



**YANMAR**

# SV86-7

MIDI-EXCAVATOR



**Operating weight**

8 675 kg

**Engine**

4TNV98CT-VBV2

**Net power**

48.0 kW/65.3 HP at 1800 min<sup>-1</sup>

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

39.6/35.9 kN

**Breakout force (bucket)**

61.3 kN

# DESIGNED TO BOOST YOUR PERFORMANCE





## COMPACTNESS

Designed for outstanding performance in the toughest conditions, the SV86-7 combines the most compact dimensions with the highest stability in the class of 8t excavators. With merely 2,290 mm width, this 8.6 tonne excavator offers excellent lifting capacity which even outmatches conventional tail machines –the perfect partner for countless demanding applications.



## LATEST GENERATION ENGINE

Powered by the field-proven Yanmar four-cylinder turbo diesel engine, the SV86-7 is fuel-efficient, environment-friendly and fully compliant with the EU Stage V emissions legislation (with cooled EGR and DPF system on board as standard). Direct injection and common rail technology help to maximise engine performance.



## ADVANCED HYDRAULICS

The SV86-7, featuring Yanmar's cutting-edge ViPPS2i hydraulic system, is engineered to intelligently allocate hydraulic pump flow. This innovative system ensures an optimal blend of speed, power, and stability. Experience enhanced work efficiency with seamless operation, delivering smoother work cycles even during travel.



## SIMPLE OPERATION

Intuitive and ergonomically arranged levers, switches and pedals allow operators to manoeuvre precisely and manage the machine in a unique way. The intuitive 7" colour display makes adjusting machine settings and keeping track of machine data a walk in the park.



## SAFETY FIRST

Safety reigns supreme in the creation of the SV86-7, aligning with Yanmar's commitment to prioritizing safety across all models. Embracing ROPS, TOPS, and FOPS Level I certifications for both the cab roof & frame, this machine ensures top-tier safety measures. Standard safety features include a disconnectable driving alarm, highly visible orange seat belt, and efficient LED work lights. Plus, benefit from the added security of a standard reverse and side view camera. You can elevate safety further with various options-amber LED rotating beacon, and a comprehensive 270° camera system...



## SPACIOUS AND COMFORTABLE CAB

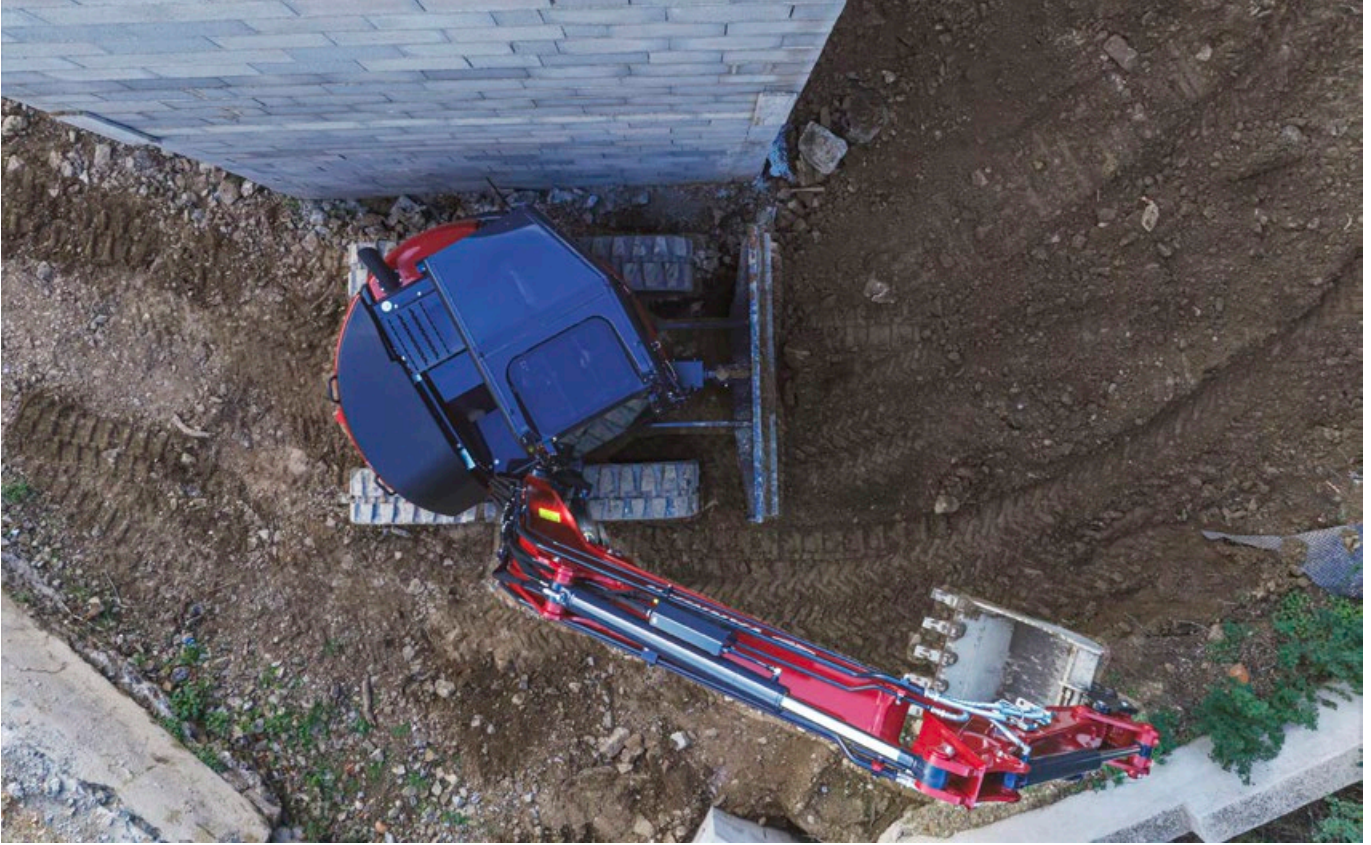
A key feature that characterises the SV86-7's maximum operator comfort and site productivity is the widest cab in its class, with large glass surfaces, excellent all-round visibility and many other features to ensure a comfortable working environment.



