# SPECIFICATIONS

## ENGINE

Make ..... Komatsu SD106-1FB
Type ..... low emissions, direct injection
N° of cylinders ..... 4
Engine power:
(ISO 14396) ..... 71,8 kW / 96,3 HP - 2.000 rpm
Max. torque (80/1269/EC) ..... 400 Nm - 1.500 rpm
Displacement ..... 4.412 cm³

## WEIGHT

Operating weight, including mm 2.000 arm, bucket with 0,33 m³ ISO 7451 capacity, blade, operator, lubricants, liquids, filled tank and standard equipment (ISO 6016):

| Shoes width (mm) | Tread width (mm) | Operating weight with monoboom (kg) | Operating weight with two-piece boom (kg) |
|---|---|---|---|
| Steel | | | |
| 500 | 2.400 | 10.560 | 10.980 |
| 600 | 2.400 | 10.800 | 11.220 |

## HYDRAULIC SYSTEM

Type ..... Komatsu CLSS
Power choices ..... 2 (Power/Economy)

Main pumps:
Pump for ..... boom, arm, bucket and travelling
Type ..... variable displacement, axial piston
Maximum flow ..... 180 ℓ/min
Pump for ..... blade and swing
Type ..... fixed displacement gear pump
Maximum flow ..... 73 ℓ/min

Valve rating:
Swing ..... 21,5 MPa (215 bar)
Digging equipment ..... 29,4 MPa (294 bar)
Bucket breakout force (ISO 6015) ..... 7.350 daN (7.500 kg)
Digging arm breakout force (2.000 mm)
(ISO 6015) ..... 4.235 daN (4.319 kg)

## SWING SYSTEM

Driven by ..... hydraulic motor
Swing reduction gear ..... with double epicyclic reduction
Swing circle lubrication ..... permanent grease bath
Swing brakes ..... automatic, with oil immersed discs
Swing speed ..... 9 rpm

## TRANSMISSION

Controls ..... two levers with pedals
Operation ..... completely hydrostatic
Hydraulic motors ..... variable displacement, axial piston motors integrated in the profile of the tracks
Reduction system ..... epicyclic double reduction gears
Max traction force ..... 8.140 daN (8.300 kg)
Max speed (high) ..... 4,1 km/h
Max speed (low) ..... 2,8 km/h
Gradeability ..... 70% limited by the engine inclination
Working and parking brakes ..... oil immersed multiple discs with negative control

## BLADE

Width x height ..... 2.400 x 520 mm
Max lifting above ground level ..... 500 mm
Max depth below ground level ..... 400 mm

## UNDERCARRIAGE

Undercarriage with single-unit electrowelded structure. Heavy duty type.
Track frames with boxed section, rounded in its upper part in order to avoid accumulation of material.
Adjustment of track tension ..... hydraulic
Number of shoes (for each side) ..... 38
Number of carrier rollers (for each side) ..... 1
Number of track rollers (for each side) ..... 6

## ELECTRIC SYSTEM

Operating voltage ..... 12 V
Battery ..... 1 x 155 Ah
Alternator ..... 60 A
Starter ..... 3,0 kW

## CAB

Sound-proof cab, provided with safety glasses, liftable windscreen, "manhole" roof, door with safety lock, windscreen-wiper, electric horn, adjustable seat, control system and instrumentation, adjustable joysticks. Outside air inlet.

## REFILLS

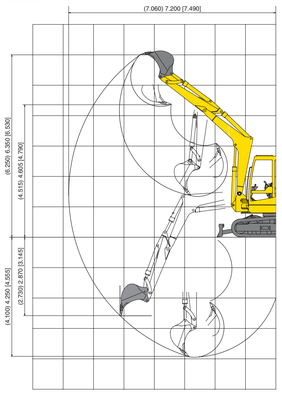
Fuel tank ..... 150 ℓ
Cooling system ..... 18 ℓ
Engine oil ..... 12,5 ℓ
Hydraulic oil tank ..... 84 ℓ





