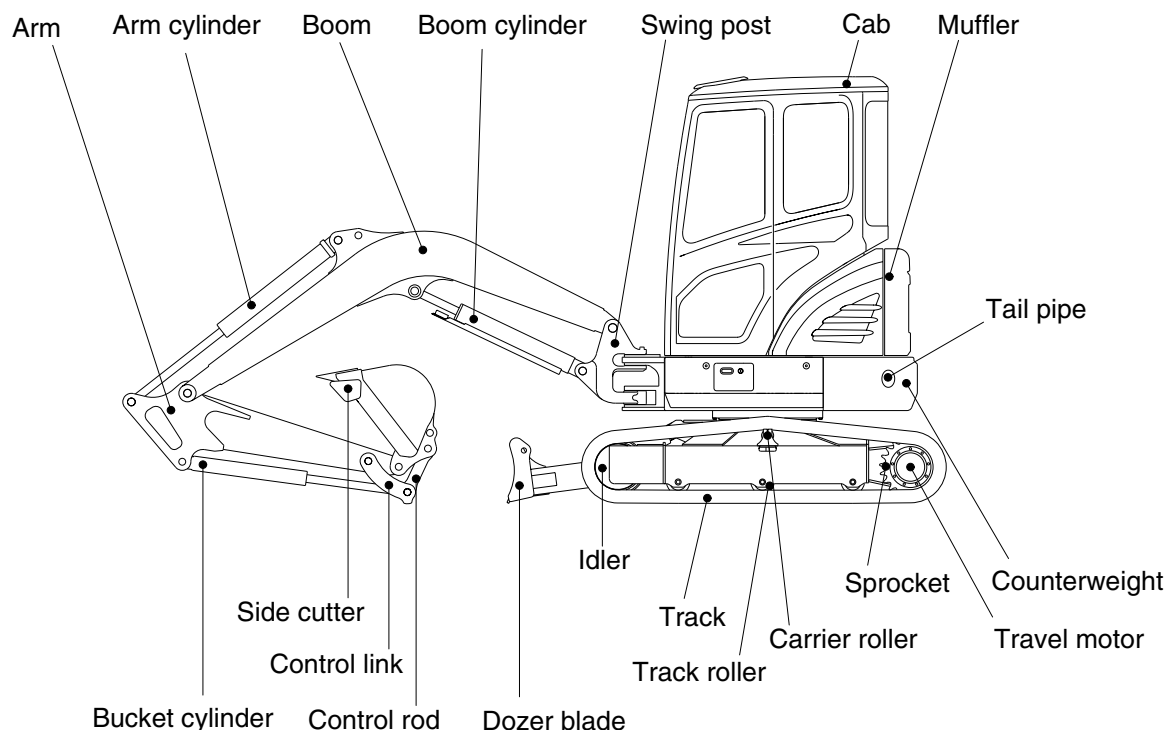
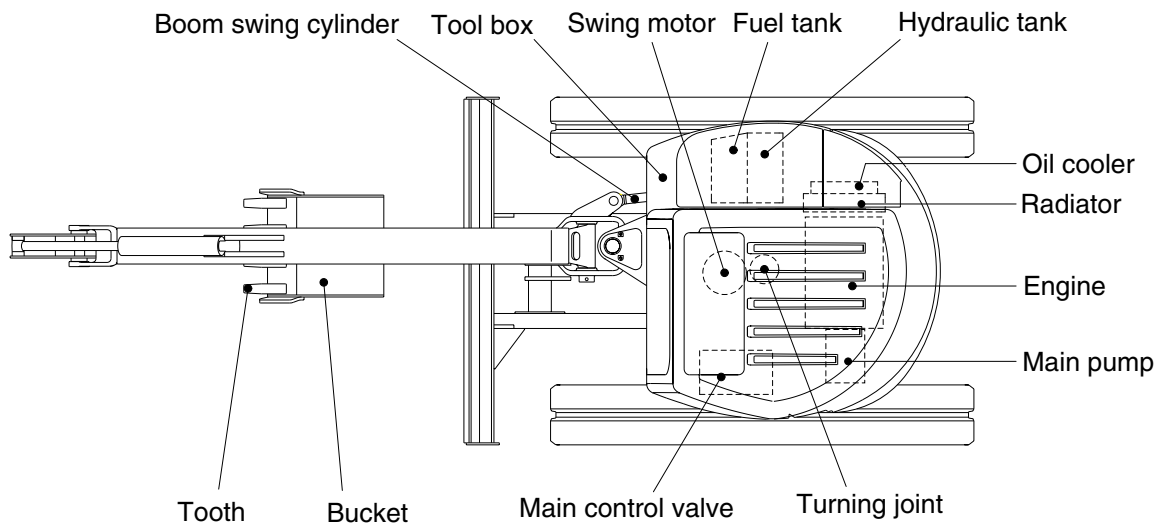