## MINIMISED OPERATING COSTS

A perfect blend of productivity and compactness, the SV86-7 impresses with low fuel consumption, a long service life and ease of maintenance. All these contribute to extremely favourable overall operating costs. For improved operational efficiency and cost effectiveness, the SV86-7 is equipped with the standard features such as idle shutdown and automatic engine shutdown.

# PINT-SIZED DYNAMISM



A perfect combination of next-generation technology and unique design innovation, the SV86-7 delivers the operator comfort of a much larger excavator with the space-saving benefits of a compact machine. The SV86-7 offers performance, versatility, comfort and reliability, designed with the operator in mind.

## OUTSTANDING STABILITY

Experience the SV86-7, boasting Yanmar's exclusive VICTAS® system. Its optimized tread and asymmetrical tracks position this machine at the forefront of stability innovation. The unique VICTAS® system, a pioneering solution in the market, effectively mitigates track deformation, minimizes vibrations, and guarantees quieter travelling, delivering unparalleled performance.

In addition to the VICTAS® technology, a large counterweight and excellent weight distribution, as well as a low centre of gravity, ensure much greater stability than conventional machines in the same weight class –not to mention the incredibly impressive lifting capabilities.

# OUTSTANDING PERFORMANCE

Yanmar's extensive expertise in crafting compact equipment enables the SV86-7 to achieve remarkable performance while minimizing its environmental footprint. This robust model seamlessly blends power, adaptability, and precision, providing the essential versatility required to optimize productivity at the worksite. Equipped with an array of standard features like the floating position for the blade or the pressure limiter for the hammer circuit, alongside optional functionalities such as the 3rd additional hydraulic circuit and power tilt pipework, this machine offers unparalleled flexibility. Its capabilities remain unhindered by terrain, conditions, or specific tasks, whether it's earthmoving, gardening, landscaping, demolition, or road construction.

## MAXI FUNCTIONS, MIDI FORMAT

With its breakout force of 61.3 kN (bucket) and 39.6 kN (dipper arm), the SV86-7 exceeds the expectations of an 8-tonne short-tail excavator time and time again. By providing an incredible 48 kW of engine power resulting in high working speeds and powerful movements and at the same time ultra-low noise emissions this model makes for the perfect choice when it comes to challenging projects of all kind –especially in confined and residential areas.

