



**YANMAR**

# Vi033-6

MINI-EXCAVATOR



**Operating weight**

3 155 kg (canopy) / 3 275 kg (cabin)

**Engine gross power**

18.9 kW / 25.3 HP at 2200 rpm

**Digging force (short arm / long arm)**

18,1 kN / 16,1 kN

**Digging force (bucket)**

29.9 kN

# OPTIMIZATION OF YOUR PERFORMANCE IN NARROW AREAS





## COMPACTNESS

Yanmar, inventor of the ViO concept, has an unmatched experience in developing Zero Tail Swing excavators. The ViO33-6 is a true Zero Tail Swing mini-excavator that allows a full rotation of the upper frame within the width of the crawlers for maximum safety.



## NEW GENERATION YANMAR ENGINE

Latest generation of Yanmar TNV engines: electronically-controlled 3-cylinder engine with direct injection to improve performance, fuel consumption and emission levels. Auto-deceleration and Eco-mode are available in standard.



## COMFORTABLE CABIN

Upgraded operator station: increased leg room, Yanmar "Universal Design" for an enhanced comfort and productivity, new electronic instrumentation, improved ergonomics and air suspension seat in standard.



## BEST COMPONENTS

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



## EASY OPERATION

Control levers ideally located for exceptional movement precision. The ViO33-6 benefits of the proportional control of the boom swing, via the proportional switch located on the right-hand joystick.



## VIPPS HYDRAULIC SYSTEM

The ViO33-6 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 to allow smooth and simultaneous performance of all the operations, even while traveling.



## HIGH PERFORMANCE

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



## EASE OF MAINTENANCE

6 hoods or openings which allow easy access for components maintenance. Fast and easy daily checks or servicing.

# UNMATCHED COMPACTNESS



The Vi033-6 is providing Yanmar customers with true peace of mind, especially in urban environment where space is limited.



## **YANMAR TRUE ZTS** 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 Vi033-6 has a very small turning radius.

- + 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.



## **IMPROVED STABILITY AND LIFTING CAPACITY**

Although the operating weight of the Vi033-6 is reduced to 3 275 kg\*, the optimal mass distribution enables to improve the loading chart of the machine in most positions. Furthermore, the boom of the Vi033-6 was completely redesigned in order to improve also its lifting capacity and digging performance and to provide a longer service life.

\* With cabin and rubber crawlers

# COMFORT



## SPACIOUS AND COMFORTABLE CABIN

Putting the operator at the center of its design initiatives, Yanmar developed the « Universal Design » concept which gives you comfort for enhanced productivity. Combined to an increased leg room, it enables to improve the comfort and safety of the operator. Operating controls and switches are ergonomically arranged for easy reach.

## AIR CONDITIONING

The Vi033-6 can be equipped in option with an air conditioning system to work at a pleasant temperature even under extreme weather conditions. The vents are placed to ensure a uniform temperature within the cabin and ensure a perfect window demisting.



## AIR SUSPENSION SEAT IN STANDARD

The Vi033-6 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.

# PERFORMANCE



## NEW GENERATION ELECTRONICALLY CONTROLLED YANMAR ENGINE

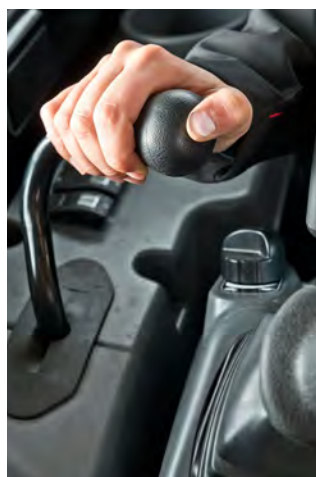
With an output of 18.9 kW at 2 200 rpm, Yanmar's 3TNV88-ESBV engine is the result of our continuous efforts to achieve technological advances in fuel consumption and emissions. With the ViO33-6, Yanmar gives priority to the environment and to fuel savings:

- + 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 engine speed which is reduced by 300 rpm, thus allowing a very low fuel consumption.

## VIPPS HYDRAULIC SYSTEM (ViO PROGRESSIVE 3 PUMPS SYSTEM)

The ViO33-6 is equipped with a ViPPS (ViO Progressive 3 Pumps System) hydraulic system. This hydraulic system main characteristic is the use of 4 hydraulic pumps, 2 variable displacement pumps and 2 gear pumps, (including one for joysticks) in order to deliver a total flow of as much as 105,6 l/min.