# SPECIFICATIONS

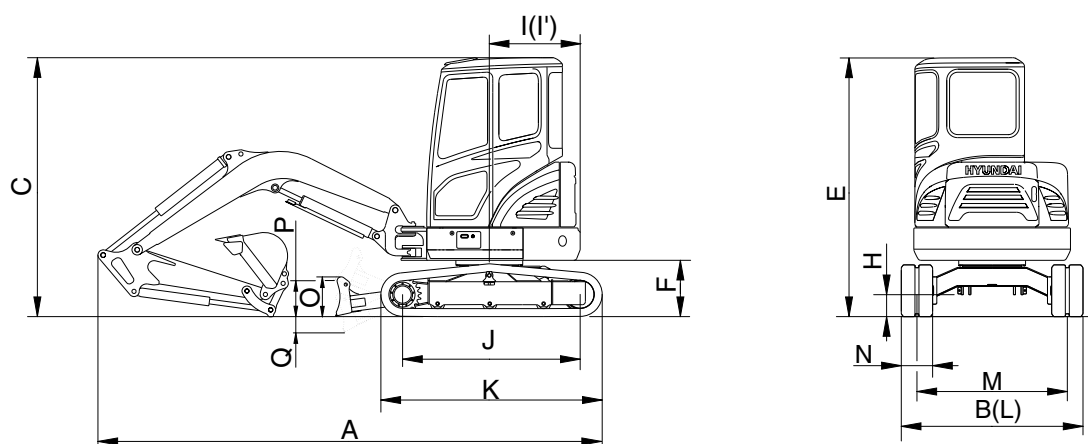
## 1. MAJOR COMPONENT



R27Z92SP01

## 2. SPECIFICATIONS

### 1) 2.03 m ( 6' 8") MONO BOOM, 1.12 m ( 3' 8") ARM, WITH BOOM SWING POST

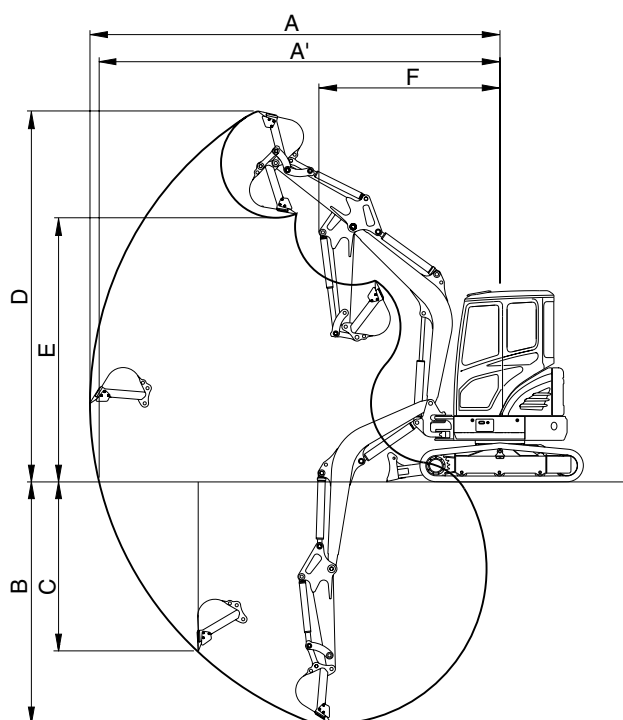


R27Z92SP02

| Description                                       |    | Unit                              | Specification             |
|---------------------------------------------------|----|-----------------------------------|---------------------------|
| Operating weight (cabin / canopy)                 |    | kg (lb)                           | 2880 (6350) / 2730 (6020) |
| Bucket capacity (SAE heaped), standard            |    | m <sup>3</sup> (yd <sup>3</sup> ) | 0.08 (0.10)               |
| Overall length                                    | A  | mm (ft-in)                        | 4180 (13' 9")             |
| Overall width, with 300 mm shoe                   | B  |                                   | 1550 ( 5' 1")             |
| Overall height                                    | C  |                                   | 2500 ( 8' 2")             |
| Overall height of cab                             | E  |                                   | 2500 ( 8' 2")             |
| Ground clearance of counterweight                 | F  |                                   | 540 ( 1' 9")              |
| Minimum ground clearance                          | H  |                                   | 290 ( 0' 11")             |
| Rear-end distance                                 | I  |                                   | 775 ( 2' 7")              |
| Rear-end swing radius                             | I' |                                   | 775 ( 2' 7")              |
| Distance between tumblers                         | J  |                                   | 1550 ( 5' 1")             |
| Undercarriage length                              | K  |                                   | 1970 ( 6' 6")             |
| Undercarriage width                               | L  |                                   | 1550 ( 5' 1")             |
| Track gauge                                       | M  |                                   | 1250 ( 4' 1")             |
| Track shoe width, standard                        | N  |                                   | 300 (12")                 |
| Height of blade                                   | O  |                                   | 300 ( 1' 0")              |
| Ground clearance of blade up                      | P  |                                   | 370 ( 1' 3")              |
| Depth of blade down                               | Q  |                                   | 450 ( 1' 6")              |
| Travel speed (low/high)                           |    | km/hr (mph)                       | 2.4/4.4 (1.5/2.7)         |
| Swing speed                                       |    | rpm                               | 9.0                       |
| Gradeability                                      |    | Degree (%)                        | 30 (58)                   |
| Ground pressure 300 mm rubber shoe (cab / canopy) |    | kgf/cm <sup>2</sup> (psi)         | 0.29 (4.12) / 0.27 (3.84) |

### 3. WORKING RANGE

#### 1) 2.03 m (6' 8") MONO BOOM WITH BOOM SWING POST



R27Z92SP03

| Description                     |     | 1.12 m (3' 8") Arm |
|---------------------------------|-----|--------------------|
| Max digging reach               | A   | 4650 mm (15' 3")   |
| Max digging reach on ground     | A'  | 4515 mm (14'10")   |
| Max digging depth               | B   | 2500 mm ( 8' 2")   |
| Max vertical wall digging depth | C   | 2085 mm ( 6'10")   |
| Max digging height              | D   | 4270 mm (14'10")   |
| Max dumping height              | E   | 2890 mm ( 9' 6")   |
| Min swing radius                | F   | 2055 mm ( 6' 9")   |
