgf (70,550 lbf)
Max. travel speed (high) / (low)	4.8 km/hr (3.0 mph) / 3.1 km/hr (1.9 mph)
Gradeability	35° (70 %)
Parking brake	Multi wet disc

## CONTROL

Pilot pressure operated joysticks and pedals with detachable lever provide almost effortless and fatigueless operation.

Pilot control	Two joysticks with one safety lever (LH): Swing and arm (RH): Boom and bucket (ISO)
Traveling and steering	Two levers with pedals
Engine throttle	Electric, Dial type

## SWING SYSTEM

Swing motor	Fixed displacement axial pistons motor
Swing reduction	Planetary gear reduction
Swing bearing lubrication	Grease-bathed
Swing brake	Multi wet disc
Swing speed	9.4 rpm

## COOLANT & LUBRICANT CAPACITY

	liter	US gal	UK gal
Refilling			
Fuel tank	600	158.5	132
Engine coolant	55	14.5	12.1
Engine oil	30	7.9	6.6
Swing device - gear oil	8	2.1	1.8
Final drive (each) - gear oil	5.5	1.5	1.2
Hydraulic system (including tank)	410	108.3	90.2
Hydraulic tank	210	55.5	46.2

## UNDERCARRIAGE

The X-leg type center frame is integrally welded with reinforced box-section track frames. The undercarriage includes lubricated rollers, idlers, track adjusters with shock absorbing springs and sprockets, and a track chain with double or triple grouser shoes.

Center frame	X - leg type
Track frame	Pentagonal box type
No. of shoes on each side	51
No. of carrier rollers on each side	2
No. of track rollers on each side	9
No. of rail guards on each side	2

## OPERATING WEIGHT (APPROXIMATE)

Operating weight, including 6,500 mm (21'4") boom, 3,200 mm (10'6") arm, SAE heaped 1.62 m<sup>3</sup> (2.12 yd<sup>3</sup>) bucket, lubricant, coolant, full fuel tank, full hydraulic tank, and all standard equipments.

### MAJOR COMPONENT WEIGHT

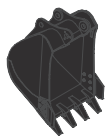
Type	R380LC-9A	R380NLC-9A
Upperstructure	8,750 kg (19,290 lb)	
Boom (with arm cylinder)	3,780 kg (8,330 lb)	
Arm (with bucket cylinder)	2,010 kg (4,430 lb)	

### OPERATING WEIGHT

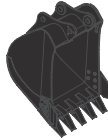
Shoes		Operating weight		Ground pressure
Type	Width mm (in)	kg (lb)	kgf/cm <sup>2</sup> (psi)	
Triple grouser	600 (24")	R380LC-9A	38,200 (84,220)	0.68 (9.67)
		R380NLC-9A	38,100 (84,000)	0.68 (9.67)
	700 (28")	R380LC-9A	38,650 (85,210)	0.59 (8.39)
		R380LC-9A	38,875 (85,700)	0.56 (7.96)
		R380LC-9A	39,100 (86,200)	0.52 (7.39)
Heavy duty	600 (24")	R380LC-9A	38,590 (85,080)	0.69 (9.81)
	700 (28")	R380LC-9A	39,110 (86,220)	0.60 (8.53)
Double grouser	600 (24")	R380LC-9A	38,445 (84,760)	0.69 (9.81)
	700 (28")	R380LC-9A	38,945 (85,860)	0.60 (8.53)

## BUCKETS R380LC-9A

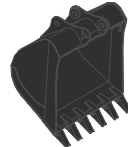
All buckets are welded with high-strength steel.



1.46 (1.91)



1.62 (2.12)  
1.86 (2.43)



2.10 (2.75)  
2.32 (3.03)



◆ 1.62 (2.12)



● 1.44 (1.88)  
● 1.62 (2.12)  
● 1.86 (2.43)

SAE heaped m<sup>3</sup> (yd<sup>3</sup>)

Capacity m <sup>3</sup> (yd <sup>3</sup> )		Width mm (in)		Weight kg (lb)	Recommendation m (ft.in)					
SAE heaped	CECE heaped	Without side cutters	With side cutters		6.5 (21' 4") Boom				6.15 (20' 2") Boom	8.6 (28' 3") Boom
					2.5 (8' 2") Arm	3.2 (10' 6") Arm	3.9 (12' 10") Arm	4.3 (14' 1") Arm	2.5 (8' 2") Arm	5.1 (16' 9") Arm
1.46 (1.91)	1.27 (1.66)	1,380 (54.3)	1,510 (59.4)	1,170 (2,580)	●	●	●	●	●	▲
1.62 (2.12)	1.40 (1.83)	1,440 (56.7)	1,570 (61.8)	1,280 (2,820)	●	●	■	■	●	—
1.86 (2.43)	1.60 (2.09)	1,620 (63.8)	1,750 (68.9)	1,390 (3,060)	●	●	■	▲	●	—
2.10 (2.75)	1.80 (2.35)	1,810 (71.3)	1,940 (76.4)	1,520 (3,350)	■	■	▲	—	●	—
2.32 (3.03)	2.00 (2.62)	1,990 (78.3)	2,120 (83.5)	1,760 (3,880)	▲	▲	▲	—	■	—
◆ 1.62 (2.12)	1.40 (1.83)	1,540 (60.6)	—	1,570 (3,460)	●	●	■	▲	●	—
● 1.44 (1.88)	1.27 (1.66)	1,280 (50.4)	—	1,565 (3,450)	●	●	■	▲	●	—
● 1.62 (2.12)	1.40 (1.83)	1,545 (60.8)	—	1,610 (3,550)	●	●	■	▲	●	—
● 1.86 (2.43)	1.60 (2.09)	1,725 (67.9)	—	1,710 (3,770)	■	■	—	—	■	—

◆ Heavy-duty bucket

● Rock-Heavy duty bucket

● Applicable for materials with density of 2,000 kg /m<sup>3</sup> (3,370 lb/ yd<sup>3</sup>) or less

■ Applicable for materials with density of 1,600 kg /m<sup>3</sup> (2,700 lb/ yd<sup>3</sup>) or less

▲ Applicable for materials with density of 1,100 kg /m<sup>3</sup> (1,850 lb/ yd<sup>3</sup>) or less

## ATTACHMENT R380LC-9A

Booms and arms are welded, a low-stress, full-box section design.

6.15 m (20' 2"); 6.5 m (21' 4") & 8.6 m (28' 3") booms and 2.5 m (8' 2"); 3.2 m (10' 6"); 3.9 m (12' 10"); 4.3 m (14' 1") & 5.1 m (16' 9") arms are available.

