

# 12VXE

## Small and powerful

The 12VXE is a completely new concept: small enough to pass through a door. Robust enough to do jobs above its category. An exceptional machine. With its 12.9 hp engine and digging depth of 2010 mm it handles heavy work in the most challenging conditions with ease.



### YANMAR 12.9 HP DIESEL ENGINE

The 3-cylinder engine runs at low speed with a reduced exploitation index for improved durability and long-term reliability. The air filter with its high filtering capacity is composed of a double cartridge that reduces maintenance and increases the reliability of the engine.

The fuel circuit is equipped with a diesel filter with a water separator, ensuring a long engine life. The high efficiency of the engine combined with an advanced hydraulic system ensures low fuel consumption and low running noise, and limits polluting emissions according to the antipollution requirements of EPA Tier 4.



### SAFETY

The TOPS certified rollbar cage (an optional FOPS cover is available) ensures outstanding working visibility. The boom movements are softened by the Anti-Shock valve in the hydraulic circuit. In the phase of lifting the 1st boom the shock of stopping at the boom's limit stop is reduced by the cylinder shock-absorbing system. The slew brake motor prevents accidental arm movements during transport or when the machine is parked. The arm is controlled by the LH joystick. The auxiliary circuit control pedal is equipped with a tilt-away guard which acts both as a foot rest and circuit lock for remote operation.

### TWO TRAVELLING SPEEDS

The two travelling speeds (2.3 / 4.0 kph) enable moving quickly on site along with maximum manoeuvrability.



**The 12VXE can drive through doors no more than 90 cm wide. The rollbar can also be removed in just a few minutes to facilitate passing through low clearance areas.**



**REAR FRAME WITHIN CLEARANCE**

While slewing, the chassis frame turns within the clearance of the tracks with the carriage extended, allowing greater safety for the machine and for the operator. With the carriage closed, the machine can access even the most restricted spaces. With a width of 870 mm and a tilt-back rollbar, the machine is perfect for restructuring interiors.

**COMPACT SIZE**

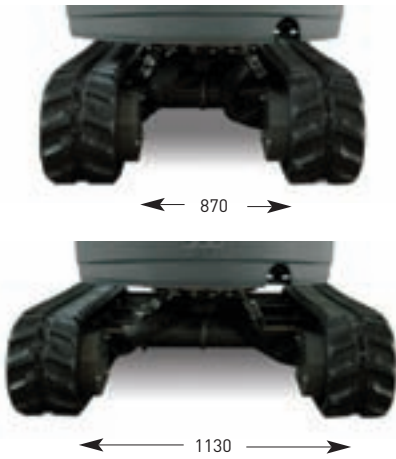
The perfect combination of small size and high power. The 12VXE gives access to previous inaccessible spaces, for working in interiors or passing through buildings to access internal gardens or courtyards which are otherwise almost impossible to get to.

**EASY ACCESS AND MAINTENANCE**

The 12VXE's vertically-opening engine hood provides easier access and visibility of most of the engine along with easy accessibility for daily inspection (oil-filters-belts) and maintenance. The battery requires reduced maintenance. The diesel tank is generously sized to allow the machine to be run for an entire day in normal use. It is easy to access for refilling and protected with a key-operated cap. The pumps are equipped with pressure-gauge points to facilitate monitoring hydraulic pressure values.

## COMPACT SIZE

Front turning radius with swing: **1440 mm.**  
Machine width in narrow configuration: **870 mm.**



### VARIABLE GAUGE UNDERCARRIAGE

The 12VXE's variable gauge undercarriage (870-1130 mm) guarantees excellent safety and working stability in digging and side lifting operations on sites with very little room for manoeuvre and on broken ground or steep gradients. The circular tube improves extension while reducing backlash.



### EXTENDABLE CARRIAGE AND BLADE

When the machine is used with the carriage retracted, the two blade extensions lock in the retracted position in front of the blade. A lever with mode selector controls the movement of the blade and the track width.

