



**YANMAR**

# Vi080-1

MIDI-EXCAVATOR



**Operating weight**

8 065 kg

**Engine gross power**

41,5 kW / 56,2 HP at 1 900 rpm

**Digging force (arm)**

40,8 kN

**Digging force (bucket)**

63,5 kN



# UNMATCHED COMPACTNESS FOR UNLIMITED ACCESS





## COMPACTNESS

A true concentrate of technology and innovation, the ViO80-1 is a true zero tail swing midi-excavator which offers the performance of a large excavator while enjoying the benefits of a compact machine.



## ROBUST AND RELIABLE YANMAR ENGINE

Well proven Yanmar 4TNV engines: 4-cylinder engine with direct injection and common rail system. This engine is also equipped with a cooled EGR and a DPF, which allow the machine to meet EU emission regulations. Auto deceleration and Eco-mode are available in standard.



## VIPPS HYDRAULIC SYSTEM

The ViO80-1 is equipped with a ViPPS hydraulic system which cumulates the flow of separate pumps in order to obtain the optimal combination in terms of speed, power, smoothness and balance. This hydraulic system configuration allows smooth and simultaneous operation of working movements, even while traveling.



## BEST COMPONENTS

Developed in Japan with renowned components for top quality. Design and performance of the components made for long service life.



## COMFORTABLE CABIN

Upgraded operator station: increased leg room, a "Universal Design" concept developed by Yanmar for an enhanced comfort and productivity, electronic instrumentation, great ergonomics and air suspension seat in standard.



## EASY OPERATION

Control levers ideally located for exceptional movement precision. The ViO80-1 benefits of the proportional control of the boom swing, via the proportional switch located on the right-hand joystick.



## SERVICEABILITY

5 hoods or openings allows easy access for components maintenance. Fast and easy daily checks or servicing.



## HIGH PERFORMANCE

Upgrading of the powerline components (hydraulic pump, control valve): no compromise between power and compactness.

# UNMATCHED COMPACTNESS



The viO80-1 offers the performance of a large excavator while enjoying the benefits of a compact excavator. Particularly suited for work in urban areas, it can operate with confidence and efficiency along the walls and in confined spaces where the machines in its weight class do not have access.



## ADVANTAGES OF THE ViO DESIGN

Neither the counterweight, nor the front part of the upper frame project beyond the track width. With its front part designed not to extend over, the ViO80-1 is a true zero tail swing excavator:

- + Smooth swing even in confined spaces
- + Operation with confidence and efficiency along the walls
- + Improved safety for both the operator and the side workers: critical on the jobsites
- + Rear blind spot reduced to a minimum: enhances again the safety for the workers around the machine.





## MAXIMUM STABILITY AND EXCEPTIONAL LIFTING FORCE

The Vi080-1 is equipped with the VICTAS® system whose strength lies in the increase of the support surface and increase in tracking through the use of asymmetric crawlers. This system, patented by Yanmar, reduces track degradation, makes displacements quieter and reduces vibration. Associated with the use of a large counterweight and excellent weight distribution, it provides the same or even higher stability than conventional machines in the same weight class, as well as remarkable lifting capacities.

## UNIQUE UNDERCARRIAGE

The X-shaped box-section structure of the undercarriage provides excellent torsional stiffness. The frame is designed for maximum durability. All the components of the undercarriage have been designed to increase the durability and the service life of the machine and reduce its Total Cost of Ownership.



## DUAL AXIS POSITION OF THE ARM CYLINDER

When using a quick hitch, the dual position of the arm cylinder axis makes for scalable kinematics and prevents collisions with the boom while maintaining digging force.





# ADVANCED TECHNOLOGY



Based on unique experience and expertise, Yanmar technology ensures excellent performance while respecting the environment. The ViO80-1 combines power, flexibility and precision. Its versatility makes it the ideal partner to improve your productivity, regardless of the work site complexity you are facing (excavation, grading, demolition, backfilling...).