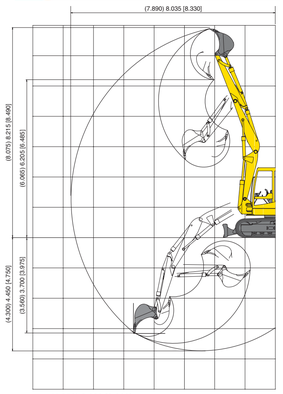
# DIGGING DIAGRAM

## MONOBOOM




arm (1.850) 2.000 [2.300]

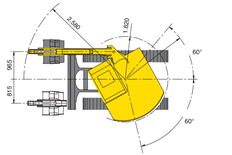
## TWO PIECE BOOM

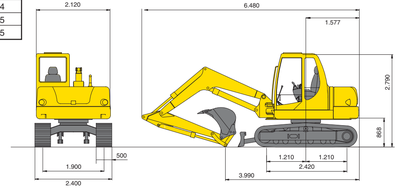



arm (1.850) 2.000 [2.300]

# DIMENSIONS

| BUCKET RANGE | | | |
|---|---|---|---|
| Width mm | Capacity m³ (ISO7451) | Weight kg | Teeth N. |
| 300 | 0,093 | 168 | 2 |
| 400 | 0,15 | 194 | 3 |
| 500 | 0,19 | 218 | 3 |
| 600 | 0,24 | 234 | 4 |
| 700 | 0,28 | 252 | 4 |
| 800 | 0,33 | 270 | 4 |
| 900 | 0,36 | 294 | 5 |
| 1.000 | 0,4 | 320 | 5 |








# STANDARD EQUIPMENT

- Monoboom
- 2.000 mm arm
- 500 mm steel shoes
- 2.400 mm Blade
- Cab with heating
- Adjustable seat with safety belt
- Instrumentation including:
  - hour meter
  - fuel level LCD display
  - engine water temperature LCD display
  - Indicators: air filter clogging, engine oil pressure, generator, hydraulic oil filter, engine pre-heating, selected speed, working light.
- Horn
- 12 V electric plug
- 2 travelling speeds
- 2 front working lights
- Automatic parking brake
- Swing lock
- Hose burst valves on blade and boom cylinders
- Adjustable element for attachment
- Two elements air filter
- Overload warning device

# OPTIONAL EQUIPMENT

- Air conditioning
- 2-piece boom
- Hose burst valves (arm and bucket)
- 1.850/2.300 mm digging arm
- 600 mm steel shoes
- Auxiliary hydraulic circuit for hammer/clamshell bucket
- Hydraulic hammer
- FOPS protection (on top and on front)
- Bucket range (300 ÷1.000 mm)
- Ditch cleaning bucket (1.800 mm)
- Ditch digging bucket (2.100 mm 45°)
- Mechanical or hydraulic quick coupler
- Boom cylinder protection
- Additional counterweight (345 kg)
- Working light on boom
- 2 rear view mirrors
- Biodegradable oil
- Fuel filling pump
- Radio
- Rotating beacon
- Travel acoustic alarm
- Rain visor
- Relieve valve for equipment spool

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KOMATSU
Utility

PC
110R-1

PC110R-1

MIDI EXCAVATOR

**ENGINE POWER**
71,8 kW - 96,3 HP

**OPERATING WEIGHT**
From 10.560 kg
to 11.220 kg

PC110R-1

PC110R-1
MIDI EXCAVATOR

# THE ALTERNATIVE DIMENSION

Especially designed for applications that require compact machines with high digging force and excellent stability, highlighted by the front blade as standard, the PC110R-1 offers the features of a traditional excavator with extremely compact dimensions.
The undercarriage of the PC110R-1 is superior in terms of sturdiness and dimensions, with a structure that is capable of absorbing stress in any application, while at the same time providing the machine excellent stability.

## Engine

The KOMATSU Turbo engine supplies a 69,3 kW / 92,9 HP net power, providing high torque reserve and, above all, reliability. The innovative combustion system guarantees emissions in accordance with the strictest European standards (Stage 2).

## Hydraulic System

The **CLSS** (***C**losed **L**oad **S**ensing **S**ystem*) hydraulic system fitted on the PC110R-1 ensures excellent control and unbeatable productivity, even with less experienced operators. Two different hydraulic power modes can be selected, *"Power"* and *"Economy"*, for operation at maximum power when required, or alternatively at reduced power to save on fuel for more general work or finishing operations.