### Technical features

Operating weight w/RS rollbar  
Bucket width/capacity  
Undercarriage width  
Rear turning radius  
Max. digging depth

### 12VXE

1260 kg  
400 mm / 0.025 m<sup>3</sup>  
870 / 1130 mm  
550 mm  
2010 mm



### COMFORT AND SAFETY

The operator position is especially comfortable, thanks to the adjustable wrap-around seat design and wrist supports and ergonomic control layout. It is equipped as standard with servo-assisted joysticks that ensure the utmost precision. Two safety levers control access to the driving seat and, if lifted, inhibit all the machine working and travelling controls. The multifunction analogue control display - hour meter, fuel level, oil temperature and warning lights - is user friendly and facilitates the work of less expert operators, thus increasing their productivity.



### DIGGING PERFORMANCE WORTHY OF LARGER MACHINES

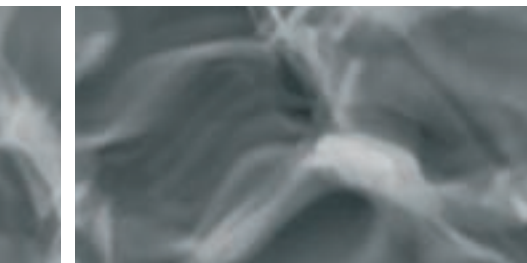
The positioning of the 1st excavator arm cylinder (above the arm to protect against damage), together with the design of the pin and the reduced clearance of the bucket articulation, increase digging performance to 2010 mm, a very high performance category for such a compact model.

### PROTECTION FOR COMPONENTS

The hydraulic circuits, including the auxiliary circuit for use with a variety of hydraulic attachments, run inside the arm and foremost arm to protect against damage. Blade and arm cylinder protection. Burst-proof sheaths, pipes protected with a metal coil and "multilayer cut-proof" bucket control pipes.



**Weight 1180 kg**  
**ideal for transport**  
**on trucks in the**  
**3.5 ton category**



**HYDRAULIC CIRCUIT**

The circuit includes two variable capacity pumps integrated with the Straight Travel system on the blade section, and a separate gear pump for the servo-controls, thus guaranteeing a perfect balance of operating speed and force. Precise and simultaneous manoeuvres are assured with no loss of power or drop in engine speed. The 12VXE succeeds in moving forward while performing working operations without losing any linearity in the trajectory.



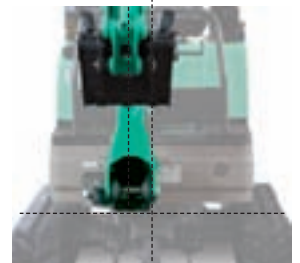
**AUXILIARY HYDRAULIC LINES**

The auxiliary hydraulic circuit for hydraulic attachments such as a hydraulic breaker, shears, hydraulic grippers and drills is supplied as standard as far as the 2nd arm. A deviator valve selects single - or double - action operation.



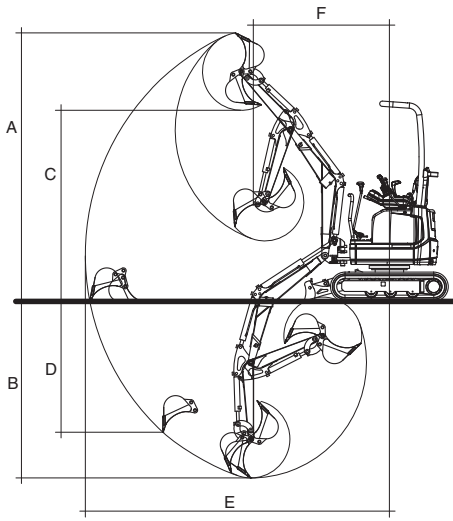
**WORKLIGHT**

The arm mounts a worklight for a perfect view of the dig.



**ASYMMETRIC ARM**

The 12VXE is a zero tail-swing model with the arm position markedly asymmetrical with the fifth wheel, which increases the operator's view of the dig. The swing unit is optimally canted for off-axis digging.