## EFFICIENT VIPPS2I-HYDRAULIC SYSTEM

The SV86-7 achieves maximum productivity and efficiency with the ViPPS2i® hydraulic system developed by Yanmar. This progressive dual-circuit load-sensing system has already proven its worth in many other Yanmar models and all areas of application. The variable flow axial piston pump, a gear pump and the central main control valve distribute the hydraulic oil in such a way that smooth and coordinated movements are always possible. This means more operating comfort, greater safety and more efficiency. These advantages enable combined, simultaneous movements of several consumers to be carried out more evenly and quickly. Together with the economical, reliable and powerful Yanmar 4-cylinder diesel engine, this creates an unrivalled squad that is up for any task.



# FLEXIBLE, PRECISE, AND MULTIFACETED



The SV86-7 is equipped with two auxiliary hydraulic circuits as standard and can be optionally upgraded with a third auxiliary hydraulic circuit. The proportional control (via the joystick) enables the flow rate to be continuously adjusted. The option of setting and saving the oil flow for up to 5 attachments on the display allows the operator to easily adapt the machine to the respective application and requirements of each attachment. This ensures maximum flexibility and rapid adaptability to the prevailing conditions.



# REDEFINING EXPECTATIONS



State-of-the-art technologies and the combination of impressive performance and optimum precision help to ensure that all expectations are exceeded time and time again. Its adaptability, versatility and user-orientation make it the ideal companion on construction sites.

## LATEST GENERATION ENGINE

The SV86-7 is equipped with the Stage V compliant 4TNV98CT engine, designed to minimise environmental impact, for which Yanmar is world-renowned. With a displacement of 3,318 cm<sup>3</sup>, the four-cylinder engine delivers 283 Nm of torque at 1,365 rpm and a maximum power output of 48.0 kW. This has resulted in a powerful vehicle with low carbon dioxide emissions that fulfils emission regulations with cooled exhaust gas recirculation (EGR) and a diesel particulate filter (DPF) as standard equipment, i.e., reduced nitrous oxide (NOX) and particulate matter (PM) emissions. An exclusive regeneration system prevents blockages as well as downtime due to unnecessary cleaning work.

## MINIMUM CONSUMPTION, MAXIMUM EFFICIENCY

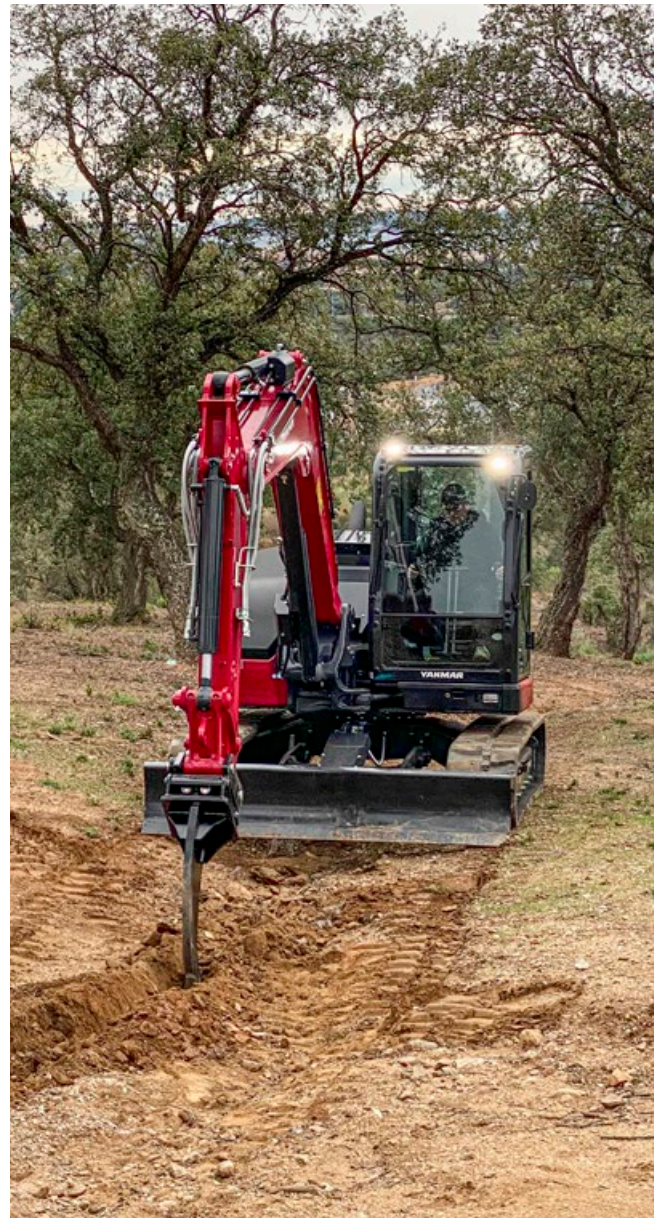
The Electronic Control Unit (ECU) intelligently regulates speed based on demand, effectively optimizing engine load. This meticulous management translates to decreased fuel consumption and heightened productivity. Yanmar's Eco-Mode technology, specifically designed for low-force, low-speed operations, governs engine speed, thereby curbing operational expenses. Additionally, auto-idle technology engages when control levers remain untouched for over four seconds, efficiently reducing fuel usage. Moreover, the automatic engine shutdown feature powers down the diesel engine after a preset period of inactivity, a customizable setting by the operator. This proactive function significantly diminishes both fuel consumption and engine wear, reflecting a commitment to efficiency and longevity.