| Boom swing radius (left/right)  |     | 75°/50°            |
| Bucket digging force            | SAE | 17.9 kN            |
|                                 |     | 1830 kgf           |
|                                 |     | 4030 lbf           |
|                                 | ISO | 20.1 kN            |
|                                 |     | 2050 kgf           |
|                                 |     | 4520 lbf           |
| Arm crowd force                 | SAE | 13.1 kN            |
|                                 |     | 1340 kgf           |
|                                 |     | 2950 lbf           |
|                                 | ISO | 13.7 kN            |
|                                 |     | 1400 kgf           |
|                                 |     | 3090 lbf           |

## 4. WEIGHT

| Item                                                             | kg   | lb   |
|------------------------------------------------------------------|------|------|
| Upperstructure assembly                                          | 1640 | 3615 |
| Main frame weld assembly                                         | 360  | 795  |
| Engine assembly                                                  | 136  | 300  |
| Main pump assembly                                               | 19   | 42   |
| Main control valve assembly                                      | 25   | 55   |
| Swing motor assembly                                             | 34   | 75   |
| Hydraulic oil tank assembly                                      | 50   | 110  |
| Fuel tank assembly                                               | 30   | 70   |
| Boom swing post                                                  | 80   | 180  |
| Counterweight                                                    | 220  | 485  |
| Cab assembly                                                     | 210  | 460  |
| Lower chassis assembly                                           | 910  | 2010 |
| Track frame weld assembly                                        | 400  | 880  |
| Swing bearing                                                    | 50   | 110  |
| Travel motor assembly                                            | 36   | 80   |
| Turning joint                                                    | 10   | 22   |
| Track recoil spring                                              | 16   | 35   |
| Idler                                                            | 19   | 42   |
| Carrier roller                                                   | 3    | 7    |
| Track roller                                                     | 6    | 13   |
| Sprocket                                                         | 7    | 15   |
| Rubber track (300 mm)                                            | 118  | 260  |
| Dozer blade assembly                                             | 125  | 275  |
| Front attachment assembly                                        | 330  | 730  |
| (2.03 m boom, 1.12 m arm, 0.08 m <sup>3</sup> SAE heaped bucket) | 140  | 310  |
| 2.5 m boom assembly                                              | 100  | 220  |
| 1.12 m arm assembly                                              | 50   | 110  |
| 0.08 m <sup>3</sup> SAE heaped bucket                            | 60   | 130  |
| Boom cylinder assembly                                           | 31   | 68   |
| Arm cylinder assembly                                            | 25   | 55   |
| Bucket cylinder assembly                                         | 18   | 40   |
| Bucket control link assembly                                     | 20   | 45   |
| Dozer cylinder assembly                                          | 24   | 53   |
| Boom swing cylinder assembly                                     | 23   | 51   |