## DIGGING FORCE R380LC-9A

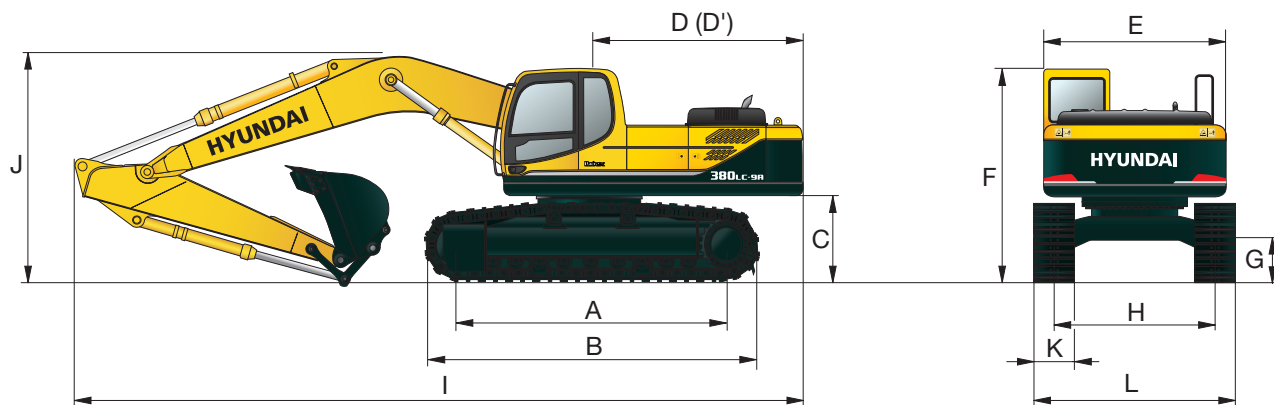
Boom	Length	mm (ft-in)	6,500 (21' 4")				8,600 (28' 3")	Remarks
	Weight	kg (lb)	3,780 (8,330)				4,560 (10,050)	
Arm	Length	mm (ft-in)	2,500 (8' 2")	3,200 (10' 6")	3,900 (12' 10")	4,300 (14' 1")	5,100 (16' 9")	
	Weight	kg (lb)	1,990 (4,390)	2,010 (4,430)	2,220 (4,890)	2,340 (5,160)	2,560 (5,640)	
Bucket digging force	SAE	kN	201.0 [219.3]	201.0 [219.3]	201.0 [219.3]	201.0 [219.3]	201.0 [219.3]	[ ]: Power Boost
		kgf	20,500 [22,360]	20,500 [22,360]	20,500 [22,360]	20,500 [22,360]	20,500 [22,360]	
		lbf	45,190 [49,300]	45,190 [49,300]	45,190 [49,300]	45,190 [49,300]	45,190 [49,300]	
	ISO	kN	228.5 [249.3]	228.5 [249.3]	228.5 [249.3]	228.5 [249.3]	228.5 [249.3]	
		kgf	23,300 [25,420]	23,300 [25,420]	23,300 [25,420]	23,300 [25,420]	23,300 [25,420]	
		lbf	51,370 [56,040]	51,370 [56,040]	51,370 [56,040]	51,370 [56,040]	51,370 [56,040]	
Arm crowd force	SAE	kN	184.4 [201.1]	152.0 [165.8]	135.3 [147.6]	124.5 [135.9]	109.8 [119.8]	
		kgf	18,800 [20,510]	15,500 [16,910]	13,800 [15,050]	12,700 [13,850]	11,200 [12,220]	
		lbf	41,450 [45,220]	34,170 [37,280]	30,420 [33,190]	28,000 [30,550]	24,690 [26,930]	
	ISO	kN	192.2 [209.7]	156.9 [171.2]	139.3 [151.9]	128.5 [140.1]	112.8 [123.0]	
		kgf	19,600 [21,380]	16,000 [17,450]	14,200 [15,490]	13,100 [14,290]	11,500 [12,550]	
		lbf	43,210 [47,140]	35,270 [38,480]	31,310 [34,160]	28,880 [31,510]	25,350 [27,650]	

Note: Boom weight includes arm cylinder, piping and pin

Arm weight includes bucket cylinder, linkage and pin

# Dimensions & Working Ranges

## DIMENSIONS R380LC-9A / R380NLC-9A



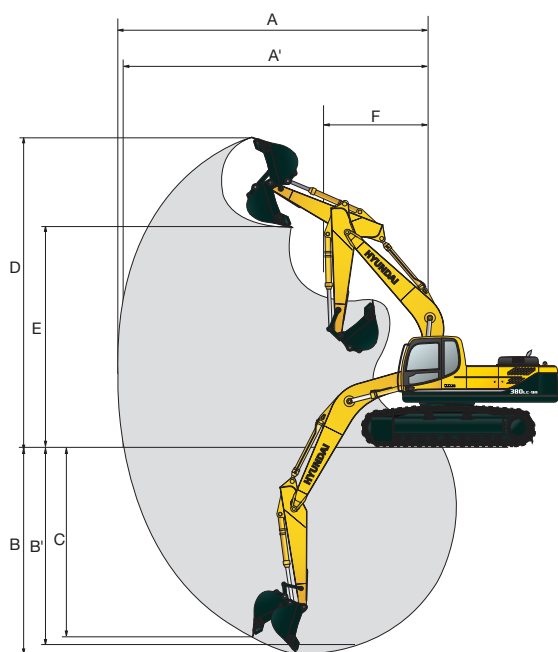
mm (ft · in)

mm (ft · in)