To complete the system, Yanmar is using a control valve based on the ViPPS principle, which cumulates the flow of separate pumps in order to obtain the optimal combination in terms of speed, power, smoothness and balance. The ViPPS system allows smooth and simultaneous performance of all the operations, even while traveling in order to have the ultimate working tool.



# EASE OF USE

## PROPORTIONAL CONTROL OF THE AUXILIARY CIRCUIT

Standard equipment of the ViO33-6 includes an auxiliary hydraulic circuit which is operated via a proportional control located on the joystick which adapt the flow and the direction of the oil flow.

## SECOND SPEED

The second speed switch has also been relocated on the blade lever in order to facilitate the use of the machine.



# SAFETY

The structure of the Vi033-6 cabin has been designed to meet the ROPS (Roll-Over Protective Structure) certification as well as the FOPS (Falling Object Protective Structure) level 1.

## THE BEST BOOM AND ARM PROTECTION ON THE MARKET

The Vi033-6 benefits from a unique and complete protection of all its boom and arm cylinders. All cylinder tubes and rods are protected by a spring type steel plate, which reduces drastically the Total Cost of Ownership of the machine.

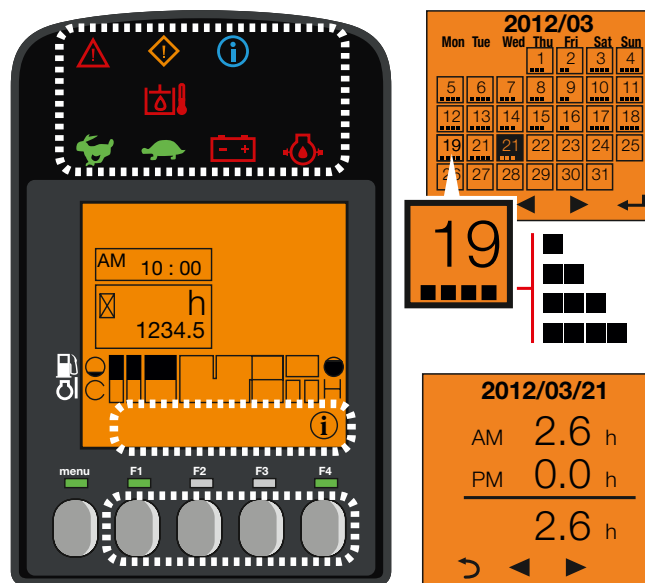


## LED LIGHTING: EFFICIENCY AND LOW CONSUMPTION

In order to work safely, efficiently and with accuracy in the darkness, the Vi033-6 is equipped in standard with 1 LED light positioned in the inner part of the boom.

## DIGITAL INTERFACE

The Vi033-6 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 way 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.



# EQUIPMENT

## [ STANDARD EQUIPMENT ]

### PERFORMANCE

Engine 3TNV88-ESBV Yanmar diesel | Direct injection | Engine Control Unit (ECU) | Eco-Mode | Auto-Deceleration System | VIPPS Hydraulic system (ViO Progressive 3 Pump System) | Third circuit with proportional control to arm end | External hydraulic oil gauge | 1 LED light integrated into the boom | Long arm (1470 mm).

### COMFORT AND EASE OF USE

LCD interface | Adjustable and reclining seat with fabric covers, pneumatic suspension and headrest | Adjustable wrist support | Foot rests | Wide travel pedals | Windshield with 2 fully retractable parts | Sliding double right-side window | Transparent upper front part | Wiper | Windshield washer | Automatic ceiling lamp | Storage boxes | Secure document storage | Holder.

### SAFETY AND DURABILITY

Handrails | Safety lever | Seat belt with retractor | Evacuation hammer | Anchor points | 3 mirrors | Horn | Blade cylinder supply hose into two parts | Quick coupler to disconnect the battery | Hoses protected by abrasion resistant sleeves | Lockable covers.

### MISCELLANEOUS

Fuel gauge | Toolbox | Toolkit | Grease pump.

## [ OPTIONAL EQUIPMENT ]

### EQUIPMENT AND PERFORMANCE

Steel crawlers | Pads for steel crawlers | Short arm (1220 mm) | Proportional third & fourth circuits with potentiometers | Clamshell bucket circuit | Line high pressure 150 bar for hydraulic quick coupler | Quick couplers | Additional counterweight (+150 kg) | Bio oil | 2 front LED working lights (cabin and canopy) | 1 rear LED work light + 1 LED flashing rotary fixed (cabin and canopy) | 1 LED flashing rotary fixed on cabin or canopy | Beacon light with magnetic base.