## "PPC" Proportional Servocontrols

The PPC servocontrols require very little effort and ensure extremely precise control. Each movement has its own dedicated control, and can be used at the same time as the others, thus simplifying and speeding up all working cycles.


## Total Comfort

The cab, mounted on special elastic supports, is spacious and designed with care to the minimum details, so as to ensure a silent and comfortable working environment. Special attention has been paid to the internal layout: easy-to-read instruments, a large console located in front of the operator, and an efficient heating and ventilation system, with partial fresh air intake. The new air-conditioning system, available upon request, ensures the ideal temperature in all climatic conditions, so as to guarantee maximum comfort for the operator.
The large glazed surface, the sun roof and the special design of the panels offer maximum 360° visibility.

## Versatility

The PC110R-1 can be customised to satisfy all requirements: monoboom or two-piece boom, short or long digging arm, 500 or 600 mm steel tracks. In addition, the possibility to adjust the flow-rate and the pressure of the auxiliary lines allows numerous attachments with different specifications to be used.

## Maintenance

All the service points on the PC110R-1 have been grouped under the two fully-opening panels, making them easy to reach from the ground; in addition, all the hydraulic hoses are fitted with ORFS couplings, which ensure better seal and easy replacement if required.

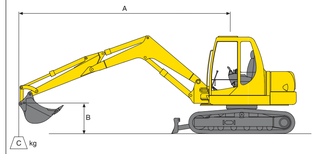






PC110R-1
MIDI EXCAVATOR

# LIFTING CAPACITY



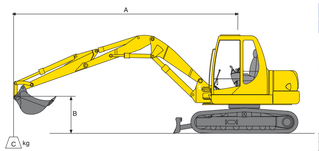

### MONOBOOM

**DATAS AND SPECIFICATIONS ARE REFERRING TO THE MACHINE ACCORDING TO 89/392/EC AND EN 474-5 DIRECTIVES**

When the bucket, the levers or the bucket cylinder are disassembled, the lifting capacity can be increased of their respective weights.
A - Outreach starting from the rotation centre
B - Height at bucket pin
C - Lifting capacity - with bucket 900 mm (294 kg),standard shoes, levers and cylinder

Capacity over front

Lateral capacity or capacity over 360°




### TWO PIECE BOOM

**DATAS AND SPECIFICATIONS ARE REFERRING TO THE MACHINE ACCORDING TO 89/392/EC AND EN 474-5 DIRECTIVES**

When the bucket, the levers or the bucket cylinder are disassembled, the lifting capacity can be increased of their respective weights.
A - Outreach starting from the rotation centre
B - Height at bucket pin
C - Lifting capacity - with bucket 900 mm (294 kg),standard shoes, levers and cylinder