**Working range**

- A** Maximum dumping height
- B** Maximum digging depth
- C** Maximum digging height
- D** Maximum vertical digging depth
- E** Maximum digging radius
- F** Minimum front turning radius at right boom swing

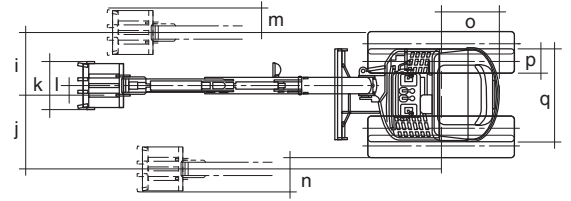
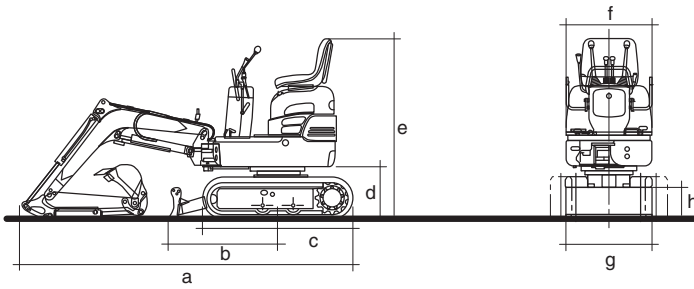
\* with long arm

**9VXE / 9VXE\***

**12VXE**

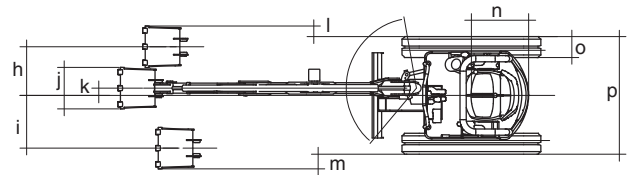
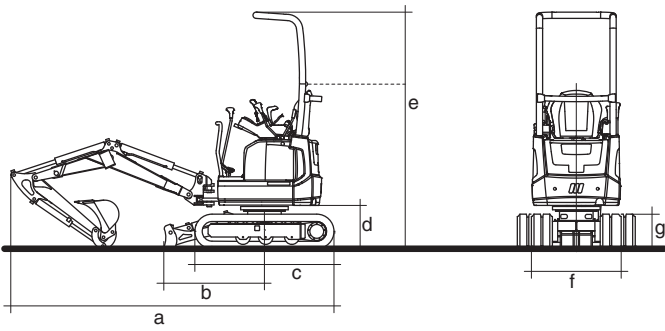
**17VXE / 17VXE\***

|                |         |                |
|----------------|---------|----------------|
| 2755 / 2950 mm | 3052 mm | 3610 / 3810 mm |
| 1570 / 1770 mm | 2010 mm | 2100 / 2350 mm |
| 1970 / 2150 mm | 2173 mm | 2560 / 2760 mm |
| 1175 / 1400 mm | 1487 mm | 1770 / 2010 mm |
| 2980 / 3190 mm | 3456 mm | 3760 / 3990 mm |
| 1220 / 1320 mm | 1530 mm | 1490 / 1580 mm |
| 950 / 1030 mm  | 1290 mm | 1280 / 1340 mm |



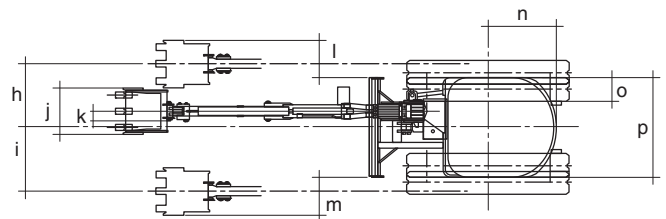
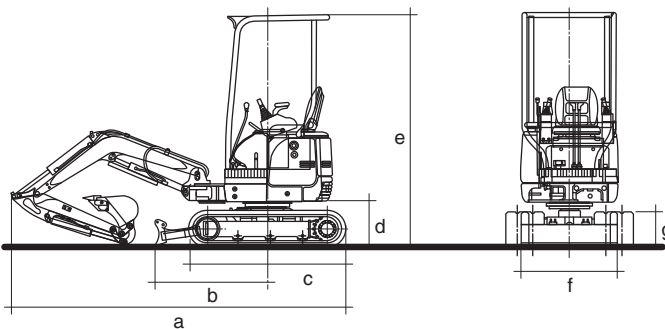
**Dimensions (mm)**

|      |      |     |      |     |      |     |           |     |     |     |     |    |     |     |     |     |           |
|------|------|-----|------|-----|------|-----|-----------|-----|-----|-----|-----|----|-----|-----|-----|-----|-----------|
| 9VXE | a    | b   | c    | d   | e    | f   | g         | h   | i   | j   | k   | l  | m   | n   | o   | p   | q         |
|      | 2700 | 890 | 1220 | 405 | 1405 | 720 | 700 (950) | 240 | 470 | 570 | 370 | 70 | 180 | 280 | 485 | 180 | 700 (950) |