<b>A</b> Tumbler distance	4,340 (14' 3")	<b>Boom length</b>	6,500 (21' 4")				6,150 (20' 2")	8,600 (28' 3")
<b>B</b> Overall length of crawler	5,280 (17' 4")	<b>Arm length</b>	2,500 (8' 2")	3,200 (10' 6")	3,900 (12' 10")	4,300 (14' 1")	2,500 (8' 2")	5,100 (16' 9")
<b>C</b> Ground clearance of counterweight	1,290 (4' 3")	<b>I</b> Overall length	11,240 (36' 11")	11,120 (36' 6")	11,160 (36' 7")	11,110 (36' 5")	10,880 (35' 8")	13,070 (42' 11")
<b>D</b> Tail swing radius	3,415 (11' 2")	<b>J</b> Overall height of boom	3,710 (12' 2")	3,450 (11' 4")	3,880 (12' 9")	4,300 (14' 1")	3,760 (12' 4")	4,910 (16' 1")
<b>D'</b> Rear-end length	3,350 (10' 12")	<b>K</b> Track shoe width	600 (24")	700 (28")	750 (30")	800 (32")	900 (36")	
<b>E</b> Overall width of upperstructure	2,980 (9' 9")	<b>L</b> Overall width	R380LC-9A	3,340 (10' 11")	3,440 (11' 3")	3,490 (11' 5")	3,540 (11' 7")	3,640 (11' 11")
<b>F</b> Overall height of cab	3,175 (10' 5")		R380NLC-9A	2,990 (9' 10")	3,090 (10' 2")	3,190 (10' 6")	3,290 (10' 10")	3,390 (11' 1")
<b>G</b> Min. ground clearance	550 (1' 10")							
<b>H</b> Track gauge	R380LC-9A: 2,740 (8' 12") R380NLC-9A: 2,390 (7' 10")							

## WORKING RANGES R380LC-9A / R380NLC-9A

mm (ft · in)



<b>Boom length</b>	6,500 (21' 4")				6,150 (20' 2")	8,600 (28' 3")
<b>Arm length</b>	2,500 (8' 2")	3,200 (10' 6")	3,900 (12' 10")	4,300 (14' 1")	2,500 (8' 2")	5,100 (16' 9")
<b>A</b> Max. digging reach	10,720 (35' 2")	11,250 (36' 11")	11,870 (38' 11")	12,380 (40' 7")	10,330 (33' 11")	15,280 (50' 2")
<b>A'</b> Max. digging reach on ground	10,490 (34' 5")	11,040 (36' 3")	11,670 (38' 3")	12,180 (39' 12")	10,100 (33' 2")	15,120 (49' 7")
<b>B</b> Max. digging depth	6,820 (22' 5")	7,520 (24' 8")	8,220 (26' 12")	8,620 (28' 3")	6,450 (21' 2")	11,230 (36' 10")
<b>B'</b> Max. digging depth (8' level)	6,640 (21' 9")	7,360 (24' 2")	8,080 (26' 6")	8,490 (27' 10")	6,270 (20' 7")	11,120 (36' 6")
<b>C</b> Max. vertical wall digging depth	5,930 (19' 5")	6,330 (20' 9")	7,040 (23' 1")	7,540 (24' 9")	5,490 (18' 0")	10,060 (33' 0")
<b>D</b> Max. digging height	10,590 (34' 9")	10,570 (34' 8")	10,800 (35' 5")	11,360 (37' 3")	10,320 (33' 10")	13,350 (43' 10")
<b>E</b> Max. dumping height	7,370 (24' 2")	7,410 (24' 4")	7,640 (25' 1")	8,160 (26' 9")	7,120 (23' 4")	10,150 (33' 4")
<b>F</b> Min. front swing radius	4,530 (14' 10")	4,450 (14' 7")	4,440 (14' 7")	4,460 (14' 8")	4,220 (13' 10")	5,900 (19' 4")

# Lifting Capacities

## R380LC-9A

Rating over-front Rating over-side or 360 degrees

Boom : 6.15 m (20' 2") / Arm : 2.5 m (8' 2") / Bucket : 1.62 m<sup>3</sup> (2.12 yd<sup>3</sup>) SAE heaped / Shoe : 600 mm (24") triple grouser

Load point height m (ft)		Load radius								At max. reach		
		3.0 m (10 ft)		4.5 m (15 ft)		6.0 m (20 ft)		7.5 m (25 ft)		Capacity		Reach
												m (ft)
9.0 m (30 ft)	kg									*7580	*7580	6.65
	lb									*16710	*16710	(21.8)
7.5 m (25 ft)	kg									*7420	6190	8.02
	lb									*16360	13650	(26.3)
6.0 m (20 ft)	kg					*8590	*8590	*6510	*6510	*7460	4980	8.88
	lb					*18940	*18940	*14350	*14350	*16450	10980	(29.1)
4.5 m (15 ft)	kg	*18270	*18270	*12170	*12170	*9790	9680	*8620	6560	7480	4350	9.38
	lb	*40280	*40280	*26830	*26830	*21580	21340	*19000	14460	16490	9590	(30.8)
3.0 m (10 ft)	kg			*15380	14190	*11300	9030	*9350	6250	7050	4040	9.58
	lb			*33910	31280	*24910	19910	*20610	13780	15540	8910	(31.4)
1.5 m (5 ft)	kg			*17740	13080	*12640	8450	*10060	5940	7010	3980	9.52
	lb			*39110	28840	*27870	18630	*22180	13100	15450	8770	(31.2)
Ground Line	kg	*13400	*13400	*18580	12560	*13410	8060	10120	5710	7360	4170	9.19
	lb	*29540	*29540	*40960	27690	*29560	17770	22310	12590	16230	9190	(30.2)
-1.5 m (-5 ft)	kg	*21020	*21020	*18170	12420	*13400	7880	10010	5610	8290	4710	8.53
	lb	*46340	*46340	*40060	27380	*29540	17370	22070	12370	18280	10380	(28.0)
-3.0 m (-10 ft)	kg	*22960	*22960	*16580	12540	*12330	7930			*8180	5950	7.47
	lb	*50620	*50620	*36550	27650	*27180	17480			*18030	13120	(24.5)
-4.5 m (-15 ft)	kg	*17870	*17870	*13110	12970							
	lb	*39400	*39400	*28900	28590							

Boom : 6.5 m (21' 4") / Arm : 2.5 m (8' 2") / Bucket : 1.62 m<sup>3</sup> (2.12 yd<sup>3</sup>) SAE heaped / Shoe : 600 mm (24") triple grouser