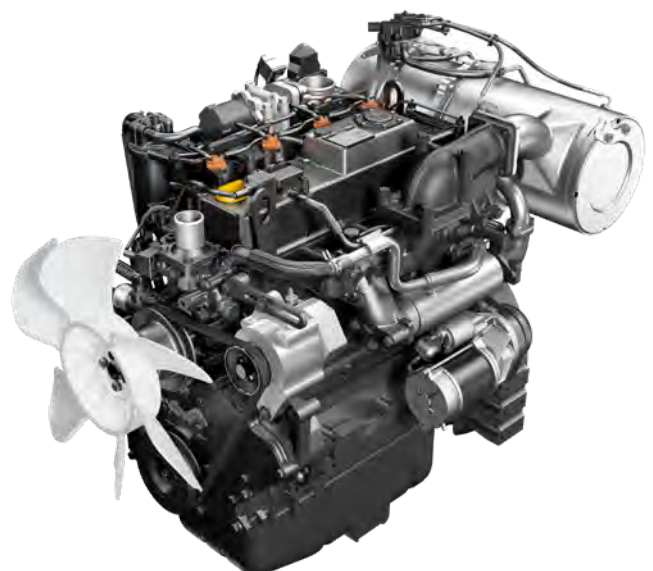


## NEW GENERATION ELECTRONICALLY CONTROLLED YANMAR ENGINE

With a net power of 39.3 kW at 1900 rpm, Yanmar's 4TNV98C-WBV engine is the result of our continuous efforts to achieve technological advances in fuel consumption and emissions.

With the ViO80-1, Yanmar gives priority to the environment and to fuel savings:

- + An ECU manages the RPM according to the torque, optimizing the engine load. This enables to save fuel while increasing the productivity of the machines.
- + An Auto-Deceleration system (in standard) further reduces fuel consumption by enabling the engine to drop back to idle if the operator doesn't touch the operating levers for 4 seconds.
- + An Eco-Mode (in standard) effectively controls the motor speed, thus allowing a very low fuel consumption. Particularly useful when working require little power and low speed of movement, the Eco-mode saves fuel and reduces operating costs.





## IMPROVED HYDRAULIC CONTROL FOR EASIER HANDLING AND GREATER EFFICIENCY

### VIPPS® HYDRAULIC CIRCUIT

#### (VIO PROGRESSIVE 3 PUMP SYSTEM)

The Vi080-1 uses a ViPPS hydraulic system. This configuration uses 1 double, variable displacement, piston pump and 2 gear pumps. The 3 main pumps totalize a maximum flow of 193,8 l/min, available for main machine operating movements. The flows of these pumps are cumulated in the Main Control Valves, according to the ViPPS system, to obtain the optimal combination in terms of speed, power, smoothness and balance. The ViPPS system allows smooth and simultaneous performance of all operations, even while traveling, in order to have the ultimate working tool.

### REGULATION OF HYDRAULIC SYSTEM

#### BASED ON ENGINE SPEED

The new electronic hydraulic pump regulator adjusts its flow rate based on engine performance. Thus engine power is perfectly exploited and machine performance is optimized.

## OUTSTANDING PERFORMANCES

### FEATURES OF A LARGE EXCAVATOR

#### IN A COMPACT FORMAT

The breakout forces of 63.5 kN (bucket) and 40.8 kN (arm) are exceptional for an 8 ton excavator with zero tail swing. Associated with a digging depth of 4130 mm (3780 mm for vertical wall) and excellent traction force, they allow the Vi080-1 to carry out major work such as laying pipes or excavation and clearing operations for large area such as the laying of pipeline pipes or the excavation and clearing of large areas.





# COMFORT



## LARGE AND COMFORTABLE CABIN

Designed to meet the operator needs, the ViO80-1 cab is large and pleasant. The attention paid to the work environment and ergonomics makes you feel comfortable during long days on site. The increased visibility and a comfortable operator station allow the operator to be even more productive while reducing fatigue.