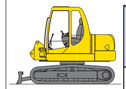
Capacity over front

Lateral capacity or capacity over 360°

## WITH BLADE UP

| B | | | A | 3,0 m | | 4,5 m | | 6,0 m | | Max outreach | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | |
| 1.850 mm | 4,5 m | kg | | - | - | | | | | 1.900 | 1.850 |
| | 3,0 m | kg | | - | - | 2.200* | 2.200* | 1.450 | 1.100 | 1.400 | 1.250 |
| | 1,5 m | kg | | 3.750* | 3.750* | 2.250* | 2.250* | 1.350 | 1.000 | 1.300 | 1.100 |
| | 0,0 m | kg | | 5.750* | 3.600* | 2.350* | 2.350* | - | - | 1.200 | 1.100 |
| | -1,5 m | kg | | 5.650* | 3.400* | 2.500* | 2.500* | - | - | 1.200 | 1.100 |
| | -3,0 m | kg | | 5.500* | 3.000* | - | - | - | - | 1.500* | 1.250 |
| 2.000 mm | 4,5 m | kg | | - | - | | | | | 1.750 | 1.350 |
| | 3,0 m | kg | | - | - | 2.100* | 2.100* | 1.400 | 1.250 | 1.300 | 1.000 |
| | 1,5 m | kg | | 3.600* | 3.600* | 2.150* | 2.150* | 1.350 | 1.000 | 1.200 | 900 |
| | 0,0 m | kg | | 5.600* | 5.600* | 2.200* | 2.200* | - | - | 1.100 | 800 |
| | -1,5 m | kg | | 5.550* | 5.550* | 2.300* | 2.300* | - | - | 1.150 | 900 |
| | -3,0 m | kg | | 4.750* | 4.750* | - | - | - | - | 1.400* | 1.200 |
| 2.300 mm | 4,5 m | kg | | - | - | - | - | - | - | 1.700 | 1.100 |
| | 3,0 m | kg | | - | - | 2.000* | 2.000* | 1.300 | 1.100 | 1.250 | 800 |
| | 1,5 m | kg | | 3.500* | 3.500* | 2.100* | 2.100* | 1.150 | 900 | 1.100 | 750 |
| | 0,0 m | kg | | 5.400* | 5.400* | 2.100* | 2.100* | - | - | 1.050 | 700 |
| | -1,5 m | kg | | 5.500* | 5.500* | 2.250* | 2.250* | - | - | 1.200 | 700 |
| | -3,0 m | kg | | 4.250* | 4.250* | - | - | - | - | 1.400* | 950 |

## WITH BLADE AT GROUND LEVEL



| B | | | A | 3,0 m | | 4,5 m | | 6,0 m | | Max outreach | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | |
| 1.850 mm | 4,5 m | kg | | - | - | - | - | - | - | 2.100* | 1.850 |
| | 3,0 m | kg | | - | - | 2.200* | 2.200* | 1.900* | 1.100 | 1.750* | 1.250 |
| | 1,5 m | kg | | 3.750* | 3.750* | 2.250* | 2.250* | 1.800* | 1.000 | 1.600* | 1.100 |
| | 0,0 m | kg | | 5.750* | 5.750* | 2.350* | 2.350* | - | - | 1.500* | 1.100 |
| | -1,5 m | kg | | 5.650* | 5.650* | 2.500* | 2.500* | - | - | 1.500* | 1.100 |
| | -3,0 m | kg | | 5.500* | 5.500* | - | - | - | - | 1.550* | 1.250 |
| 2.000 mm | 4,5 m | kg | | - | - | - | - | - | - | 2.000* | 1.350 |
| | 3,0 m | kg | | - | - | 2.100* | 2.100* | 1.800* | 1.250 | 1.600* | 1.000 |
| | 1,5 m | kg | | 3.600* | 3.600* | 2.150* | 2.150* | 1.750* | 1.000 | 1.500* | 900 |
| | 0,0 m | kg | | 5.600* | 5.600* | 2.200* | 2.200* | - | - | 1.400* | 800 |
| | -1,5 m | kg | | 5.550* | 5.550* | 2.300* | 2.300* | - | - | 1.450* | 900 |
| | -3,0 m | kg | | 4.750* | 4.750* | - | - | - | - | 1.500* | 1.200 |
| 2.300 mm | 4,5 m | kg | | - | - | - | - | - | - | 1.800* | 1.100 |
| | 3,0 m | kg | | - | - | 2.000* | 2.000* | 1.600* | 1.100 | 1.700* | 800 |
| | 1,5 m | kg | | 3.500* | 3.500* | 2.100* | 2.100* | 1.700* | 1.000 | 1.400* | 750 |
| | 0,0 m | kg | | 5.400* | 5.400* | 2.100* | 2.100* | - | - | 1.350* | 700 |
| | -1,5 m | kg | | 5.500* | 5.500* | 2.250* | 2.250* | - | - | 1.300* | 700 |
| | -3,0 m | kg | | 4.250* | 4.250* | - | - | - | - | 1.400* | 950 |

**NOTES:** data are based on ISO 10567 standard - the above indicated lifting capacities include a 25% safety margin and don't exceed the 87% of the actual capacity - the values marked with asterisk (*) are limited by the hydraulic capacities - for these lifting capacities it is taken for granted that the machine rests on a uniform and firm surface - the lifting point is a hypothetical hook placed behind the bucket.