Load point height m (ft)		Load radius								At max. reach		
		3.0 m (10 ft)		4.5 m (15 ft)		6.0 m (20 ft)		7.5 m (25 ft)		Capacity		Reach
												m (ft)
9.0 m (30 ft)	kg									*6820	*6820	7.22
	lb									*15040	*15040	(23.7)
7.5 m (25 ft)	kg									*6770	5390	8.49
	lb									*14930	11880	(27.9)
6.0 m (20 ft)	kg					*7970	*7970	*7480	6600	*6850	4400	9.29
	lb					*17570	*17570	*16490	14550	*15100	9700	(30.5)
4.5 m (15 ft)	kg			*11870	*11870	*9290	*9290	*8060	6340	6800	3870	9.77
	lb			*26170	*26170	*20480	*20480	*17770	13980	14990	8530	(32.1)
3.0 m (10 ft)	kg			*15200	13420	*10870	8630	*8870	6000	6450	3610	9.97
	lb			*33510	29590	*23960	19030	*19550	13230	14220	7960	(32.7)
1.5 m (5 ft)	kg			*17480	12430	*12250	8060	*9650	5690	6420	3570	9.91
	lb			*38540	27400	*27010	17770	*21270	12540	14150	7870	(32.5)
Ground Line	kg			*18200	12080	*13060	7730	9870	5480	6740	3750	9.59
	lb			*40120	26630	*28790	17040	21760	12080	14860	8270	(31.5)
-1.5 m (-5 ft)	kg	*17830	*17830	*17860	12060	*13180	7610	9790	5410	7540	4230	8.97
	lb	*39310	*39310	*39370	26590	*29060	16780	21580	11930	16620	9330	(29.4)
-3.0 m (-10 ft)	kg	*22850	*22850	*16580	12250	*12430	7700			*7850	5260	7.97
	lb	*50380	*50380	*36550	27010	*27400	16980			*17310	11600	(26.1)
-4.5 m (-15 ft)	kg	*18790	*18790	*13880	12720					*7110	*7110	6.39
	lb	*41420	*41420	*30600	28040					*15670	*15670	(21.0)

Boom : 6.5 m (21' 4") / Arm : 3.2 m (10' 6") / Bucket : 1.62 m<sup>3</sup> (2.12 yd<sup>3</sup>) SAE heaped / Shoe : 600 mm (24") triple grouser

Load point height m (ft)		Load radius										At max. reach				
		1.5 m (5 ft)		3.0 m (10 ft)		4.5 m (15 ft)		6.0 m (20 ft)		7.5 m (25 ft)		9.0 m (30 ft)		Capacity		Reach
																m (ft)
9.0 m (30 ft)	kg												*5950	*5950	7.97	
	lb												*13120	*13120	(26.1)	
7.5 m (25 ft)	kg									*4560	*4560		*6020	4820	9.12	
	lb									*10050	*10050		*13270	10630	(29.9)	
6.0 m (20 ft)	kg									*6620	*6620		*6110	4010	9.87	
	lb									*14590	*14590		*13470	8840	(32.4)	
4.5 m (15 ft)	kg					*8260	*8260	6530		*4450	*4450		*6190	3550	10.32	
	lb					*18210	*18210	14400		*9810	*9810		*13650	7830	(33.9)	
3.0 m (10 ft)	kg			*13520	*13520	*9960	8910	*8240	6150	*6360	4430	5940	3310	10.50		
	lb			*29810	*29810	*21960	19640	*18170	13560	*14020	9770	13100	7300	(34.4)		
1.5 m (5 ft)	kg			*16390	12870	*11570	8270	*9170	5790	*7510	4230	5890	3250	10.45		
	lb			*36130	28370	*25510	18230	*20220	12760	*16560	9330	12990	7170	(34.3)		
Ground Line	kg			*13090	*13090	*17880	12230	*12690	7820	*9880	5520	*7070	4090	6130	3380	10.14
	lb			*28860	*28860	*39420	26960	*27980	17240	*21780	12170	*15590	9020	13510	7450	(33.3)
-1.5 m (-5 ft)	kg	*13720	*13720	*17520	*17520	*18150	12020	*13170	7600	9750	5370		6730	3740	9.57	
	lb	*30250	*30250	*38620	*38620	*40010	26500	*29030	16760	21500	11840		14840	8250	(31.4)	
-3.0 m (-10 ft)	kg	*17880	*17880	*22800	*22800	*17430	12080	*12880	7580	9750	5370		*7730	4490	8.65	
	lb	*39420	*39420	*50270	*50270	*38430	26630	*28400	16710	21500	11840		*17040	9900	(28.4)	
-4.5 m (-15 ft)	kg	*22600	*22600	*21880	*21880	*15520	12390	*11510	7790				*7690	6200	7.25	
	lb	*49820	*49820	*48240	*48240	*34220	27320	*25380	17170				*16950	13670	(23.8)	
-6.0 m (-20 ft)	kg					*11410	*11410									
	lb					*25150	*25150									

- Lifting capacity is based on SAE J1097, ISO 10567.
- Lifting capacity of the Robex Series does not exceed 75% of the tipping load with the machine on firm, level ground or 87% of full hydraulic capacity.
- The load point is a hook located on the back of the bucket.
- (\*) indicates the load limited by hydraulic capacity.

# Lifting Capacities

## R380LC-9A

Rating over-front Rating over-side or 360 degrees

Boom : 6.5 m (21' 4") / Arm : 3.9 m (12' 10") / Bucket : 1.62 m<sup>3</sup> (2.12 yd<sup>3</sup>) SAE heaped / Shoe : 600 mm (24") triple grouser

Load point height m (ft)		Load radius										At max. reach					
		1.5 m (5 ft)		3.0 m (10 ft)		4.5 m (15 ft)		6.0 m (20 ft)		7.5 m (25 ft)		9.0 m (30 ft)		Capacity		Reach	
																m (ft)	
9.0 m (30 ft)	kg														*5220	*5220	8.81
	lb														*11510	*11510	(28.9)
7.5 m (25 ft)	kg														*5320	4160	9.85
	lb														*11730	9170	(32.3)
6.0 m (20 ft)	kg									*5820	*5820	*3620	*3620		*5490	3500	10.54
	lb									*12830	*12830	*7980	*7980		*12100	7720	(34.6)
4.5 m (15 ft)	kg									*6570	*6570	*5410	4620		5590	3110	10.95
	lb									*14480	*14480	*11930	10190		12320	6860	(35.9)
3.0 m (10 ft)	kg			*19700	*19700	*11910	*11910	*9000	*9000	*7540	6160	*6730	4390		5320	2900	11.13
	lb			*43430	*43430	*26260	*26260	*19840	*19840	*16620	13580	*14840	9680		11730	6390	(36.5)
1.5 m (5 ft)	kg			*12690	*12690	*15110	13050	*10740	8290	*8560	5750	*7320	4160		5270	2830	11.07
	lb			*27980	*27980	*33310	28770	*23680	18280	*18870	12680	*16140	9170		11620	6240	(36.3)
Ground Line	kg			*13710	*13710	*17120	12180	*12090	7750	*9410	5420	7260	3970		5440	2920	10.79
	lb			*30230	*30230	*37740	26850	*26650	17090	*20750	11950	16010	8750		11990	6440	(35.4)
-1.5 m (-5 ft)	kg	*12630	*12630	*16860	*16860	*17890	11810	*12830	7440	9590	5220	7140	3860		5900	3190	10.26
	lb	*27840	*27840	*37170	*37170	*39440	26040	*28290	16400	21140	11510	15740	8510		13010	7030	(33.7)
-3.0 m (-10 ft)	kg	*16240	*16240	*21070	*21070	*17610	11760	*12860	7340	9520	5150				6820	3740	9.42
	lb	*35800	*35800	*46450	*46450	*38820	25930	*28350	16180	20990	11350				15040	8250	(30.9)
-4.5 m (-15 ft)	kg	*20300	*20300	*23540	*23540	*16240	11970	*11980	7460	*8980	5280				*7360	4900	8.17
	lb	*44750	*44750	*51900	*51900	*35800	26390	*26410	16450	*19800	11640				*16230	10800	(26.8)
-6.0 m (-20 ft)	kg			*18730	*18730	*13200	12480										
	lb			*41290	*41290	*29100	27510										