- |                            |                    |
|----------------------------|--------------------|
| ① Beacon light             | ⑥ Working light    |
| ② Light switch             | ⑦ Wipers           |
| ③ Auto Deceleration system | ⑧ DPF              |
| ④ Eco-Mode                 | ⑨ Overload warning |
| ⑤ Travel speed switch      | ⑩ Quick hitch      |



## PERFECT COCKPIT ERGONOMICS

The architecture inside the cab Vi080-1 has been studied to improve the operator driving position and to facilitate its work, particularly on the long and challenging work sites. The wrist supports are adjustable. The wide travel pedals and hydraulic control levers are fluid and easy to use. Ideally located, the control levers offer exceptional movement precision.

## AIR CIRCULATION

The Vi080-1 has an air conditioning that can work at a comfortable temperature whatever the weather. Vents are placed to ensure a homogeneous temperature within the cab and a perfect window demisting. The air filters are easily accessible for an improved maintenance.

## AIR SUSPENSION SEAT

The Vi080-1 is equipped in standard with an air suspended seat to offer an optimal comfort for a machine of this weight class. Fully adjustable and with a headrest, it reduces body tension and fatigue.

## STORAGE SPACES

The Vi080-1 offers many storage possibilities conveniently placed: cup and bottle holder, utility box, document storage... The operator has all his personal belongings within reach.



# EASE OF USE



## ADJUSTABLE PROPORTIONAL CONTROL OF THE AUXILIARY CIRCUITS

The Vi080-1 is equipped in standard with two auxiliary hydraulic lines with proportional control on joystick combined with fine adjustment. The proportional control adapts the hydraulic flow of oil to the use and needs of each attachment. The operator takes perfect control of attachments.

## AUTOMATIC 2ND SPEED

The Vi080-1 has an automatic second speed for long displacements. A power switch keeps the machine in 1st gear for difficult passages (slope, counter-rotation, etc...).

- 1 Control of the 1st auxiliary hydraulic circuit
- 2 Flow adjustment via potentiometer of the 1st auxiliary circuit
- 3 Control of the 2nd auxiliary hydraulic circuit
- 4 Flow adjustment via potentiometer of the 2nd auxiliary circuit
- 5 Engine power controlled electronically by a potentiometer
- 6 Right hand side control panel (A/C and switches)





## ACCESSIBILITY

The ViO80-1 benefits from a large cabin entrance. This passage makes the entrance and the exit easier and improves significantly the operator's comfort and safety. Entrance and exit are even more facilitated by 3 handrails which are ideally designed and positioned to fit the operator's posture and grip position. A large footstep with antislip system also upgrades the accessibility to the machine and the safety of the operator.

# SAFETY

The structure of the ViO80-1 cabin has been designed to meet the ROPS certification (Roll-Over Protective Structure) as well as the FOPS (Falling Object Protective Structure) level 1.

## ALL AROUND VISIBILITY

The large ViO80-1 cabin windows provide the operator with excellent visibility around the machine. The front windshield, divided into two parts, is fully retractable and the windows on the right-side slide. The operator can easily communicate with other workers. The 360° visibility ensures optimum safety on the work site and makes work more efficient.

The ViO80-1 is equipped with 5 rear and side mirrors.

The operator can control the work area as well as the area around the machine without moving from his seat.

The front part of the roof is transparent and provides full control of the bucket to the operator during loading or demolition.

## LED LIGHTING: EFFICIENCY AND LOW CONSUMPTION

In order to work safely, efficiently and with accuracy in the darkness, the ViO80-1 comes standard with 3 LED lights positioned in the inner part of the boom and at the front of the cabin.

The LED technology provides a powerful light while reducing energy consumption which increases the service life of the battery. In option, a beacon light can be added to the rear of the cab.