For the toughest tasks and fastest working speeds, the PWR mode can be selected at the touch of a button.

## SETTING NEW STANDARDS

After a test\* with 4 competitor machines of the same class, the SV86-7 excavated up to 33% more volume in 10min. The best competitor was 6% behind.

Proving its outstanding eco-friendliness, the fuel consumption per m<sup>3</sup> excavated soil of the SV86-7 during the task was up to 25% lower compared to the four renamed competitors.



\*Test performed with buckets of 600mm width, on the same soil (gravel), site and weather conditions, with 3 different operators on each excavator digging a trench 0,8m depth during 10min.

# ROBUST AND RELIABLE



The new award-winning design exudes reliability, compactness and progressiveness, emphasising how robust, hard-wearing and reliable the SV86-7 is. It is designed for the most demanding jobs -even in the toughest conditions and on the most challenging terrain.

The design of the undercarriage and the heavy steel covers effectively protect the chassis against day-to-day damage, which in turn prevents unnecessary downtime.

Its moulded side plates stop the accumulation of soil and reduce wear on the inside of the tracks.

The blade cylinders and boom cylinders are also protected with steel plates. Their cathaphoresis treatment prevents corrosion of the paint.

The hoses are protected by abrasion-resistant covers as standard, and their routing on top of the boom provides additional protection against damage.



# LARGE, BRIGHT, COMFORTABLE -THE NEW CAB



The SV86-7's cabin is meticulously crafted to cater to the driver's needs. Its ergonomic design offers a comfortable and intuitively organized workspace, optimizing productivity throughout extended days at the construction site. Exceptional all-around visibility and thoughtful design elements ensure a fatigue-free work environment, prioritizing both comfort and safety for maximum operational efficiency.

## GENEROUS

With its impressive legroom, wide entrance and generous glass surface, the cab of the SV86-7 not only has the appearance of being spacious and comfortable –it truly is so. It is perfect for long working days in the machine, but also ideal for frequent entry and exit. The SV86-7 makes the driver's job easier regardless of the job at hand –every day.

## AIR SUSPENSION SEAT

The wide seat, equipped with air suspension and headrest as standard, is fully adjustable. This allows operators to find the right working position while minimising shocks and vibrations.

## AUTOMATIC AIR CONDITIONING

The SV86-7's automatic air conditioning system ensures pleasant working temperatures in all weathers. Numerous air vents,

which are optimally distributed throughout the cab, ensure even temperatures from head to toe. The defroster function turns a steamed-up windscreen into a clear one in no time at all.

## MODERN AND COMFORTABLE

The widest (and most spacious) cab in its class is a key feature of the SV86-7's maximised operator comfort and site productivity.

With large glass surfaces, excellent all-round visibility, clearly arranged controls and a comfortable, air-suspended seat, the operator is still relaxed after a long day's work.

The standard automatic air conditioning system with many optimally arranged air outlets essentially serves to ensure a comfortable and cosy climatic experience inside the cab.