Boom : 6.5 m (21' 4") / Arm : 4.3 m (14' 1") / Bucket : 1.62 m<sup>3</sup> (2.12 yd<sup>3</sup>) SAE heaped / Shoe : 600 mm (24") triple grouser

Load point height m (ft)		Load radius										At max. reach							
		1.5 m (5 ft)		3.0 m (10 ft)		4.5 m (15 ft)		6.0 m (20 ft)		7.5 m (25 ft)		9.0 m (30 ft)		10.5 m (35 ft)		Capacity		Reach	
																		m (ft)	
9.0 m (30 ft)	kg																*4970	4590	9.45
	lb																*10960	10120	(31.0)
7.5 m (25 ft)	kg											*2710	*2710				*4770	3660	10.42
	lb											*5970	*5970				*10520	8070	(34.2)
6.0 m (20 ft)	kg											*4420	*4420				*4670	3100	11.07
	lb											*9740	*9740				*10300	6830	(36.3)
4.5 m (15 ft)	kg									*6030	*6030	*5580	4660				*4690	2770	11.46
	lb									*13290	*13290	*12300	10270				*10340	6110	(37.6)
3.0 m (10 ft)	kg			*16870	*16870	*10740	*10740	*8310	*8310	*7050	6230	*6340	4420	*2620	*2620		*4830	2590	11.63
	lb			*37190	*37190	*23680	*23680	*18320	*18320	*15540	13730	*13980	9740	*5780	*5780		*10650	5710	(38.2)
1.5 m (5 ft)	kg			*13700	*13700	*14150	13320	*10140	8400	*8130	5790	*6980	4170	*2950	*2950		4820	2540	11.58
	lb			*30200	*30200	*31200	29370	*22350	18520	*17920	12760	*15390	9190	*6500	*6500		10630	5600	(38.0)
Ground Line	kg			*13070	*13070	*16510	12280	*11640	7790	*9070	5420	7240	3950				4970	2610	11.31
	lb			*28810	*28810	*36400	27070	*25660	17170	*20000	11950	15960	8710				10960	5750	(37.1)
-1.5 m (-5 ft)	kg	*11110	*11110	*15450	*15450	*17630	11770	*12570	7410	9560	5170	7080	3800				5350	2830	10.81
	lb	*24490	*24490	*34060	*34060	*38870	25950	*27710	16340	21080	11400	15610	8380				11790	6240	(35.5)
-3.0 m (-10 ft)	kg	*14410	*14410	*19090	*19090	*17690	11630	*12820	7260	9440	5070	*6600	3760				6100	3290	10.02
	lb	*31770	*31770	*42090	*42090	*39000	25640	*28260	16010	20810	11180	*14550	8290				13450	7250	(32.9)
-4.5 m (-15 ft)	kg	*18210	*18210	*24070	*24070	*16690	11760	*12250	7310	*9310	5120						*6710	4190	8.87
	lb	*40150	*40150	*53070	*53070	*36800	25930	*27010	16120	*20530	11290						*14790	9240	(29.1)
-6.0 m (-20 ft)	kg	*22860	*22860	*20530	*20530	*14250	12180	*10350	7610								*6520	6280	7.15
	lb	*50400	*50400	*45260	*45260	*31420	26850	*22820	16780								*14370	13850	(23.5)

Boom : 6.5 m (21' 4") / Arm : 3.2 m (10' 6") / Bucket : 1.62 m<sup>3</sup> (2.12 yd<sup>3</sup>) SAE heaped / Shoe : 800 mm (32") triple grouser

Load point height m (ft)		Load radius										At max. reach								
		1.5 m (5 ft)		3.0 m (10 ft)		4.5 m (15 ft)		6.0 m (20 ft)		7.5 m (25 ft)		9.0 m (30 ft)		Capacity		Reach				
																m (ft)				
9.0 m (30 ft)	kg															*5950	*5950	7.97		
	lb															*13120	*13120	(26.1)		
7.5 m (25 ft)	kg											*4560	*4560				*6020	4950	9.12	
	lb											*10050	*10050				*13270	10910	(29.9)	
6.0 m (20 ft)	kg											*6620	*6620				*6110	4130	9.87	
	lb											*14590	*14590				*13470	9110	(32.4)	
4.5 m (15 ft)	kg											*8260	*8260				*6190	3660	10.32	
	lb											*18210	*18210	*16140	14750	*9810	*9810	*13650	8070	(33.9)
3.0 m (10 ft)	kg					*13520	*13520	*9960	9130	*8240	6320	*6360	4560				6110	3420	10.50	
	lb					*29810	*29810	*21960	20130	*18170	13930	*14020	10050				13470	7540	(34.4)	
1.5 m (5 ft)	kg					*16390	13200	*11570	8480	*9170	5960	*7510	4360				6070	3360	10.45	
	lb					*36130	29100	*25510	18700	*20220	13140	*16560	9610				13380	7410	(34.3)	
Ground Line	kg			*13090	*13090	*17880	12550	*12690	8040	*9880	5680	*7070	4220				6310	3490	10.14	
	lb			*28860	*28860	*39420	27670	*27980	17730	*21780	12520	*15590	9300				13910	7690	(33.3)	
-1.5 m (-5 ft)	kg	*13720	*13720	*17520	*17520	*18150	12350	*13170	7820	10020	5530						6930	3860	9.57	
	lb	*30250	*30250	*38620	*38620	*40010	27230	*29030	17240	22090	12190						15280	8510	(31.4)	
-3.0 m (-10 ft)	kg	*17880	*17880	*22800	*22800	*17430	12410	*12880	7800	*9900	5540						*7730	4630	8.65	
	lb	*39420	*39420	*50270	*50270	*38430	27360	*28400	17200	*21830	12210						*17040	10210	(28.4)	
-4.5 m (-15 ft)	kg	*22600	*22600	*21880	*21880	*15520	12720	*11510	8000								*7690	6370	7.25	
	lb	*49820	*49820	*48240	*48240	*34220	28040	*25380	17640								*16950	14040	(23.8)	
-6.0 m (-20 ft)	kg					*11410	*11410													
	lb					*25150	*25150													