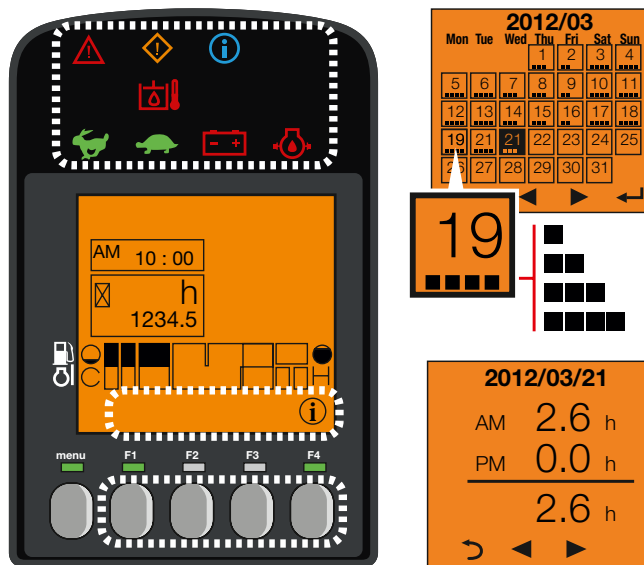
# RELIABILITY



The Vi080-1 perfectly meets the reputation for quality and durability of the Yanmar machines. The excellent accessibility to components and speed of maintenance and cleaning operations allow achieving excellent levels of on-site availability. Assured of his machine's performance, the operator can calmly work. The structure of the undercarriage, as well as the steel covers provide an optimal protection and longer service life. Furthermore, a lot of care has been paid to the hose routing on the working equipment. These measures enhance the service life and reduce downtime of the machine.

## DIGITAL INTERFACE

The Vi080-1 is equipped with a digital interface which informs the operator in real time about the status of his machine. Perfectly integrated into the right-hand console, the 3.3" screen provides excellent visibility. The interface provides the customer with useful information through LED lamps, or indications about important elements like fuel consumption, fuel gauge, coolant temperature gauge, etc... The interface assists the customer for maintenance intervals and to program such interventions. It also works as a diagnostic tool in case of malfunction by sending an error code and an information icon on the display.



# MAINTENANCE

## EASY ACCESS

Daily maintenance has to be performed easily. There is one easy to open engine bonnet and the right-hand side cover is mounted on one hinge to open easily. This gives an access to all major elements: air filter, compressor, radiator, refuelling pump, battery, fuel tank, hydraulic oil tank alternator, engine oil dipstick, water separator, coolant level, etc... A flat floor mat makes cleaning easier.

## LONG SERVICE INTERVALS

The Vi080-1 is designed for working, and therefore its service intervals are reduced to a minimum.



## SMARTASSIST REMOTE

SmartAssist Remote is Yanmar's next-generation fleet management system. Harnessing the latest telematics technology, equipment location and status is reported in real time. This option provides total control and allows fleet managers to manage their assets remotely (via a PC or smartphone).

# EQUIPMENT

## [ STANDARD EQUIPMENT ]

### PERFORMANCE

4TNV98C Yanmar diesel | Direct injection | Engine Control Unit (ECU) | Eco-Mode | Auto-Deceleration System | ViPPS Hydraulic system (ViO Progressive System) | Proportional 1st and 2nd auxiliary hydraulic line circuit lines to boom end with potentiometer to fine tune the flow (32 l/min - 120 l/min) | Safety valves on blade, boom and arm cylinders | Automatic 2nd speed | Battery quick connector | External hydraulic oil gauge | 2 front LED working lights on the cabin + 1 LED light integrated into the boom.

### COMFORT

LCD interface | Adjustable and reclining seat with fabric covers, air suspension and headrest | Air conditioning | Adjustable wrist support | Foot rests | Wide travel pedals | Windshield with 2 fully retractable parts | Sliding double right-side window | Transparent upper front part | Integrated sunshades | Wipers | Windshield washer | Automatic ceiling lamp | Radio with USB port | 2 x 12V outlet | Storage boxes.

### SAFETY AND DURABILITY

Handrails | Safety lever | Seat belt with retractor | Evacuation hammer | Anchor points | 3 mirrors | Horn | Blade cylinder supply hose into two parts | Complete protection of the cylinders (bucket, boom, arm and blade) | Hoses protected by abrasion resistant sleeves | Lockable covers | Electric refuelling pump.

### MISCELLANEOUS

Fuel gauge | Toolbox | Toolkit | Grease pump.