- + Generous glass surfaces
- + Fully opening windscreen
- + Smooth-running windscreen kinematics
- + USB and 12 V socket
- + MP3-capable radio with USB connection (option)
- + Storage space and bottle holder
- + Air conditioning filter
- + Automatic ceiling light



# EXCELLENT EASE OF USE



## BETTER CONTROL, ENHANCED OVERVIEW

The SV86-7 comes as standard with a high-resolution 7-inch color display, offering real-time visibility into the machine's status and camera images. Serving as the central control hub, this easily readable display is seamlessly integrated into the right-hand console. Its exceptional visibility ensures optimal operation even in bright sunlight or low-light conditions, empowering operators to adjust settings such as hydraulic attachment flow rates effortlessly. Essential data like fuel level, engine oil/coolant temperatures, and service intervals are constantly available on-screen, while detailed machine operating information is conveniently accessible within the menu. Additionally, the system promptly alerts operators to any issues, from low battery levels to abnormal oil pressure or a blocked air filter, ensuring immediate attention to potential faults.

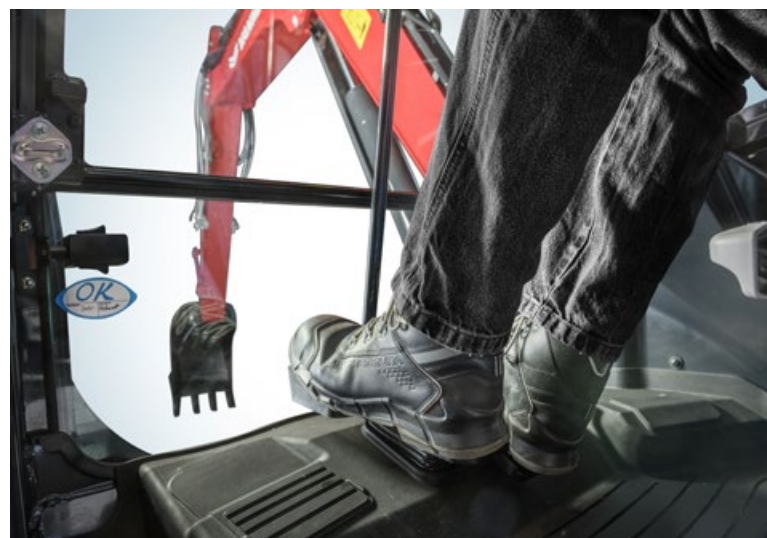
## OUTSTANDING ERGONOMICS

Ideally positioned joysticks, adjustable armrests and clearly arranged switches make operating the machine easy and fatigue-free. Frequently required functions can be operated quickly and easily via the optimally arranged keypad.

The large and easy-to-operate pedals and levers ensure that the operator's posture is always relaxed and healthy, even when moving the machine.

The 2-speed automatic transmission, which automatically keeps the machine in 1st gear when travelling uphill, further increases driving comfort.

- + 7" colour display
- + Simple and clear menu navigation
- + Jog dial for simple menu operation
- + Clear keypad for standard functions
- + Optimum view –also to the right
- + Ergonomic foot pedals
- + Rear and side camera as standard



# SAFETY ON THE JOBSITE



Yanmar is committed to the utmost safety of the operator as well as everyone else working with or on the machine. This is why the SV86-7 is equipped with countless functions that contribute to maximising its safety.

## SUPERB ALL ROUND VISION

Large glass surfaces all round, side and rear cameras and an optional surround-view camera system provide the operator with an excellent 360° view –for safe and efficient work. The low-profile bonnet also gives the driver an optimum view to the right. This gives a direct view of the work area even when the boom is swivelled to the right –a real safety bonus! Excellent visibility not only guarantees safety on the construction site, it also reduces the risk of accidental damage –especially in tight areas or on busy construction sites.

## OPTIMAL LIGHTING

With three standard LED work lights (inside the boom and on the front of the cab), you are guaranteed to have effective working conditions even at night. The LED technology ensures minimum energy consumption and a longer service life. Visibility can be even further improved with an additional, optional LED headlight at the rear of the cab.



## COMPLETE PROTECTION

The cab has been designed to maximise operator comfort and safety. The stable and ROPS-compliant cab offers unique rollover protection. It also complies with the FOPS I standard, i.e., protective structure against falling objects. The SV86-7 can be additionally equipped with FOPS II protection (optional extra).

## OPTIMUM VISIBILITY DURING LOADING WORK

Thanks to the large window in the roof, the operator has the best possible view of the attachment during loading or demolition work.