## WITH BLADE UP

| B | | | A | 3,0 m | | 4,5 m | | 6,0 m | | Max outreach | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | |
| 1.850 mm | 4,5 m | kg | | - | - | | | | | 2.350* | 2.350* |
| | 3,0 m | kg | | - | - | | | | | 2.000* | 2.000* |
| | 1,5 m | kg | | - | - | | | | | 1.800* | 1.800* |
| | 0,0 m | kg | | - | - | | | | | 1.750* | 1.750* |
| | -1,5 m | kg | | 5.100* | 5.100* | | | | | 1.800* | 1.800* |
| | -3,0 m | kg | | 3.500* | 3.500* | | | | | 1.900* | 1.900* |
| 2.000 mm | 4,5 m | kg | | - | - | | | | | 2.250* | 2.250* |
| | 3,0 m | kg | | - | - | | | | | 1.850* | 1.850* |
| | 1,5 m | kg | | - | - | | | | | 1.500* | 1.500* |
| | 0,0 m | kg | | - | - | | | | | 1.350* | 1.350* |
| | -1,5 m | kg | | 4.800* | 4.800* | | | | | 1.600* | 1.600* |
| | -3,0 m | kg | | 3.300* | 3.300* | | | | | 1.850* | 1.850* |
| 2.300 mm | 4,5 m | kg | | - | - | | | | | 2.100* | 2.100* |
| | 3,0 m | kg | | - | - | | | | | 1.750* | 1.750* |
| | 1,5 m | kg | | - | - | | | | | 1.400* | 1.400* |
| | 0,0 m | kg | | - | - | | | | | 1.300* | 1.300* |
| | -1,5 m | kg | | 4.600* | 4.600* | | | | | 1.500* | 1.500* |
| | -3,0 m | kg | | 3.000* | 3.000* | | | | | 1.650* | 1.650* |

## WITH BLADE AT GROUND LEVEL

| B | | | A | 3,0 m | | 4,5 m | | 6,0 m | | Max outreach | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | |
| 1.850 mm | 4,5 m | kg | | - | - | | | | | 2.350* | 2.350* |
| | 3,0 m | kg | | - | - | | | | | 2.000* | 2.000* |
| | 1,5 m | kg | | - | - | | | | | 1.800* | 1.800* |
| | 0,0 m | kg | | - | - | | | | | 1.750* | 1.750* |
| | -1,5 m | kg | | 5.100* | 5.100* | | | | | 1.800* | 1.800* |
| | -3,0 m | kg | | 3.500* | 3.500* | | | | | 1.900* | 1.900* |
| 2.000 mm | 4,5 m | kg | | - | - | | | | | 2.250* | 2.250* |
| | 3,0 m | kg | | - | - | | | | | 1.850* | 1.850* |
| | 1,5 m | kg | | - | - | | | | | 1.500* | 1.500* |
| | 0,0 m | kg | | - | - | | | | | 1.350* | 1.350* |
| | -1,5 m | kg | | 4.800* | 4.800* | | | | | 1.600* | 1.600* |
| | -3,0 m | kg | | 3.300* | 3.300* | | | | | 1.850* | 1.850* |
| 2.300 mm | 4,5 m | kg | | - | - | | | | | 2.100* | 2.100* |
| | 3,0 m | kg | | - | - | | | | | 1.750* | 1.750* |
| | 1,5 m | kg | | - | - | | | | | 1.400* | 1.400* |
| | 0,0 m | kg | | - | - | | | | | 1.300* | 1.300* |
| | -1,5 m | kg | | 4.600* | 4.600* | | | | | 1.500* | 1.500* |
| | -3,0 m | kg | | 3.000* | 3.000* | | | | | 1.650* | 1.650* |

**NOTES:** data are based on ISO 10567 standard - the above indicated lifting capacities include a 25% safety margin and don't exceed the 87% of the actual capacity - the values marked with asterisk (*) are limited by the hydraulic capacities - for these lifting capacities it is taken for granted that the machine rests on a uniform and firm surface - the lifting point is a hypothetical hook placed behind the bucket.