**Dimensions (mm)**

|       |      |     |      |     |             |            |     |     |     |     |    |     |     |     |     |     |
|-------|------|-----|------|-----|-------------|------------|-----|-----|-----|-----|----|-----|-----|-----|-----|-----|
| 12VXE | a    | b   | c    | d   | e           | f          | g   | h   | i   | j   | k  | l   | m   | n   | o   | p   |
|       | 3110 | 970 | 1339 | 417 | 2277 (1700) | 870 (1130) | 395 | 469 | 508 | 400 | 70 | 102 | 141 | 552 | 230 | 870 |



**Dimensions (mm)**

|       |      |      |      |     |      |            |     |     |     |     |     |     |     |     |     |            |
|-------|------|------|------|-----|------|------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|------------|
| 17VXE | a    | b    | c    | d   | e    | f          | g   | h   | i   | j   | k   | l   | m   | n   | o   | p          |
|       | 3380 | 1155 | 1570 | 460 | 2330 | 980 (1300) | 395 | 615 | 610 | 400 | 150 | 335 | 330 | 680 | 230 | 980 (1300) |



Photographs appearing in the catalogue were taken for publication and may differ in some cases from actual objects. Specifications are subject to change without notice due to technical improvements or modifications.

## 9VXE

## 12VXE

## 17VXE

### General Specifications

|                                      |                      |                      |                      |
|--------------------------------------|----------------------|----------------------|----------------------|
| STD. Bucket capacity (ISO)           | 0,022 m <sup>3</sup> | 0,025 m <sup>3</sup> | 0,037 m <sup>3</sup> |
| STD. Bucket width                    | 370 mm               | 400 mm               | 400 mm               |
| Machine weight R.S. / S.S.* Canopy   | 890 kg (no canopy)   | 1180 kg              | 1615 / 1675 kg       |
| Operating weight R.S. / S.S.* Canopy | 965 kg (no canopy)   | 1260 kg              | 1710 / 1770 kg       |
| Transport dimensions                 | 720 x 2700 x 1405 mm | 3100 x 870 x 2280 mm | 3380 x 980 x 2330 mm |
| Gradeability                         | 30°                  | 30°                  | 30°                  |
| Ground pressure R.S. / S.S.* Canopy  | 26,2 kPa             | 26,5 / 28,5 kPa      | 26,5 / 28,5 kPa      |
| Minimum ground clearance             | 160 mm               | 175 mm               | 175 mm               |

\*R.S. / S.S. Rubber Shoe / Steel Shoe

### Motor

The 2-cylinder Yanmar 2TNV70 Diesel engine is water cooled. (9VXE). The 3-cylinder Yanmar 3TNE68 Diesel engine is water cooled. (12VXE-17VXE)

|                             |   |   |  |
|-----------------------------|---|---|--|
| Model                       | Yanmar 2TNV70                                       | Yanmar TNM68  | Yanmar 3TNV70  |
| N° cylinders / displacement | 2 / 570 cc  | 3 / 784 cc  | 3 / 845 cc   |
| Bore x stroke               | 70 x 74 mm  | 68 x 72 mm  | 70 x 74 mm   |
| Max output                  | 13,4 HP a 3600 rpm                                  | 18,5 HP a 3600 rpm                                    | 19,4 HP a 3600 rpm                                     |
| Rated output (ISO 1585)     | 10 HP a 2400 rpm (7,3 kW / 2400 min <sup>-1</sup> ) | 12,9 HP a 2200 rpm (9,5 kW / 2200 min <sup>-1</sup> ) | 14,2 HP a 2300 rpm (10,5 kW / 2300 min <sup>-1</sup> ) |
| Fuel consumption            | 286 g/kW-h  | 272 g/kW-h  | 272 g/kW-h   |
| Engine oil pan capacity     | 1,8 lt (Max Level)                                  | 3 lt (Max Level)                                      | 3,8 lt (Max Level)                                     |

### Electrical System

|               |               |               |               |
|---------------|---------------|---------------|---------------|
| Voltage       | 12 V          | 12 V          | 12 V          |
| Battery       | 12 V - 34 Ah  | 12 V - 45 Ah  | 12 V - 45 Ah  |
| Alternator    | 12 V - 20 A   | 12 V - 20 A   | 12 V - 20 A   |
| Starter motor | 12 V - 1,0 kW | 12 V - 0,9 kW | 12 V - 0,9 kW |

### Hydraulic system

The Power Shift hydraulic circuit control system, with two variable displacement pumps and one gear pump, delivers maximum power, extremely easy handling and precise movements (9VXE).