- + Safety lever for accessing the cockpit
- + Orange seat belt with retractor
- + Optional seat contact switch with green rotating beacon
- + Many well-positioned handles, also in the cab
- + Lifting points for transport
- + Evacuation hammer
- + Stable and non-slip steps



# SIMPLE AND EFFECTIVE MAINTENANCE



## EASY ACCESS

The rear and side covers with their large openings allow easy access for daily maintenance. The most important engine components (as well as hydraulic and air filters) are easily accessible. The top cover on the right-hand side provides access to the fuel tank, refuelling pump and hydraulic fluid refill points. Opening the entire right-hand side provides direct access to the main control valve, battery, water separator and radiator, as well as the air filter.

## SIMPLE MAINTENANCE

We've devoted equal focus to both simplifying daily maintenance routines and enhancing the durability of parts, resulting in reduced maintenance tasks and prolonged service life for each component.

The radiator and battery areas are readily accessible from the ground through a large flap, facilitating effortless cleaning.



# LIFTING CAPACITY



Tipping load, rating over front



Tipping load, rating over side 90°

**A** : Overhang from rotational axis (m)

**B** : Height of hooking point (m)

## Short arm, additional counterweight

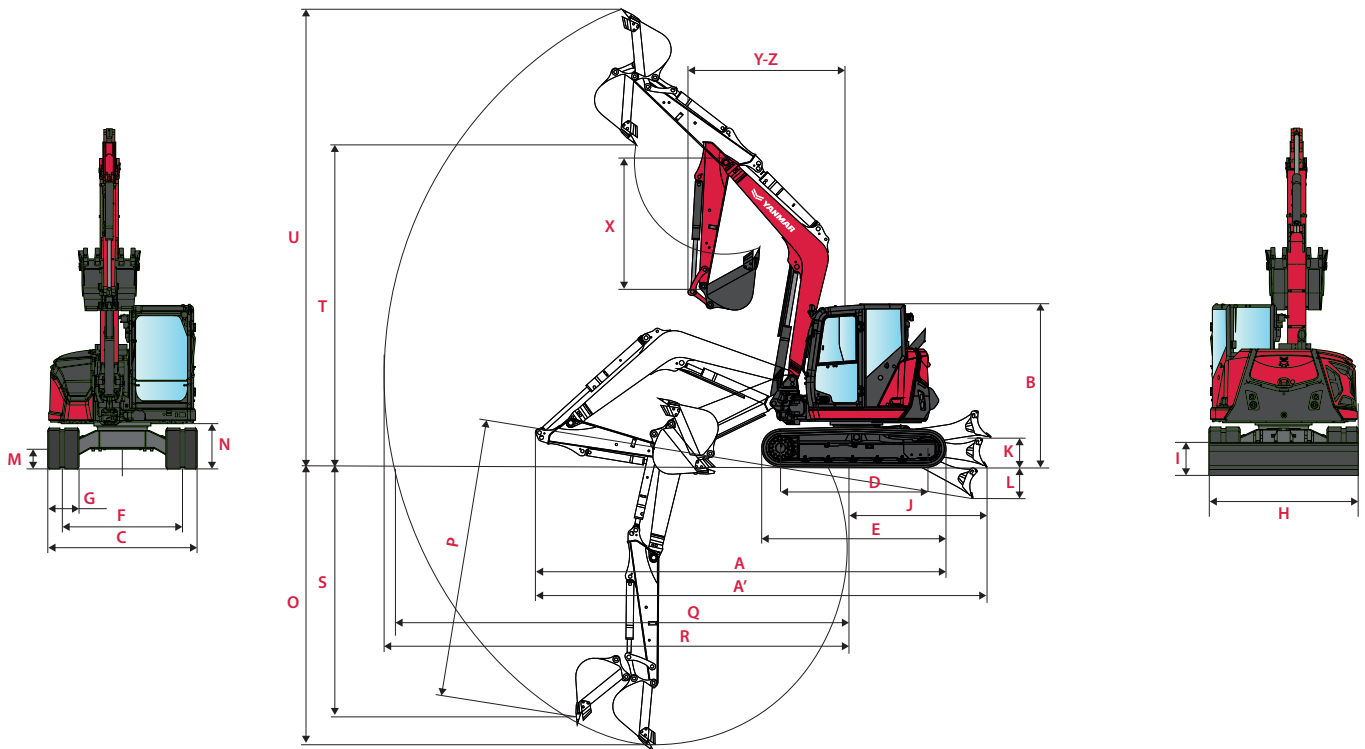
A	Blade down								Blade up							
	Max.		5 m		4 m		3 m		Max.		5 m		4 m		3 m	
B																
5 m	1 630	1 960			1 890	1 910			1 590	1 890			1 890	1 870		
4 m	1 330	1 880	1 410	1 860	1 890	1 910			1 300	1 340	1 390	1 430	1 880	1 870		
3 m	1 140	1 870	1 370	1 950	1 770	2 200	2 770	2 790	1 120	1 160	1 350	1 400	1 740	2 110	2 760	2 740
2 m	1 060	1 900	1 330	2 130	1 830	2 630	2 650	3 760	1 030	1 070	1 300	1 360	1 780	1 860	2 580	2 730
1 m	1 030	1 930	1 290	2 280	1 720	2 980	2 400	4 190	1 000	1 040	1 250	1 310	1 680	1 760	2 350	2 520
0 m	1 060	1 940	1 250	2 340	1 670	3 070	2 390	4 260	1 040	1 070	1 230	1 270	1 630	1 710	2 350	2 540
-1 m	1 160	1 940	1 250	2 170	1 670	2 930	2 450	3 930	1 150	1 190	1 220	1 280	1 630	1 710	2 400	2 550
-2 m	1 430	1 860			1 690	2 380	2 550	3 220	1 410	1 450			1 670	1 740	2 480	2 650