### COMFORT AND EASE OF USE

Air conditioning | Yanmar seat cover | Radio | Central greasing | Documentation box.

### SECURITY AND DURABILITY

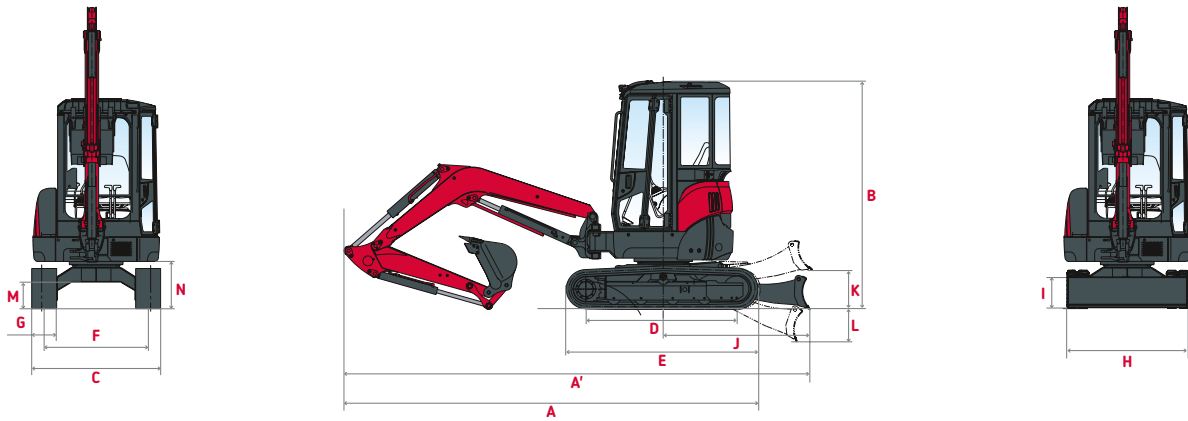
Safety valves for lifting + overload warning | FOPS 1 front protection | Battery disconnect | Anti-theft device (key/keyboard) | GPS Tracking | Translation alarm.

## [ ATTACHMENTS ]

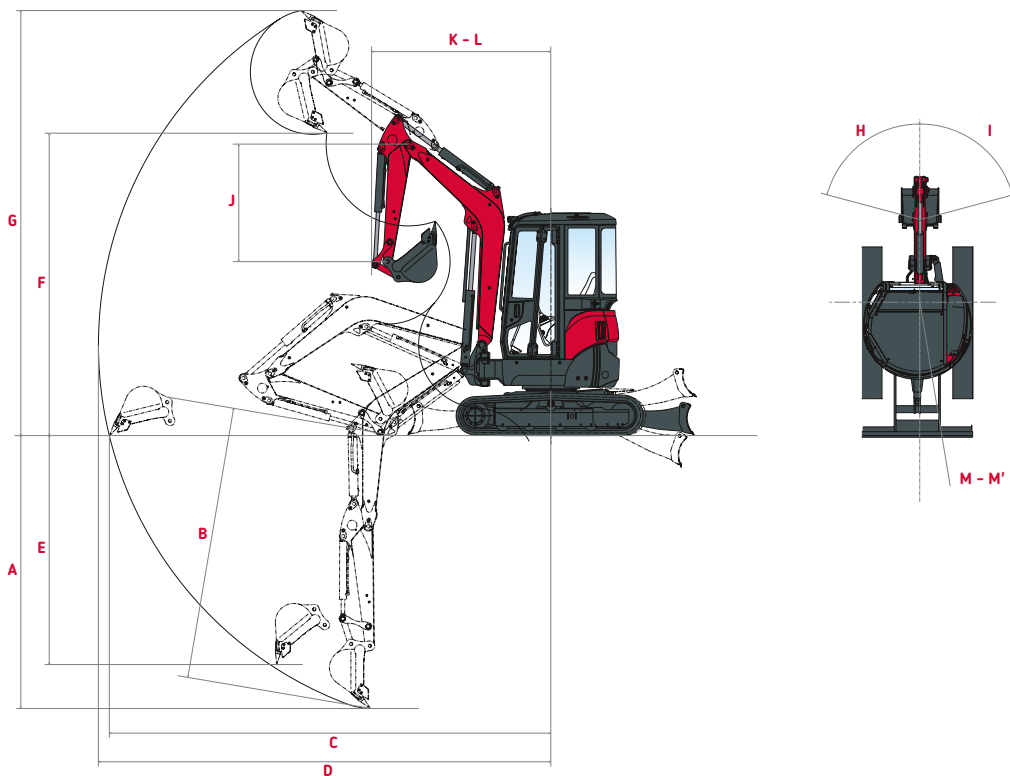
Yanmar gives you the attachment that fit your needs and match the safety standards in force in your country: mechanical quick coupler, hydraulic quick coupler, ditching bucket, swinging bucket, backhoe bucket, hydraulic breaker...