The particularly sophisticated hydraulic system integrated with variable displacement pumps and servo-assisted controls ensure extraordinary manoeuvrability and precision of the movements even when travelling, always maintaining forward movement in a straight line (12VXE-17VXE)

|                        |                                     |                                     |                                     |
|------------------------|-------------------------------------|-------------------------------------|-------------------------------------|
| Maximum flow           | 11,1 lt/min x 2                     | 13,2 lt/min x 2                     | 17,2 lt/min x 2 + 12 lt/min         |
| Max Pressure / Setting | 16,2 Mpa (165 kgf/cm <sup>2</sup> ) | 20,6 Mpa (210 kgf/cm <sup>2</sup> ) | 20,6 Mpa (210 kgf/cm <sup>2</sup> ) |
| Control                | comandi DCS (Direct Control System) | hydraulic remote control            | hydraulic remote control            |

### Double action hydraulic circuit for accessories

|              |                                     |                                     |                                     |
|--------------|-------------------------------------|-------------------------------------|-------------------------------------|
| Maximum flow | 22,2 lt/min                         | 26 lt/min                           | 29,2 lt/min                         |
| Set pressure | 16,2 Mpa (165 kgf/cm <sup>2</sup> ) | 20,6 Mpa (210 kgf/cm <sup>2</sup> ) | 20,6 Mpa (210 kgf/cm <sup>2</sup> ) |

### End-of-stroke cushioning

|               |                    |                    |                    |
|---------------|--------------------|--------------------|--------------------|
| Boom cylinder | rod fully extended | rod fully extended | rod fully extended |
|---------------|--------------------|--------------------|--------------------|

### Slewing system

Die Schwenkbewegung des Oberwagens wird von einem hydraulischen Motor über einen Drehkranz mit Innenverzahnung und Fernschmierung gewährleistet.

|                                |                            |                            |                            |
|--------------------------------|----------------------------|----------------------------|----------------------------|
| Swing speed                    | 8,7 min <sup>-1</sup>      | 8,5 min <sup>-1</sup>      | 9,4 min <sup>-1</sup>      |
| Turntable braking              | automatic multi-disc brake | automatic multi-disc brake | automatic multi-disc brake |
| Absorption of hydraulic shocks | shock less valve           | shock less valve           | shock less valve           |

### Bucket performance

|                                      |                    |                     |                    |
|--------------------------------------|--------------------|---------------------|--------------------|
| Max. bucket digging force (ISO 6015) | 10,6 kN (1090 kgf) | 11,86 kN (1210 kgf) | 15,7 kN (1600 kgf) |
| Max. arm digging force (ISO 6015)    | 6,2 kN (630 kgf)   | 7,84 kN (800 kgf)   | 9,35 kN (950 kgf)  |

### Undercarriage

The extensible lower frame is composed of a welded and machined central body that supports. The two sliding track frames. The bearings of the rollers and of the tightener wheels are permanently lubricated (9VXE-12VXE-17VXE)

|                                   |                                    |                                    |                                    |
|-----------------------------------|------------------------------------|------------------------------------|------------------------------------|
| Undercarriage length R.S. / S.S.  | 1220 mm                            | 1339 mm (nur Gummiketten)          | 1570 / 1550 mm                     |
| Variable gauge                    | 700 / 950 mm                       | 870 / 1130 mm                      | 980 / 1300 mm                      |
| Crawler shoe width                | 180 mm                             | 200 mm                             | 230 mm                             |
| Lower / upper rollers for side    | 2                                  | 3                                  | 3                                  |
| Track tension                     | tension spring and grease cylinder | tension spring and grease cylinder | tension spring and grease cylinder |
| Dozer blade size (Width x Height) | 700 / 950 mm x 240 mm              | 870 / 1130 x 230 mm                | 980 / 1300 mm x 235 mm             |
| Lift above ground                 | 220 mm                             | 230 mm                             | 230 mm                             |
| Drop below ground                 | 150 mm                             | 210 mm                             | 340 mm                             |