- Lifting capacity is based on SAE J1097, ISO 10567.
- Lifting capacity of the Robex Series does not exceed 75% of the tipping load with the machine on firm, level ground or 87% of full hydraulic capacity.
- The load point is a hook located on the back of the bucket.
- (\* indicates the load limited by hydraulic capacity.)





# Lifting Capacities

## R380NLC-9A

Rating over-front Rating over-side or 360 degrees

Boom : 6.15 m (20' 2") / Arm : 2.5 m (8' 2") / Bucket : 1.62 m<sup>3</sup> (2.12 yd<sup>3</sup>) SAE heaped / Shoe : 600 mm (24") triple grouser

Load point height m (ft)		Load radius								At max. reach		
		3.0 m (10 ft)		4.5 m (15 ft)		6.0 m (20 ft)		7.5 m (25 ft)		Capacity		Reach m (ft)
9.0 m (30 ft)	kg									*7580	*7580	6.65
	lb									*16710	*16710	(21.8)
7.5 m (25 ft)	kg									*7420	5530	8.02
	lb									*16360	12190	(26.3)
6.0 m (20 ft)	kg					*8590	*8590	*6510	6040	*7460	4430	8.88
	lb					*18940	*18940	*14350	13320	*16450	9770	(29.1)
4.5 m (15 ft)	kg	*18270	*18270	*12170	*12170	*9790	8610	*8620	5840	*7590	3840	9.38
	lb	*40280	*40280	*26830	*26830	*21580	18980	*19000	12870	*16730	8470	(30.8)
3.0 m (10 ft)	kg			*15380	12380	*11300	7980	*9350	5530	7290	3550	9.58
	lb			*33910	27290	*24910	17590	*20610	12190	16070	7830	(31.4)
1.5 m (5 ft)	kg			*17740	11320	*12640	7420	*10060	5230	7250	3490	9.52
	lb			*39110	24960	*27870	16360	*22180	11530	15980	7690	(31.2)
Ground Line	kg	*13400	*13400	*18580	10830	*13410	7050	10450	5010	7620	3650	9.19
	lb	*29540	*29540	*40960	23880	*29560	15540	23040	11050	16800	8050	(30.2)
-1.5 m (-5 ft)	kg	*21020	*21020	*18170	10700	*13400	6880	*10300	4910	*8340	4140	8.53
	lb	*46340	*46340	*40060	23590	*29540	15170	*22710	10820	*18390	9130	(28.0)
-3.0 m (-10 ft)	kg	*22960	21920	*16580	10810	*12330	6930			*8180	5240	7.47
	lb	*50620	48330	*36550	23830	*27180	15280			*18030	11550	(24.5)
-4.5 m (-15 ft)	kg	*17870	*17870	*13110	11220							
	lb	*39400	*39400	*28900	24740							

Boom : 6.5 m (21' 4") / Arm : 2.5 m (8' 2") / Bucket : 1.62 m<sup>3</sup> (2.12 yd<sup>3</sup>) SAE heaped / Shoe : 600 mm (24") triple grouser

Load point height m (ft)		Load radius								At max. reach		
		3.0 m (10 ft)		4.5 m (15 ft)		6.0 m (20 ft)		7.5 m (25 ft)		Capacity		Reach m (ft)
9.0 m (30 ft)	kg									*6820	6650	7.22
	lb									*15040	14660	(23.7)
7.5 m (25 ft)	kg									*6770	4790	8.49
	lb									*14930	10560	(27.9)
6.0 m (20 ft)	kg					*7970	*7970	*7480	5870	*6850	3890	9.29
	lb					*17570	*17570	*16490	12940	*15100	8580	(30.5)
4.5 m (15 ft)	kg			*11870	*11870	*9290	8250	*8060	5620	*7010	3390	9.77
	lb			*26170	*26170	*20480	18190	*17770	12390	*15450	7470	(32.1)
3.0 m (10 ft)	kg			*15200	11640	*10870	7590	*8870	5290	6680	3150	9.97
	lb			*33510	25660	*23960	16730	*19550	11660	14730	6940	(32.7)
1.5 m (5 ft)	kg			*17480	10700	*12250	7050	*9650	4990	6650	3110	9.91
	lb			*38540	23590	*27010	15540	*21270	11000	14660	6860	(32.5)
Ground Line	kg			*18200	10370	*13060	6720	*10170	4790	6980	3270	9.59
	lb			*40120	22860	*28790	14820	*22420	10560	15390	7210	(31.5)
-1.5 m (-5 ft)	kg	*17830	*17830	*17860	10350	*13180	6610	10130	4710	7810	3700	8.97
	lb	*39310	*39310	*39370	22820	*29060	14570	22330	10380	17220	8160	(29.4)
-3.0 m (-10 ft)	kg	*22850	21630	*16580	10540	*12430	6700			*7850	4620	7.97
	lb	*50380	47690	*36550	23240	*27400	14770			*17310	10190	(26.1)
-4.5 m (-15 ft)	kg	*18790	*18790	*13880	10980					*7110	6920	6.39
	lb	*41420	*41420	*30600	24210					*15670	15260	(21.0)

Boom : 6.5 m (21' 4") / Arm : 3.2 m (10' 6") / Bucket : 1.62 m<sup>3</sup> (2.12 yd<sup>3</sup>) SAE heaped / Shoe : 600 mm (24") triple grouser