## 5. LIFTING CAPACITIES

1) 2.03 m ( 6' 8") boom, 1.12 m ( 3' 8") arm equipped with 0.08 m<sup>3</sup> (SAE heaped) bucket and 300 mm (12") rubber track, the dozer blade up with 220 kg (485 lb) counterweight.

•  : Rating over-front

•  : Rating over-side or 360 degree

| Load point height |          | Load radius                                                                       |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     | At max. reach                                                                       |                                                                                     |                |
|-------------------|----------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|----------------|
|                   |          | 2.0 m (7.0 ft)                                                                    |                                                                                   | 2.5 m (8.0 ft)                                                                    |                                                                                   | 3.0 m (10.0 ft)                                                                   |                                                                                   | 3.5 m (11.0 ft)                                                                   |                                                                                     | Capacity                                                                            |                                                                                     | Reach          |
|                   |          |  |  |  |  |  |  |  |  |  |  | m (ft)         |
| 3.5 m (11.0 ft)   | kg<br>lb |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     | *550<br>*1210                                                                       | 460<br>1010                                                                         | 3.07<br>(10.1) |
| 3.0 m (10.0 ft)   | kg<br>lb |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 610<br>1340                                                                       | 450<br>990                                                                        |                                                                                   |                                                                                     | 460<br>1010                                                                         | 340<br>750                                                                          | 3.63<br>(11.9) |
| 2.5 m (8.0 ft)    | kg<br>lb |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 610<br>1340                                                                       | 450<br>990                                                                        | 460<br>1010                                                                       | 340<br>750                                                                          | 380<br>840                                                                          | 290<br>640                                                                          | 3.99<br>(13.1) |
| 2.0 m (7.0 ft)    | kg<br>lb |                                                                                   |                                                                                   | *790<br>*1740                                                                     | 610<br>1340                                                                       | 600<br>1320                                                                       | 450<br>990                                                                        | 460<br>1010                                                                       | 340<br>750                                                                          | 350<br>770                                                                          | 250<br>550                                                                          | 4.22<br>(13.8) |
| 1.5 m (5.0 ft)    | kg<br>lb |                                                                                   |                                                                                   | 800<br>1760                                                                       | 590<br>1300                                                                       | 590<br>1300                                                                       | 440<br>970                                                                        | 460<br>1010                                                                       | 340<br>750                                                                          | 320<br>710                                                                          | 240<br>530                                                                          | 4.35<br>(14.3) |
| 1.0 m (3.0 ft)    | kg<br>lb |                                                                                   |                                                                                   | 770<br>1700                                                                       | 560<br>1230                                                                       | 580<br>1280                                                                       | 420<br>930                                                                        | 450<br>990                                                                        | 330<br>730                                                                          | 320<br>710                                                                          | 230<br>510                                                                          | 4.39<br>(14.4) |
| 0.5 m (2.0 ft)    | kg<br>lb |                                                                                   |                                                                                   | 750<br>1650                                                                       | 540<br>1190                                                                       | 570<br>1260                                                                       | 410<br>900                                                                        | 440<br>970                                                                        | 320<br>710                                                                          | 320<br>710                                                                          | 230<br>510                                                                          | 4.35<br>(14.3) |
| Ground Line       | kg<br>lb | 1080<br>2380                                                                      | 750<br>1650                                                                       | 740<br>1630                                                                       | 530<br>1170                                                                       | 560<br>1230                                                                       | 400<br>880                                                                        | 440<br>970                                                                        | 320<br>710                                                                          | 330<br>730                                                                          | 240<br>530                                                                          | 4.22<br>(13.8) |
| -0.5 m (-2.0 ft)  | kg<br>lb | 1080<br>2380                                                                      | 750<br>1650                                                                       | 740<br>1630                                                                       | 530<br>1170                                                                       | 550<br>1210                                                                       | 400<br>880                                                                        | 440<br>970                                                                        | 320<br>710                                                                          | 360<br>790                                                                          | 260<br>570                                                                          | 4.00<br>(13.1) |
| -1.0 m (-3.0 ft)  | kg<br>lb | 1090<br>2400                                                                      | 760<br>1680                                                                       | 740<br>1630                                                                       | 530<br>1170                                                                       | 560<br>1230                                                                       | 400<br>880                                                                        |                                                                                   |                                                                                     | 420<br>930                                                                          | 300<br>660                                                                          | 3.64<br>(11.9) |
| -1.5 m (-5.0 ft)  | kg<br>lb | 1110<br>2450                                                                      | 780<br>1720                                                                       | 760<br>1680                                                                       | 550<br>1210                                                                       |                                                                                   |                                                                                   |                                                                                   |                                                                                     | 550<br>1210                                                                         | 400<br>880                                                                          | 3.09<br>(10.1) |
| -2.5 m (-8.0 ft)  | kg<br>lb |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     | *450<br>*990                                                                        | 420<br>930                                                                          | 3.06<br>(10.0) |