## [ OPTIONAL EQUIPMENT ]

### EQUIPMENT AND PERFORMANCE

Steel crawlers | Pads for steel crawlers | Long arm (+350 mm) | Additional counterweight (+400 kg) | Prolongation 1st and 2nd auxiliary hydraulic line hydraulic circuits lines to arm end | Clamshell bucket circuit | Quick hitch line 150-165 bar (+/- 3) | Kit flat face hydraulic quick connectors | Quick couplers | Bio oil | 1 LED beacon fixed or with magnetic base | Kit 1 rear LED light + 1 beacon fixed | Improved fuel filtration.

### COMFORT AND EASE OF USE

Adjustable and reclining seat with: Air suspension | Headrest | Seat cover | Documentation box | Central greasing.

### SECURITY AND DURABILITY

Safety valves for lifting + overload warning | FOPS 2 protection (front + top guard) | Anti-theft device (key/keyboard) | GPS Tracking | Travel alarm.

### MISCELLANEOUS

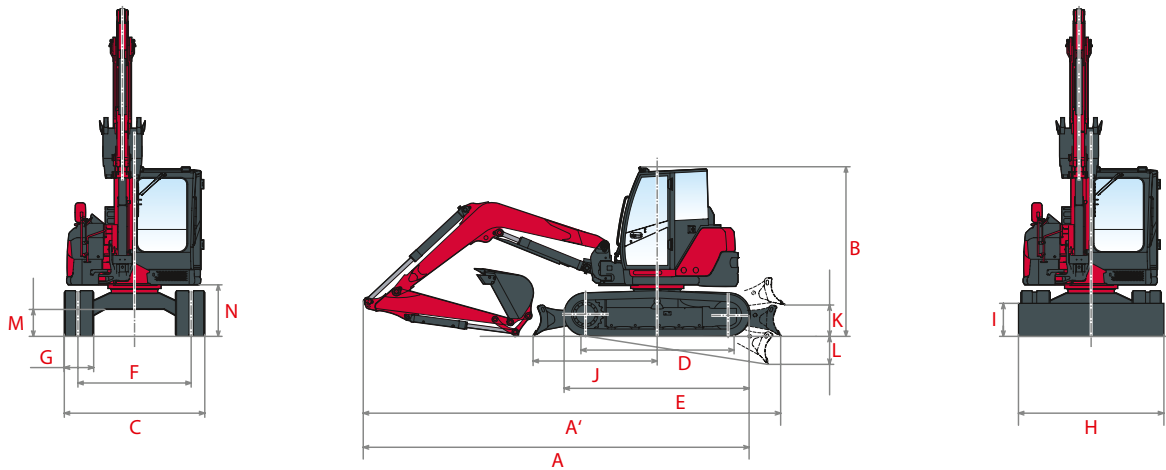
SmartAssist Remote.