# DIMENSIONS



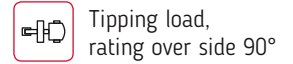
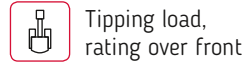
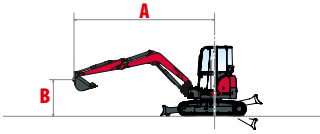
<b>A</b> Overall length	4470 / 4510 * mm	<b>H</b> Overall blade width	1550 mm
<b>A'</b> Overall length with blade at the back	4870 / 4910 * mm	<b>I</b> Overall blade height	330 mm
<b>B</b> Overall height	2460 mm	<b>J</b> Blade distance	1480 mm
<b>C</b> Overall width	1550 mm	<b>K</b> Max. lifting height above the ground	375 mm
<b>D</b> Length of track on ground	1710 mm	<b>L</b> Max. lowering depth from the ground	325 mm
<b>E</b> Undercarriage length	2160 mm	<b>M</b> Minimum ground clearance	320 mm
<b>F</b> Lane	1250 mm	<b>N</b> Minimum ground clearance under upper frame	550 mm
<b>G</b> Track width	300 mm		



<b>A</b> Max. digging depth - Blade lifted	2820 / 3070* mm	<b>H</b> Boom swinging base to left	43°
<b>B</b> Max. digging depth - Blade lowered	2950 / 3190* mm	<b>I</b> Boom swinging base to right	65°
<b>C</b> Max. digging reach on ground	4730 / 4980* mm	<b>J</b> Arm length	1220 / 1470* mm
<b>D</b> Max. digging reach	4870 / 5110* mm	<b>K</b> Front turning radius	2050 / 2120* mm
<b>E</b> Max. vertical wall	2290 / 2550* mm	<b>L</b> Front turning radius with boom swing	1840 / 1900* mm
<b>F</b> Max. unloading height	3160 / 3300* mm	<b>M</b> Rear turning radius	775 mm
<b>G</b> Max. cutting height	4550 / 4720* mm	<b>M'</b> Rear turning radius with additional counterweight	850 mm

\*with long arm

# LIFTING CAPACITY



## Standard arm, standard counterweight

Cabin										Canopy									
A	(A=)	Blade on ground/Blade above ground								Blade on ground/Blade above ground									
		Max.	3 m		2,5 m		2 m		Max.	3 m		2,5 m		2 m					
B																			
3 m	3 524	500/495	765*/605	610*/610*	610*/610*	-	-	-	-	475/465	765*/575	610*/610*	610*/610*	-	-	-	-		
2,5 m	3 825	415/410	765*/525	510/505	715*/715*	-	-	-	-	390/385	765*/495	475/470	715*/715*	-	-	-	-		
2 m	4 021	510/500	785*/465	490/485	855*/720	605/605	905*/905*	-	-	485/475	785*/440	455/450	855*/685	560/560	905*/905*	-	-		
1 m	4 163	375/370	835*/415	445/440	1 185*/670	520/520	1 530*/855	-	-	350/345	835*/390	405/405	1 185*/630	475/475	1 530*/805	-	-		
0 m	3 996	325/320	870*/415	410/405	1 305*/635	480/475	1 690*/805	585/580	2 175*/1 100	300/295	870*/390	375/370	1 305*/600	435/430	1 690*/755	525/515	2 175*/1 030		
-1 m	3 464	365/355	955*/480	450/435	1 185*/605	580/570	1 565*/790	770/745	1 870*/1 040	335/325	955*/445	415/400	1 185*/570	535/525	1 565*/740	710/685	1 870*/970		
-1,5 m	2 987	425/415	940*/555	-	-	575/560	1 255*/755	755/735	1 695*/1 010	390/380	940*/515	-	-	530/515	1 255*/710	695/670	1 695*/940		