- 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 a hook located on the back of the bucket.
  4. \*indicates load limited by hydraulic capacity.

2) 2.03 m ( 6' 8") boom, 1.12 m ( 3' 8") arm equipped with 0.08 m<sup>3</sup> (SAE heaped) bucket and 300 mm (12") rubber track, the dozer blade down with 220 kg (485 lb) counterweight.

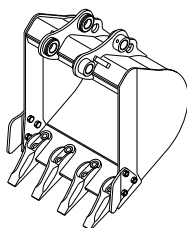
•  : Rating over-front

•  : Rating over-side or 360 degree

| Load point height |    | Load radius                                                                       |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     | At max. reach                                                                       |                                                                                     |        |
|-------------------|----|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|--------|
|                   |    | 2.0 m (7.0 ft)                                                                    |                                                                                   | 2.5 m (8.0 ft)                                                                    |                                                                                   | 3.0 m (10.0 ft)                                                                   |                                                                                   | 3.5 m (11.0 ft)                                                                   |                                                                                     | Capacity                                                                            |                                                                                     | Reach  |
|                   |    |  |  |  |  |  |  |  |  |  |  | m (ft) |
| 3.5 m (11.0 ft)   | kg |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     | *550                                                                                | 490                                                                                 | 3.07   |
|                   | lb |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     | *1210                                                                               | 1080                                                                                | (10.1) |
| 3.0 m (10.0 ft)   | kg |                                                                                   |                                                                                   |                                                                                   |                                                                                   | *640                                                                              | 480                                                                               |                                                                                   |                                                                                     | *550                                                                                | 360                                                                                 | 3.63   |
|                   | lb |                                                                                   |                                                                                   |                                                                                   |                                                                                   | *1410                                                                             | 1060                                                                              |                                                                                   |                                                                                     | *1210                                                                               | 790                                                                                 | (11.9) |
| 2.5 m (8.0 ft)    | kg |                                                                                   |                                                                                   |                                                                                   |                                                                                   | *640                                                                              | 490                                                                               | *570                                                                              | 370                                                                                 | *570                                                                                | 310                                                                                 | 3.99   |
|                   | lb |                                                                                   |                                                                                   |                                                                                   |                                                                                   | *1410                                                                             | 1080                                                                              | *1260                                                                             | 820                                                                                 | *1260                                                                               | 680                                                                                 | (13.1) |
| 2.0 m (7.0 ft)    | kg |                                                                                   |                                                                                   | *790                                                                              | 650                                                                               | *720                                                                              | 480                                                                               | *680                                                                              | 370                                                                                 | *570                                                                                | 270                                                                                 | 4.22   |
|                   | lb |                                                                                   |                                                                                   | *1740                                                                             | 1430                                                                              | *1590                                                                             | 1060                                                                              | *1500                                                                             | 820                                                                                 | *1260                                                                               | 600                                                                                 | (13.8) |
| 1.5 m (5.0 ft)    | kg |                                                                                   |                                                                                   | *1020                                                                             | 630                                                                               | *830                                                                              | 470                                                                               | *730                                                                              | 360                                                                                 | *570                                                                                | 260                                                                                 | 4.35   |
|                   | lb |                                                                                   |                                                                                   | *2250                                                                             | 1390                                                                              | *1830                                                                             | 1040                                                                              | *1610                                                                             | 790                                                                                 | *1260                                                                               | 570                                                                                 | (14.3) |
| 1.0 m (3.0 ft)    | kg |                                                                                   |                                                                                   | *1260                                                                             | 600                                                                               | *960                                                                              | 450                                                                               | *800                                                                              | 350                                                                                 | *600                                                                                | 250                                                                                 | 4.39   |
|                   | lb |                                                                                   |                                                                                   | *2780                                                                             | 1320                                                                              | *2120                                                                             | 990                                                                               | *1760                                                                             | 770                                                                                 | *1320                                                                               | 550                                                                                 | (14.4) |