Load point height m (ft)		Load radius										At max. reach				
		1.5 m (5 ft)		3.0 m (10 ft)		4.5 m (15 ft)		6.0 m (20 ft)		7.5 m (25 ft)		9.0 m (30 ft)		Capacity		Reach m (ft)
9.0 m (30 ft)	kg													*5950	5700	7.97
	lb													*13120	12570	(26.1)
7.5 m (25 ft)	kg								*4560	*4560				*6020	4290	9.12
	lb								*10050	*10050				*13270	9460	(29.9)
6.0 m (20 ft)	kg								*6620	6090				*6110	3530	9.87
	lb								*14590	13430				*13470	7780	(32.4)
4.5 m (15 ft)	kg						*8260	*8260	*7320	5800		*4450	4070	*6190	3110	10.32
	lb						*18210	*18210	*16140	12790		*9810	8970	*13650	6860	(33.9)
3.0 m (10 ft)	kg				*13520	12300	*9960	7870	*8240	5440		*6360	3890	6150	2880	10.50
	lb				*29810	27120	*21960	17350	*18170	11990		*14020	8580	13560	6350	(34.4)
1.5 m (5 ft)	kg				*16390	11120	*11570	7240	*9170	5090		*7510	3700	6110	2820	10.45
	lb				*36130	24520	*25510	15960	*20220	11220		*16560	8160	13470	6220	(34.3)
Ground Line	kg			*13090	*13090	*17880	10510	*12690	6820	*9880	4820	*7070	3560	6350	2930	10.14
	lb			*28860	*28860	*39420	23170	*27980	15040	*21780	10630	*15590	7850	14000	6460	(33.3)
-1.5 m (-5 ft)	kg	*13720	*13720	*17520	*17520	*18150	10310	*13170	6600	10090	4680			6980	3250	9.57
	lb	*30250	*30250	*38620	*38620	*40010	22730	*29030	14550	22240	10320			15390	7170	(31.4)
-3.0 m (-10 ft)	kg	*17880	*17880	*22800	21170	*17430	10380	*12880	6590	*9900	4680			*7730	3930	8.65
	lb	*39420	*39420	*50270	46670	*38430	22880	*28400	14530	*21830	10320			*17040	8660	(28.4)
-4.5 m (-15 ft)	kg	*22600	*22600	*21880	21780	*15520	10670	*11510	6780					*7690	5450	7.25
	lb	*49820	*49820	*48240	48020	*34220	23520	*25380	14950					*16950	12020	(23.8)
-6.0 m (-20 ft)	kg					*11410	11310									
	lb					*25150	24930									

- Lifting capacity is based on SAE J1097, ISO 10567.
- Lifting capacity of the Robex Series does not exceed 75% of the tipping load with the machine on firm, level ground or 87% of full hydraulic capacity.
- The load point is a hook located on the back of the bucket.
- (\*) indicates the load limited by hydraulic capacity.

# Lifting Capacities

## R380NLC-9A

Rating over-front Rating over-side or 360 degrees

Boom : 6.5 m (21' 4") / Arm : 3.9 m (12' 10") / Bucket : 1.62 m<sup>3</sup> (2.12 yd<sup>3</sup>) SAE heaped / Shoe : 600 mm (24") triple grouser

Load point height m (ft)		Load radius										At max. reach					
		1.5 m (5 ft)		3.0 m (10 ft)		4.5 m (15 ft)		6.0 m (20 ft)		7.5 m (25 ft)		9.0 m (30 ft)		Capacity		Reach	
																m (ft)	
9.0 m (30 ft)	kg														*5220	4750	8.81
	lb														*11510	10470	(28.9)
7.5 m (25 ft)	kg														*5320	3680	9.85
	lb														*11730	8110	(32.3)
6.0 m (20 ft)	kg									*5820	*5820	*3620	*3620		*5490	3060	10.54
	lb									*12830	*12830	*7980	*7980		*12100	6750	(34.6)
4.5 m (15 ft)	kg									*6570	5840	*5410	4070		*5660	2700	10.95
	lb									*14480	12870	*11930	8970		*12480	5950	(35.9)
3.0 m (10 ft)	kg			*19700	*19700	*11910	*11910	*9000	7960	*7540	5440	*6730	3850		5520	2500	11.13
	lb			*43430	*43430	*26260	*26260	*19840	17550	*16620	11990	*14840	8490		12170	5510	(36.5)
1.5 m (5 ft)	kg			*12690	*12690	*15110	11280	*10740	7260	*8560	5040	*7320	3630		5470	2440	11.07
	lb			*27980	*27980	*33310	24870	*23680	16010	*18870	11110	*16140	8000		12060	5380	(36.3)
Ground Line	kg			*13710	*13710	*17120	10460	*12090	6740	*9410	4720	7520	3440		5650	2510	10.79
	lb			*30230	*30230	*37740	23060	*26650	14860	*20750	10410	16580	7580		12460	5530	(35.4)
-1.5 m (-5 ft)	kg	*12630	*12630	*16860	*16860	*17890	10110	*12830	6440	*9910	4520	7400	3330		6120	2750	10.26
	lb	*27840	*27840	*37170	*37170	*39440	22290	*28290	14200	*21850	9960	16310	7340		13490	6060	(33.7)
-3.0 m (-10 ft)	kg	*16240	*16240	*21070	20560	*17610	10060	*12860	6350	9860	4460				7070	3250	9.42
	lb	*35800	*35800	*46450	45330	*38820	22180	*28350	14000	21740	9830				15590	7170	(30.9)
-4.5 m (-15 ft)	kg	*20300	*20300	*23540	21050	*16240	10260	*11980	6460	*8980	4580				*7360	4280	8.17
	lb	*44750	*44750	*51900	46410	*35800	22620	*26410	14240	*19800	10100				*16230	9440	(26.8)
-6.0 m (-20 ft)	kg			*18730	*18730	*13200	10740										
	lb			*41290	*41290	*29100	23680										

Boom : 6.5 m (21' 4") / Arm : 4.3 m (14' 1") / Bucket : 1.62 m<sup>3</sup> (2.12 yd<sup>3</sup>) SAE heaped / Shoe : 600 mm (24") triple grouser