## [ ATTACHMENTS ]

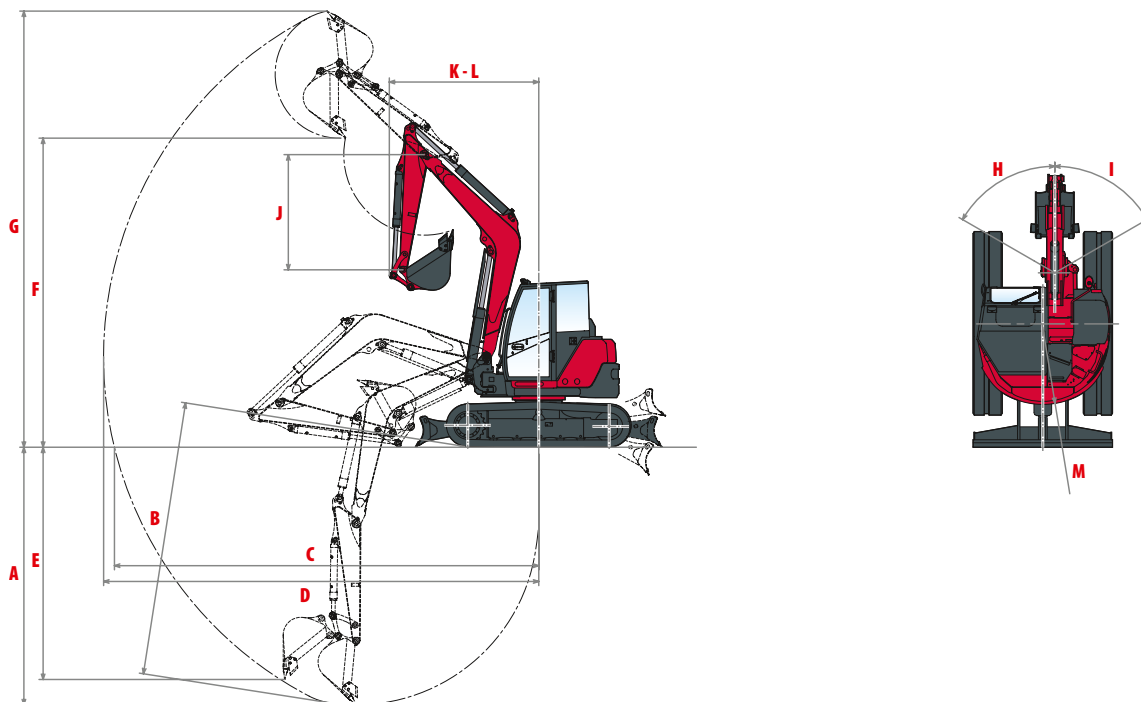
Yanmar gives you the attachment that fit your needs and match the safety standards in force in your country: mechanical quick coupler, hydraulic quick coupler, powertilt, standard, grading or symmetric buckets, hydraulic breaker, tiltrotators...



# DIMENSIONS



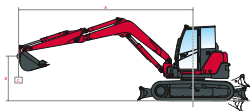
<b>A</b> Overall length	6 410 / 6 450* mm	<b>H</b> Overall blade width	2 260 mm
<b>A'</b> Overall length with blade at the back	6 920 / 6 960* mm	<b>I</b> Overall blade height	450 mm
<b>B</b> Overall height	2 710 mm	<b>J</b> Blade distance	1 990 mm
<b>C</b> Overall width	2 270 mm	<b>K</b> Max. lifting height above the ground	460 mm
<b>D</b> Length of track on ground	2 290 mm	<b>L</b> Max. lowering depth from the ground	480 mm
<b>E</b> Undercarriage length	2 890 mm	<b>M</b> Minimum ground clearance	380 mm
<b>F</b> Lane	1 870 mm	<b>N</b> Ground clearance under counterweight	700 mm
<b>G</b> Track width	450 mm		



<b>A</b> Max. digging depth - Blade lifted	4 130 / 4 500* mm	<b>H</b> Boom swinging base to left	57°
<b>B</b> Max. digging depth - Blade lowered	4 430 / 4 790* mm	<b>I</b> Boom swinging base to right	60°
<b>C</b> Max. digging reach on ground	6 820 / 7 160* mm	<b>J</b> Arm length	1 650 / 2 000* mm
<b>D</b> Max. digging reach	6 960 / 7 290* mm	<b>K</b> Front turning radius	2 470 / 2 520* mm
<b>E</b> Max. vertical wall	3 780 / 4 130* mm	<b>L</b> Front turning radius with boom swing	2 130 / 2 170* mm
<b>F</b> Max. unloading height	4 700 / 4 950* mm	<b>M</b> Rear turning radius	1 135 mm
<b>G</b> Max. cutting height	6 810 / 7 020* mm	<b>M'</b> Rear turning radius with additional counterweight	1 265 mm