| 0.5 m (2.0 ft)    | kg |                                                                                   |                                                                                   | *1410                                                                             | 580                                                                               | *1050                                                                             | 440                                                                               | *850                                                                              | 350                                                                                 | *630                                                                                | 250                                                                                 | 4.35   |
|                   | lb |                                                                                   |                                                                                   | *3110                                                                             | 1280                                                                              | *2310                                                                             | 970                                                                               | *1870                                                                             | 770                                                                                 | *1390                                                                               | 550                                                                                 | (14.3) |
| Ground Line       | kg | *1490                                                                             | 810                                                                               | *1460                                                                             | 570                                                                               | *1090                                                                             | 430                                                                               | *860                                                                              | 340                                                                                 | *650                                                                                | 260                                                                                 | 4.22   |
|                   | lb | *3280                                                                             | 1790                                                                              | *3220                                                                             | 1260                                                                              | *2400                                                                             | 950                                                                               | *1900                                                                             | 750                                                                                 | *1430                                                                               | 570                                                                                 | (13.8) |
| -0.5 m (-2.0 ft)  | kg | *1990                                                                             | 810                                                                               | *1420                                                                             | 570                                                                               | *1070                                                                             | 430                                                                               | *810                                                                              | 340                                                                                 | *660                                                                                | 280                                                                                 | 4.00   |
|                   | lb | *4390                                                                             | 1790                                                                              | *3130                                                                             | 1260                                                                              | *2360                                                                             | 950                                                                               | *1790                                                                             | 750                                                                                 | *1460                                                                               | 620                                                                                 | (13.1) |
| -1.0 m (-3.0 ft)  | kg | *1740                                                                             | 820                                                                               | *1260                                                                             | 570                                                                               | *930                                                                              | 440                                                                               |                                                                                   |                                                                                     | *660                                                                                | 330                                                                                 | 3.64   |
|                   | lb | *3840                                                                             | 1810                                                                              | *2780                                                                             | 1260                                                                              | *2050                                                                             | 970                                                                               |                                                                                   |                                                                                     | *1460                                                                               | 730                                                                                 | (11.9) |
| -1.5 m (-5.0 ft)  | kg | *1290                                                                             | 840                                                                               | *910                                                                              | 590                                                                               |                                                                                   |                                                                                   |                                                                                   |                                                                                     | *620                                                                                | 430                                                                                 | 3.09   |
|                   | lb | *2840                                                                             | 1850                                                                              | *2010                                                                             | 1300                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                     | *1370                                                                               | 950                                                                                 | (10.1) |
| -2.5 m (-8.0 ft)  | kg |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     | *450                                                                                | 450                                                                                 | 3.06   |
|                   | lb |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     | *990                                                                                | 990                                                                                 | (10.0) |

- 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 a hook located on the back of the bucket.
  4. \*indicates load limited by hydraulic capacity.

## 6. BUCKET SELECTION GUIDE



0.08 m<sup>3</sup> SAE  
heaped bucket

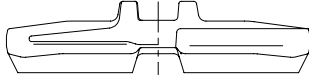
| Capacity                                     |                                                | Width                  |                     | Weight            | Recommendation                                                                                          |
|----------------------------------------------|------------------------------------------------|------------------------|---------------------|-------------------|---------------------------------------------------------------------------------------------------------|
|                                              |                                                |                        |                     |                   | 2.03 m (6' 8") boom                                                                                     |
| SAE<br>heaped                                | CECE<br>heaped                                 | Without<br>side cutter | With<br>side cutter |                   | 1.12 m (3' 8") arm                                                                                      |
| 0.08m <sup>3</sup><br>(0.10yd <sup>3</sup> ) | 0.06 m <sup>3</sup><br>(0.08 yd <sup>3</sup> ) | 450 mm<br>(17.7")      | 510 mm<br>(20")     | 60 kg<br>(132 lb) | Applicable for materials with density of 1600 kgf/m <sup>3</sup><br>(2700 lb /yd <sup>3</sup> ) or less |

## 7. UNDERCARRIAGE

### (1) TRACKS

X-leg type center frame is integrally welded with reinforced box-section track frames. The design includes dry tracks, lubricated rollers, idlers, sprockets, hydraulic track adjusters with shock absorbing springs and assembled track-type tractor shoes with triple grousers.