### Travel system

Each track is operated by a gearmotor composed of a two-speed axial piston engine and an epicyclic reduction gear.

|                        |                |                |                |
|------------------------|----------------|----------------|----------------|
| Travel speed (1a / 2a) | 1,7 / 3,5 km/h | 2,3 / 4,0 km/h | 2,1 / 4,0 km/h |
|------------------------|----------------|----------------|----------------|

### Capacity

|                |        |         |        |
|----------------|--------|---------|--------|
| Fuel tank      | 8,5 lt | 12,5 lt | 20 lt  |
| Hydraulic tank | 8,2 lt | 17 lt   | 19 lt  |
| Engine oil     | 14 lt  | 26 lt   | 23 lt  |
| Engine coolant | 2,2 lt | 3,6 lt  | 3,6 lt |

### Boom swing system

|                   |     |     |     |
|-------------------|-----|-----|-----|
| Right swing angle | 90° | 80° | 80° |
| Left swing angle  | 50° | 50° | 55° |

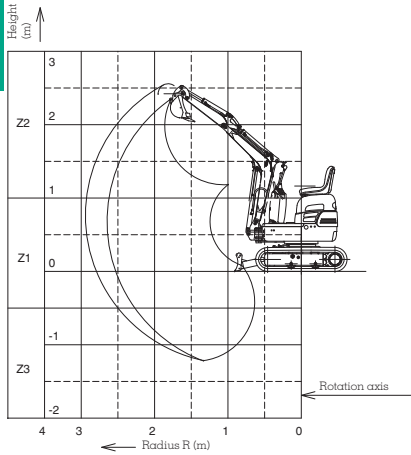
### Other data

|                              |        |        |        |
|------------------------------|--------|--------|--------|
| Noise level LwA (2000/14/EC) | 91 dBA | 93 dBA | 92 dBA |
|------------------------------|--------|--------|--------|

# Lifting capacity

VXE

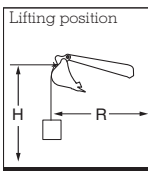
## 9VXE



| Front lifting | R 2,5 | R 2,0 | R 1,5 | R 1,0 |
|---------------|-------|-------|-------|-------|
| H Z2          | 100   | 200   | -     | -     |
| H Z1          | 200   | 200   | 300   | -     |
| H Z3          | -     | 200   | 200   | 300   |

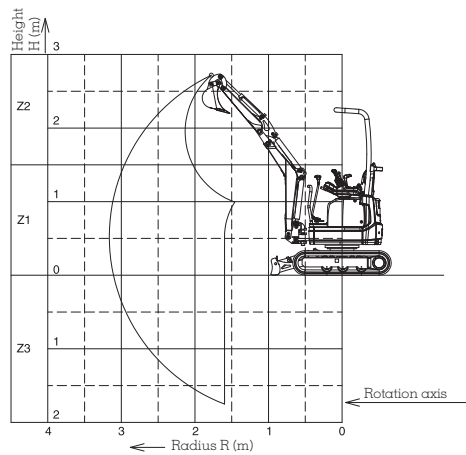
| Side lifting (Ce) | R 2,5 | R 2,0 | R 1,5 | R 1,0 |
|-------------------|-------|-------|-------|-------|
| H Z2              | 100   | 100   | -     | -     |
| H Z1              | 100   | 100   | 200   | -     |
| H Z3              | -     | 100   | 200   | 300   |

| Side lifting (Cc) | R 2,5 | R 2,0 | R 1,5 | R 1,0 |
|-------------------|-------|-------|-------|-------|
| H Z2              | -     | 100   | -     | -     |
| H Z1              | -     | -     | 100   | -     |
| H Z3              | -     | -     | 100   | 200   |



Rated load don't exceed 87% of hydraulic capacity or 75% of stability.