\* Long arm

# LIFTING FORCES



Tipping load, rating over front



Tipping load, rating over side 90°

## Standard counterweight, standard arm

A	Blade on ground								Blade above ground							
	3 m		4 m		5 m		Max.		3 m		4 m		5 m		Max.	
B																
5 m	-	-	1740	1750	-	-	1730	1750	1720	1720	1740	1720	-	-	1720	1740
4 m	-	-	1770	1780	1190	1680	1100	1680	1720	1720	1770	1750	1190	1250	1090	1150
3 m	2490	2500	1740	2080	1210	1780	960	1690	2480	2480	1720	2060	1200	1270	950	1010
2 m	2500	3400	1740	2480	1190	1920	880	1660	2460	2650	1730	1860	1190	1260	870	920
1 m	2230	3860	1630	2860	1140	2080	870	1680	2190	2350	1620	1720	1140	1210	860	900
0 m	2220	3880	1580	2920	1110	2130	910	1710	2180	2320	1560	1630	1100	1160	890	940
-1 m	2370	3750	1590	2740	1110	2010	990	1690	2340	2540	1560	1650	1100	1140	970	1100
-2 m	2620	3740	1590	2260	-	-	1200	1610	2600	3000	1570	1640	-	-	1190	1270
-3 m	1560	1560	-	-	-	-	1360	1350	1560	1550	-	-	-	-	1360	1650

## Standard counterweight, long arm

A	Blade on ground								Blade above ground							
	3 m		4 m		5 m		Max.		3 m		4 m		5 m		Max.	
B																
5 m	-	-	1530	1530	-	-	1610	1610	-	-	1530	1530	-	-	1610	1610
4 m	-	-	1570	1570	1240	1530	1050	1570	-	-	1570	1570	1250	1280	1060	1080
3 m	-	-	1810	1810	1210	1630	920	1560	-	-	1810	1810	1220	1260	890	920
2 m	2520	3130	1640	2210	1160	1800	820	1560	2530	2640	1640	1740	1160	1230	820	860
1 m	2250	3680	1540	2530	1120	1950	790	1570	2250	2420	1530	1640	1120	1180	790	830
0 m	2160	3840	1470	2700	1060	2030	800	1600	2140	2370	1450	1600	1060	1160	800	840
-1 m	2150	3750	1410	2730	1050	2030	880	1630	2150	2380	1420	1540	1060	1110	870	820
-2 m	2160	3190	1440	2360	1060	1690	1020	1580	2140	2320	1420	1510	1040	1120	1000	1070

## Additional counterweight, standard arm

A	With tiltrotator*								Without tiltrotator							
	Blade on ground/Blade above ground				Blade on ground/Blade above ground				Blade on ground/Blade above ground				Blade on ground/Blade above ground			
B	4 m		5 m		Max.		3 m		4 m		5 m		Max.			
B																
5 m	-/-	-/-	-/-	-/-	-/-	-/-	-/1720	-/1720	1740/1740	1750/1720	-/-	-/-	1730/1720	1750/1740		
4 m	1522/1522	1532/1502	1136/1136	1432/1206	-/-	-/-	-/1720	-/1720	1770/1770	1780/1750	1350/1350	1680/1420	1260/1250	1680/1310		
3 m	1746/1726	1832/1812	1156/1146	1532/1226	886/876	1442/946	2490/2480	2500/2480	1960/1940	2080/2060	1370/1360	1780/1440	1100/1090	1690/1160		
2 m	1746/1726	2232/1856	1136/1136	1672/1226	806/786	1412/846	2820/2790	3460/3010	1960/1940	2480/2070	1350/1350	1920/1440	1020/1000	1660/1060		
1 m	-/-	-/-	1096/1086	1832/1166	786/776	1432/826	2560/2520	3860/2700	1850/1840	2860/1950	1310/1300	2080/1380	1000/990	1680/1040		
0 m	-/-	-/-	1056/1046	1882/1126	836/816	1462/866	2540/2510	3880/2670	1790/1780	2920/1870	1270/1260	2130/1340	1050/1030	1710/1080		
-1 m	-/-	-/-	-/-	-/-	-/-	926/906	2690/2670	3750/2890	1800/1780	2740/1880	1270/1260	2010/1320	1140/1120	1690/1180		
-2 m	-/-	-/-	-/-	-/-	-/-	-/-	2950/2930	3740/3360	1800/1780	2260/1870	-/-	-/-	1370/1370	1610/1460		
-3 m	-/-	-/-	-/-	-/-	-/-	-/-	1560/1560	1560/1550	-/-	-/-	-/-	-/-	1360/1360	1350/1350		