### (2) TYPES OF SHOES

| Model  | Shapes           |                           | Rubber track                                                                       |
|--------|------------------|---------------------------|------------------------------------------------------------------------------------|
|        |                  |                           |  |
| R27Z-9 | Shoe width       | mm (in)                   | 300 (12")                                                                          |
|        | Operating weight | kg (lb)                   | 2880 (6350)                                                                        |
|        | Ground pressure  | kgf/cm <sup>2</sup> (psi) | 0.29 (4.12)                                                                        |
|        | Overall width    | mm (ft-in)                | 1550 ( 5' 1")                                                                      |

### (3) NUMBER OF ROLLERS AND SHOES ON EACH SIDE

| Item            | Quantity |
|-----------------|----------|
| Carrier rollers | 1 EA     |
| Track rollers   | 3 EA     |

## 8. SPECIFICATIONS FOR MAJOR COMPONENTS

### 1) ENGINE

| Item                                | Specification                                         |
|-------------------------------------|-------------------------------------------------------|
| Model                               | Mitsubishi S3L2                                       |
| Type                                | 4-cycle vertical overhead valve, diesel fuel          |
| Cooling method                      | Water cooling                                         |
| Number of cylinders and arrangement | 3 cylinders, in-line                                  |
| Firing order                        | 1-3-2                                                 |
| Combustion chamber type             | Swirl chamber type                                    |
| Cylinder bore × stroke              | 78 × 92 mm (3.07" × 3.62")                            |
| Piston displacement                 | 1318 cc (80.4 cu in)                                  |
| Compression ratio                   | 22 : 1                                                |
| Rated gross horse power (SAE J1995) | 24.7 Hp at 2300 rpm (18.4 kW at 2300 rpm)             |
| Maximum torque at 1800 rpm          | 8 kgf · m (57.8 lbf · ft)                             |
| Engine oil quantity                 | 5.9 l (1.6 U.S. gal)                                  |
| Dry weight                          | 136 kg (300 lb)                                       |
| High idling speed                   | 2500+ 30 rpm                                          |
| Low idling speed                    | 1160 ± 25 rpm                                         |
| Rated fuel consumption              | 198 g/Hp · hr at 2300 rpm (265 g/kW · hr at 2300 rpm) |
| Starting motor                      | 12V-1.7 kW                                            |
| Alternator                          | 12V-40 A                                              |
| Battery                             | 1 × 12 V × 58 Ah (5h rating)                          |

### 2) MAIN PUMP

| Item           | Specification                                  |
|----------------|------------------------------------------------|
| Type           | Variable displacement tandem axis piston pumps |
| Capacity       | 2 × 12 cc/rev                                  |
| Rated oil flow | 2 × 27.6 l /min (7.3 U.S. gpm / 6.1 U.K. gpm)  |
| Rated speed    | 2300 rpm                                       |

### 3) GEAR PUMP

| Item           | Specification                                          |
|----------------|--------------------------------------------------------|
| Type           | Fixed displacement gear pump single stage              |
| Capacity       | 8.5/4.5 cc/rev                                         |
| Rated oil flow | 19.6/10.4 l /min (5.2/2.7 U.S. gpm / 4.3/2.3 U.K. gpm) |

### 4) MAIN CONTROL VALVE

| Item                           | Specification                      |
|--------------------------------|------------------------------------|
| Type                           | Sectional, 9 spools (12 blocks)    |
| Operating method               | Hydraulic pilot system             |
| Main relief valve pressure     | 220 kgf/cm <sup>2</sup> (3130 psi) |
| Overload relief valve pressure | 240 kgf/cm <sup>2</sup> (3410 psi) |

### 5) SWING MOTOR

| Item                   | Specification                                |
|------------------------|----------------------------------------------|
| Type                   | Fixed displacement axial piston motor        |
| Capacity               | 12.5 cc/rev                                  |
| Relief pressure        | 170 kgf/cm <sup>2</sup> (2420 psi)           |
| Braking system         | Automatic, spring applied hydraulic released |
| Braking torque         | 7.0 kgf · m (50.6 lbf · ft)                  |
| Brake release pressure | 25~50 kgf/cm <sup>2</sup> (356~710 psi)      |
| Reduction gear type    | 2 - stage planetary                          |