## 12VXE



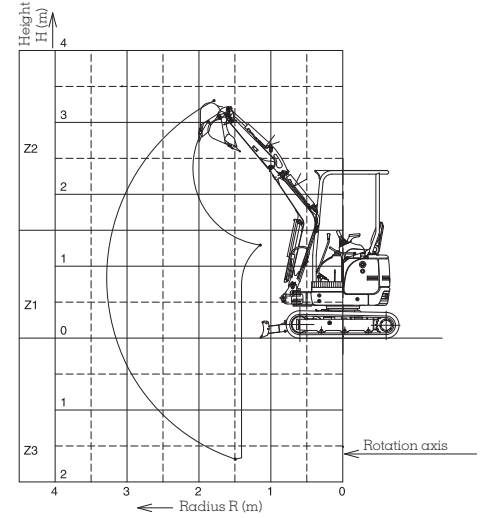
| Front lifting | R 3,0 | R 2,5 | R 2,0 | R 1,5 |
|---------------|-------|-------|-------|-------|
| H Z2          | -     | 250   | 200   | -     |
| H Z1          | 250   | 350   | 350   | 400   |
| H Z3          | -     | 350   | 400   | 500   |

| Side lifting (Ce) | R 3,0 | R 2,5 | R 2,0 | R 1,5 |
|-------------------|-------|-------|-------|-------|
| H Z2              | -     | 150   | 200   | -     |
| H Z1              | 100   | 150   | 200   | 300   |
| H Z3              | -     | 150   | 200   | 300   |

| Side lifting (Cc) | R 3,0 | R 2,5 | R 2,0 | R 1,5 |
|-------------------|-------|-------|-------|-------|
| H Z2              | -     | 100   | 100   | -     |
| H Z1              | 90    | 100   | 150   | 200   |
| H Z3              | -     | 100   | 150   | 200   |

(Ce) Crawler width expansion (Cc) Crawler width contraction

## 17VXE



| Front lifting | R 3,0 | R 2,5 | R 2,0 | R 1,5 |
|---------------|-------|-------|-------|-------|
| H Z2          | 300   | 300   | 300   | 400   |
| H Z1          | 300   | 400   | 500   | 700   |
| H Z3          | -     | 400   | 400   | 300   |

| Side lifting (Ce) | R 3,0 | R 2,5 | R 2,0 | R 1,5 |
|-------------------|-------|-------|-------|-------|
| H Z2              | 100   | 200   | 300   | 200   |
| H Z1              | 100   | 200   | 200   | 300   |
| H Z3              | -     | 200   | 200   | 300   |

| Side lifting (Cc) | R 3,0 | R 2,5 | R 2,0 | R 1,5 |
|-------------------|-------|-------|-------|-------|
| H Z2              | 100   | 100   | 100   | 200   |
| H Z1              | 100   | 100   | 100   | 200   |
| H Z3              | -     | 100   | 100   | 200   |

| Buckets (applicable to machine) | Bucket capacity ISO (m³) | Dimensions (mm) outside teeth (A) | No. of teeth | Weight (kg) | Standard arm applications |
|---------------------------------|--------------------------|-----------------------------------|--------------|-------------|---------------------------|
| 9VXE                            | 0,016                    | 220                               | 2            | 16          | general digging std       |
|                                 | 0,021                    | 320                               | 3            | 22          | general digging std       |
|                                 | 0,023                    | 370                               | 3            | 24          | general digging std       |
|                                 | 0,060                    | 600                               | -            | 40          | ditch clearing            |
| 12VXE                           | 0,014                    | 250                               | 2            | 21          | digging opt               |
|                                 | 0,017                    | 300                               | 3            | 23          | digging opt               |
|                                 | 0,021                    | 350                               | 3            | 26          | digging opt               |
|                                 | 0,025                    | 400                               | 3            | 29          | digging std               |
|                                 | 0,032                    | 500                               | 4            | 34          | loading opt               |
|                                 | 0,034                    | 600                               | -            | 37          | ditch clearing opt        |
| 17VXE                           | 0,020                    | 250                               | 2            | 26          | digging opt               |
|                                 | 0,025                    | 300                               | 3            | 30          | digging opt               |
|                                 | 0,031                    | 350                               | 3            | 32          | digging opt               |
|                                 | 0,037                    | 400                               | 3            | 37          | digging std               |
|                                 | 0,049                    | 500                               | 4            | 42          | loading opt               |
|                                 | 0,050                    | 800                               | -            | 46          | ditch clearing opt        |

Using buckets larger than the standard, where possible, must be done with great caution to avoid tipping the machine over and damaging structures.