## Standard arm, additional counterweight

Cabin										Canopy									
A	(A=)	Blade on ground/Blade above ground								Blade on ground/Blade above ground									
		Max.	3 m		2,5 m		2 m		Max.	3 m		2,5 m		2 m					
B																			
3 m	3 524	570/560	765*/675	610*/610*	610*/610*	-	-	-	-	540/530	765*/645	610*/610*	610*/610*	-	-	-	-		
2,5 m	3 825	475/470	765*/590	590/585	715*/715*	-	-	-	-	450/445	765*/580	555/550	715*/715*	-	-	-	-		
2 m	4 021	565/555	785*/525	575/570	855*/810	710/710	905*/905*	-	-	540/530	785*/500	535/535	855*/770	665/665	905*/905*	-	-		
1 m	4 163	425/420	835*/470	525/520	1 185*/760	625/625	1 530*/970	-	-	405/400	835*/445	490/485	1 185*/720	580/580	1 530*/920	-	-		
0 m	3 996	385/380	870*/475	495/490	1 305*/725	585/580	1 690*/920	730/725	2 175*/1 265	355/355	870*/450	455/455	1 305*/685	540/535	1 690*/870	670/660	2 175*/1 190		
-1 m	3 464	435/425	955*/550	535/515	1 185*/695	685/675	1 565*/905	915/890	1 870*/1 205	405/395	955*/520	500/480	1 185*/655	640/630	1 565*/855	855/830	1 870*/1 135		
-1,5 m	2 984	505/500	940*/640	-	-	680/665	1 255*/870	900/880	1 695*/1 175	470/460	940*/605	-	-	635/620	1 255*/820	840/815	1 695*/1 105		

## Long arm, standard counterweight

Cabin										Canopy											
A	(A=)	Blade on ground/Blade above ground								Blade on ground/Blade above ground											
		Max.	3,5 m		3 m		2,5 m		2 m		Max.	3,5 m		3 m		2,5 m		2 m			
B																					
3 m	3 815	490/480	730*/590	-	-	-	-	-	-	465/460	730*/565	-	-	-	-	-	-				
2,5 m	4 090	405/400	735*/515	545*/545	545*/545*	-	-	-	-	385/380	735*/490	545*/545*	545*/545*	-	-	-	-				
2 m	4 270	500/490	790*/455	525*/515	710*/710*	-	-	-	-	480/470	790*/430	500/490	710*/710*	-	-	-	-				
1,5 m	4 370	335/320	770*/530	525/525	800*/610	625*/715*	715*/715*	895*/895	895*/895*	320/305	770*/510	500/500	800*/575	595/715*	715*/715*	895*/895	895*/895*				
1 m	4 400	365/360	785*/405	470/460	890*/570	550/540	830*/830	985*/985	985*/985*	345/340	785*/380	445/440	890/540	520/510	830*/830	985*/985	985*/985*				
0 m	4 245	315/310	825*/405	350/345	1 025*/520	410/405	1 235*/635	480/475	1 560*/805	585/575	2 070*/1 095	295/290	825*/380	325/320	1 025*/485	380/375	1 235*/595	440/440	1 560*/755	530/525	2 070*/1 025
-1 m	3 760	350/345	890*/465	375/370	990*/500	445/425	1 215*/600	575/560	1 510*/780	760/735	1 890*/1 030	330/320	890*/440	350/345	990*/465	415/395	1 215*/560	535/525	1 510*/730	705/685	1 890*/955
-1,5 m	3 340	405/400	910*/535	-	-	445/445	1 070*/585	560/545	1 325*/740	740/715	1 690*/990	380/375	910*/500	-	-	415/415	1 070*/545	525/505	1 325*/690	685/665	1 690*/920