## Additional counterweight, long arm

A	Blade on ground								Blade above ground							
	3 m		4 m		5 m		Max.		3 m		4 m		5 m		Max.	
B																
5 m	-	-	1530	1530	-	-	1610	1610	-	-	1530	1530	-	-	1610	1610
4 m	-	-	1570	1570	1410	1530	1200	1570	-	-	1570	1570	1410	1450	1200	1240
3 m	-	-	1810	1810	1380	1630	1030	1560	-	-	1810	1810	1380	1430	1060	1070
2 m	2860	3130	1850	2210	1320	1800	950	1560	2860	2990	1850	1970	1320	1410	950	990
1 m	2570	3680	1770	2530	1280	1950	920	1570	2570	2780	1760	1860	1280	1350	920	970
0 m	2490	3840	1690	2700	1220	2030	930	1600	2470	2730	1680	1830	1220	1330	940	980
-1 m	2470	3750	1630	2730	1210	2030	1010	1630	2470	2740	1640	1770	1220	1280	1020	1070
-2 m	2490	3190	1670	2360	1220	1690	1160	1580	2470	2680	1640	1750	1200	1290	1180	1240

[ The data in this table represents the lifting capacity in accordance with IOS 10567. They do not include the weight of the bucket and correspond to 75% of the maximum static tipping load of the 87% of the hydraulic lifting capacity. Data marked with \* are the hydraulic limits of the lifting force. ]



# SPECIFICATIONS

## [ WEIGHT +/- 2% (EN STANDARDS) ]

	Transport weight*	Operating weight*	Ground pressure
Cabin version / Rubber crawlers	7 990 kg	8 065 kg	0,36 Kgf/cm <sup>2</sup>
Cabin version / Steel crawlers	8 050 kg	8 125 kg	0,36 Kgf/cm <sup>2</sup>
With additional counterweight		+ 400 kg	0,4 Kgf/cm <sup>2</sup>
With FOPS II protection		+ 100 kg	-

## [ ENGINE ]

Type	4TNV98C-WBV
Fuel	Diesel
Net Power	39,3 kW / 53,5 HP at 1900 rpm
Gross Power	41,5 kW / 56,2 HP at 1900 rpm
Displacement	3,318 l
Maximum torque	229 – 241 N.m
Cooling	Water-cooling
Starter	3 kW
Battery	12 V – 92 Ah
Alternator	12 V – 80 A

## [ HYDRAULIC SYSTEM ]

Maximum pressure	255 bars
1 double piston pump with variable flow	2 x 70,3 l/min
1 gear pump	53,2 l/min
1 gear pump for pilot line	19 l/min

PTO	Theoretical data	
	Pressure	Flow
2 ways	0 – 240 bar	120 – 32 l/min
1 way	0 – 240 bar	120 – 32 l/min

 Oil flow decreases as the pressure increases

## [ PERFORMANCE ]

Travel speed	2.5 / 4,5 km/h (2,3 / 4,1 km/h with steel crawlers)
Rotation speed	9 rpm
Digging force (arm)	40,8 kN / 35,9 kN with long arm
Digging force (bucket)	63,5 kN
Gradability	30°
Noise Level (2000/14/CE&2005/88/CE)	LWAG: 98 dBA ; LPAG: 73 dBA

## [ UNDERCARRIAGE ]

Number of top rollers	1
Number of bottom rollers	5
Track tensioning system	Grease cylinder

## [ CAPACITIES ]

Fuel tank	115 l
Coolant	9,3 l
Engine oil	11,2 l
Hydraulic circuit	112 l
Hydraulic tank	60 l

## MAINTENANCE FREQUENCY

[ Change engine oil and filter: **500 hours (1st) / every year** ] [ Change fuel filter: **500 hours** ] [ Change hydraulic oil filter: **1 000 hours** ]  
 [ Change hydraulic oil return filter: **500 hours** ] [ Change cooling fluid: **2 000 hours** ] [ Clean particulate filter: **3 000 hours** ] [ Change particle filter: **9 000 hours** ]



**YANMAR**



Yanmar Compact Equipment EMEA

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[www.yanmar.com](http://www.yanmar.com)