### 6) TRAVEL MOTOR

| Item                   | Specification                                |
|------------------------|----------------------------------------------|
| Type                   | Variable displacement axial piston motor     |
| Relief pressure        | 220 kgf/cm <sup>2</sup> (3130 psi)           |
| Reduction gear type    | 2-stage planetary                            |
| Braking system         | Automatic, spring applied hydraulic released |
| Brake release pressure | 19 kgf/cm <sup>2</sup> (270 psi)             |
| Braking torque         | 5.7 kgf · m (41 lbf · ft)                    |

## 7) CYLINDER

| Item                |                             | Specification        |
|---------------------|-----------------------------|----------------------|
| Boom cylinder       | Bore dia × Rod dia × Stroke | ø 75 × ø 45 × 565 mm |
|                     | Cushion                     | Extend only          |
| Arm cylinder        | Bore dia × Rod dia × Stroke | ø 65 × ø 40 × 500 mm |
|                     | Cushion                     | Extend and retract   |
| Bucket cylinder     | Bore dia × Rod dia × Stroke | ø 60 × ø 35 × 420 mm |
|                     | Cushion                     | -                    |
| Boom swing cylinder | Bore dia × Rod dia × Stroke | ø 85 × ø 45 × 140 mm |
|                     | Cushion                     | -                    |
| Dozer cylinder      | Bore dia × Rod dia × Stroke | ø 70 × ø 40 × 400 mm |
|                     | Cushion                     | -                    |

※ 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.

## 8) BUCKET

| Item     | Capacity                                    |                                             | Tooth quantity | Width               |                  |
|----------|---------------------------------------------|---------------------------------------------|----------------|---------------------|------------------|
|          | SAE heaped                                  | CECE heaped                                 |                | Without side cutter | With side cutter |
| Standard | 0.08 m <sup>3</sup> (0.10 yd <sup>3</sup> ) | 0.09 m <sup>3</sup> (0.12 yd <sup>3</sup> ) | 4              | 450 mm (17.7")      | 510 mm (20")     |

## 9. RECOMMENDED OILS

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

| Service point                | Kind of fluid                                    | Capacity<br>ℓ (U.S. gal)                  | Ambient temperature °C ( °F) |                                     |                |            |            |            |             |
|------------------------------|--------------------------------------------------|-------------------------------------------|------------------------------|-------------------------------------|----------------|------------|------------|------------|-------------|
|                              |                                                  |                                           | -20<br>(-4)                  | -10<br>(14)                         | 0<br>(32)      | 10<br>(50) | 20<br>(68) | 30<br>(86) | 40<br>(104) |
| Engine oil pan               | Engine oil                                       | 5.9 (1.6)                                 |                              |                                     |                | SAE 30     |            |            |             |
|                              |                                                  |                                           | SAE 10W                      |                                     |                |            |            |            |             |
|                              |                                                  |                                           | SAE 10W-30                   |                                     |                |            |            |            |             |
|                              |                                                  |                                           |                              | SAE 15W-40                          |                |            |            |            |             |
| Final drive                  | Gear oil                                         | 0.6×2<br>(0.16×2)                         |                              | SAE 85W-140                         |                |            |            |            |             |
| Hydraulic tank               | Hydraulic oil                                    | Tank:<br>32 (8.5)<br>System:<br>60 (15.9) | ISO VG 32                    |                                     |                |            |            |            |             |
|                              |                                                  |                                           |                              | ISO VG 46                           |                |            |            |            |             |
|                              |                                                  |                                           |                              | ISO VG 68                           |                |            |            |            |             |
| Fuel tank                    | Diesel fuel                                      | 31 (8.2)                                  | ASTM D975 NO.1               |                                     |                |            |            |            |             |
|                              |                                                  |                                           |                              |                                     | ASTM D975 NO.2 |            |            |            |             |
| Fitting<br>(Grease nipple)   | Grease                                           | As required                               | NLGI NO.1                    |                                     |                |            |            |            |             |
|                              |                                                  |                                           |                              |                                     | NLGI NO.2      |            |            |            |             |
| Radiator<br>(Reservoir tank) | Mixture of<br>antifreeze<br>and water<br>50 : 50 | 5 (1.3)                                   |                              | Ethylene glycol base permanent type |                |            |            |            |             |

**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