## Long arm, additional counterweight

Cabin										Canopy											
A	(A=)	Blade on ground/Blade above ground								Blade on ground/Blade above ground											
		Max.	3,5 m		3 m		2,5 m		2 m		Max.	3,5 m		3 m		2,5 m		2 m			
B																					
3 m	3 815	545/535	730*/655	-	-	-	-	-	-	520/510	730*/625	-	-	-	-	-	-				
2,5 m	4 090	455/450	735*/570	545*/545	545*/545*	-	-	-	-	435/430	735*/545	545*/545*	545*/545*	-	-	-	-				
2 m	4 270	545/540	790*/510	585/575	710*/710*	-	-	-	-	525/520	790*/485	560/550	710*/710*	-	-	-	-				
1,5 m	4 370	380/365	770*/585	585/585	800*/680	700*/715*	715*/715*	895*/895	895*/895*	365/350	770*/560	560/560	800*/650	670/715*	715*/715*	895*/895	895*/895*				
1 m	4 400	410/405	785*/460	530/525	890*/640	625/615	830*/830	985*/985	985*/985*	390/385	785*/435	510/500	890*/610	595/585	830*/830	985*/985	985*/985*				
0 m	4 245	365/360	825*/460	410/405	1 025*/590	485/480	1 235*/720	570/570	1 560*/920	715/705	2 070*/1 260	345/340	825*/440	385/385	1 025*/560	455/450	1 235*/685	535/530	1 560*/870	660/655	2 070*/1 190
-1 m	3 760	405/400	890*/530	435/430	990*/570	515/500	1 215*/685	665/655	1 510*/895	890/865	1 890*/1 190	385/375	890*/500	410/405	990*/540	485/470	1 215*/645	630/620	1 510*/845	835/810	1 890*/1 120
-1,5 m	3 340	470/460	910*/610	-	-	520/515	1 070*/675	655/640	1 325*/855	870/845	1 690*/1 155	445/435	910*/575	-	-	490/485	1 070*/635	615/600	1 325*/805	815/795	1 690*/1 085

[ 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. ]

# TECHNICAL SPECIFICATIONS

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

	Transport weight	Operating weight	Ground pressure (operating weight)
Canopy version / Rubber crawlers	3 080 kg	3 155 kg	0,297 kgf/cm <sup>2</sup>
Canopy version / Steel crawlers	3 180 kg	3 255 kg	0,308 kgf/cm <sup>2</sup>
Cabin version / Rubber crawlers	3 200 kg	3 275 kg	0,308 kgf/cm <sup>2</sup>
Cabin version / Steel crawlers	3 300 kg	3 375 kg	0,317 kgf/cm <sup>2</sup>
With additional counterweight		+ 150 kg	-

## [ ENGINE ]

Type	3TNV88-ESBV
Fuel	Diesel
Net Power	18.5 kW / 24.8 HP at 2200 rpm
Gross Power	18.9 kW / 25.3 HP at 2200 rpm
Displacement	1 642 l
Maximum torque	85.5 – 94.5 N.m
Cooling	Water-cooling
Starter	12 V - 1.7 kW
Battery	12 V – 65 Ah
Alternator	12 V – 55 A

## [ HYDRAULIC SYSTEM ]

Maximum pressure	210 bars
1 double variable displacement piston pump	2 x 37.4 l/min
1 gear pump	20.9 l/min
1 gear pump for pilot line	9.9 l/min

PTO	Measured data at max engine speed	
	Pressure	Flow
2 ways	0 – 210 bar	53.8 – 1 l/min
1 way	0 – 210 bar	37.4 - 1 l/min

 Oil flow decreases as the pressure increases

## [ PERFORMANCE ]

Travel speed	2.7 / 4.5 km/h
Rotation speed	10.5 rpm
Digging force (short arm / long arm)	18.1kN / 16.1 kN
Digging force (bucket)	29.9 kN
Gradability	30°
Noise Level (2000/14/CE&2005/88/CE)	Lwag: 94 dBA ; Lpag: 82 dBA

## [ UNDERCARRIAGE ]

Number of top rollers	1
Number of bottom rollers	4
Track tensioning system	Grease cylinder

## [ CAPACITIES ]

Fuel tank	41 l
Coolant	4.2 l
Engine oil	7.3 l
Hydraulic circuit	62 l
Hydraulic tank	40 l

## MAINTENANCE FREQUENCY

[ Change engine oil and filter: 50 hours (1<sup>st</sup>) / 500 hours (2<sup>nd</sup>) ] [ Change fuel filter: 250 hours ] [ Change hydraulic oil filter: 1000 hours ]  
 [ Change hydraulic oil return filter: 50 hours (1<sup>st</sup>) / 500 hours (2<sup>nd</sup>) ] [ Change cooling fluid: 2000 hours ]



**YANMAR**



Yanmar Compact Equipment EMEA

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