Load point height m (ft)		Load radius										At max. reach						
		1.5 m (5 ft)		3.0 m (10 ft)		4.5 m (15 ft)		6.0 m (20 ft)		7.5 m (25 ft)		9.0 m (30 ft)		10.5 m (35 ft)		Capacity		Reach
																		m (ft)
9.0 m (30 ft)	kg														*4970	4080	9.45	
	lb														*10960	8990	(31.0)	
7.5 m (25 ft)	kg											*2710	*2710			*4770	3210	10.42
	lb											*5970	*5970			*10520	7080	(34.2)
6.0 m (20 ft)	kg											*4420	4290			*4670	2700	11.07
	lb											*9740	9460			*10300	5950	(36.3)
4.5 m (15 ft)	kg									*6030	5920	*5580	4120			*4690	2390	11.46
	lb									*13290	13050	*12300	9080			*10340	5270	(37.6)
3.0 m (10 ft)	kg			*16870	*16870	*10740	*10740	*8310	8110	*7050	5500	*6340	3880	*2620	*2620	*4830	2220	11.63
	lb			*37190	*37190	*23680	*23680	*18320	17880	*15540	12130	*13980	8550	*5780	*5780	*10650	4890	(38.2)
1.5 m (5 ft)	kg			*13700	*13700	*14150	11530	*10140	7360	*8130	5080	*6980	3630	*2950	2620	5010	2160	11.58
	lb			*30200	*30200	*31200	25420	*22350	16230	*17920	11200	*15390	8000	*6500	5780	11050	4760	(38.0)
Ground Line	kg			*13070	*13070	*16510	10550	*11640	6770	*9070	4720	7500	3410			5160	2220	11.31
	lb			*28810	*28810	*36400	23260	*25660	14930	*20000	10410	16530	7520			11380	4890	(37.1)
-1.5 m (-5 ft)	kg	*11110	*11110	*15450	*15450	*17630	10070	*12570	6410	*9700	4480	7340	3270		5560	2420	10.81	
	lb	*24490	*24490	*34060	*34060	*38870	22200	*27710	14130	*21380	9880	16180	7210		12260	5340	(35.5)	
-3.0 m (-10 ft)	kg	*14410	*14410	*19090	*19090	*17690	9940	*12820	6260	9700	4370	*6600	3240		6330	2840	10.02	
	lb	*31770	*31770	*42090	*42090	*39000	21910	*28260	13800	21540	9630	*14550	7140		13960	6260	(32.9)	
-4.5 m (-15 ft)	kg	*18210	*18210	*24070	*20670	*16690	10060	*12250	6310	*9310	4430				*6710	3640	8.87	
	lb	*40150	*40150	*53070	*45570	*36800	22180	*27010	13910	*20530	9770				*14790	8020	(29.1)	
-6.0 m (-20 ft)	kg	*22860	*22860	*20530	*14250	10450		*10350	6600						*6520	5510	7.15	
	lb	*50400	*50400	*45260	*31420	23040		*22820	14550						*14370	12150	(32.5)	

- Lifting capacity is based on SAE J1097, ISO 10567.
- Lifting capacity of the Robex Series does not exceed 75% of the tipping load with the machine on firm, level ground or 87% of full hydraulic capacity.
- The load point is a hook located on the back of the bucket.
- (\*) indicates the load limited by hydraulic capacity.



## STANDARD EQUIPMENT R380LC-9A

### ISO Standard cabin

All-weather steel cab with 360° visibility
Safety glass windows
Rise-up type windshield wiper
Sliding fold-in front window
Sliding side window (LH)
One key fits all lockable doors
Hot & cool box
Storage compartment & Ashtray
Radio / MP3 Player with remote control and USB-input
Handsfree mobile phone system with USB-charging device
Transparent cabin roof-cover
12 volt power outlet (24V DC to 12V DC converter)
Sun visor
Rain guard - front window
Computer aided power optimization (CAPO) system
3-power modes, 2-work modes, User mode
Auto & one-touch deceleration system
Auto warm-up system
Overheat prevention system
Automatic temperature control
Air conditioner & heater
Defroster
Self-diagnostics system
Starting Aid (air grid heater) for cold weather
Centralized monitoring
LCD display
Engine speed or Trip meter
Clock
Gauges
- Fuel level gauge
- Engine coolant temperature gauge
- Hyd. oil temperature gauge
Warning lamps
- Engine warning
- Overload
- Communication error
- Low battery
- Air filter clogging
Indicators
- Max power
- Low speed/High speed
- Fuel warmer
- Auto deceleration
Rearview camera
Door and cab locks, one key
Three outside rearview mirrors
Mechanical suspension seat with heater
Adjustable joysticks
Console box tilting system
Four frontal working lights
Electric horn
Batteries (2 x 12V x 160 AH)
Battery master switch
Removable clean-out screen for oil cooler
Automatic swing brake
Fuel pre-filter with fuel warmer
Boom holding system
Arm holding system
Track shoes (600 mm; 24")
Track rail guard
Accumulator for lowering work equipment
Lower frame under cover
Viscous fan clutch
Fuel filler pump (50 ℓ/min)
Safety lock valve for boom cylinder with overoad warning device

Double-acting piping kit (clamshell, etc.)
Travel alarm
Boom
6.5 m; 21' 4"
Arm
3.2 m; 10' 6"
Cabin ROPS (ISO 12117-2)
ROPS (Roll Over Protective Structure)
Hi-mate (Remote Management System)

## OPTIONAL EQUIPMENT R380LC-9A

Beacon lamp
Safety lock valve for arm cylinder
Single-acting piping kit (breaker, etc.)
Quick coupler
Booms
6.15 m; 20' 2"
6.5 m; 21' 4" Heavy Duty
8.6 m; 28' 3"
Arms
2.5 m; 8' 2"
3.2 m; 10' 6" Heavy Duty
3.9 m; 12' 10"
4.3 m; 14' 1"
5.1 m; 16' 9"
Cabin FOPS/FOG (ISO/DIS 10262 Level II)
FOPS (Falling Object Protective Structure)
FOG (Falling Object Guard)
Cabin guard-front
Wire net
Fine net
Cabin roof-steel cover
Cabin lights
Track shoes
Double grousers shoe (600 mm; 24")
Double grousers shoe (700 mm; 28")
Heavy duty type shoe (600 mm; 24")
Heavy duty type shoe (700 mm; 28")
Triple grousers shoe (700 mm; 28")
Triple grousers shoe (750 mm; 30")
Triple grousers shoe (800 mm; 32")
Triple grousers shoe (900 mm; 36")
Full track rail guard
Additional lower frame - reinforced under cover
Coolant pre-heating system
Fuel pre-filter with dual warmer
Tool kit
Operator suit
Seat
Adjustable air suspension seat with heater
Pattern change valve (2 patterns)

\* Standard and optional equipment may vary. Contact your Hyundai dealer for more information. The machine may vary according to international standards.

\* The photos may include attachments and optional equipment that are not available in your area.

\* Materials and specifications are subject to change without advance notice.

\* All imperial measurements rounded off to the nearest pound or inch.

PLEASE CONTACT