## Long arm, additional counterweight

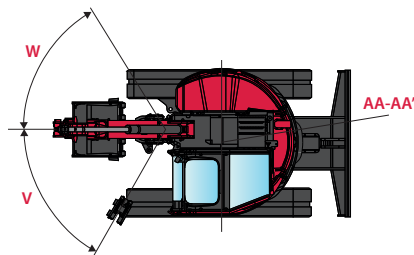
A	Blade down								Blade up							
	Max.		5 m		4 m		3 m		Max.		5 m		4 m		3 m	
B																
5 m	1 560	1 660							1 540	1 620						
4 m	1 240	1 610	1 430	1 580					1 200	1 230	1 410	1 420				
3 m	1 060	1 620	1 420	1 700	1 920	1 890			1 040	1 060	1 380	1 400	1 910	1 850		
2 m	980	1 630	1 340	1 880	1 890	2 330	2 760	3 340	960	970	1 300	1 370	1 810	1 900	2 660	2 820
1 m	940	1 680	1 300	2 120	1 720	2 720	2 460	3 920	920	970	1 240	1 320	1 680	1 800	2 400	2 540
0 m	970	1 720	1 220	2 200	1 630	2 900	2 370	4 110	940	960	1 200	1 230	1 590	1 680	2 290	2 450
-1 m	1 060	1 740	1 210	2 150	1 600	2 840	2 380	3 920	1 030	1 060	1 180	1 230	1 570	1 650	2 320	2 360
-2 m	1 240	1 730	1 240	1 770	1 620	2 500	2 420	3 370	1 210	1 200	1 200	1 170	1 580	1 670	2 360	2 480

[ 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. ]

# DIMENSIONS



<b>A</b> Overall length	6 380/*6 420 mm	<b>H</b> Overall blade width	2 290 mm
<b>A'</b> Overall length with blade at the back	6 890/*6 940 mm	<b>I</b> Overall blade height	450 mm
<b>B</b> Overall height	2 540 mm	<b>J</b> Blade distance	1 990 mm
<b>C</b> Overall width	2 290 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	2 870 mm	<b>M</b> Min. ground clearance	370 mm
<b>F</b> Lane	1 890 mm	<b>N</b> Min. ground clearance under counterweight	665 mm
<b>G</b> Track width	450 mm		



<b>O</b> Max. digging depth - Blade lifted	4 100/*4 450 mm	<b>V</b> Boom swinging base to left	60°
<b>P</b> Max. digging depth - Blade lowered	4 390/*4 730 mm	<b>W</b> Boom swinging base to right	60°
<b>Q</b> Max. digging reach on ground	6 800/*7 130 mm	<b>X</b> Arm length	1 650/*2 000 mm
<b>R</b> Max. digging reach	6 960/*7 280 mm	<b>Y</b> Front turning radius	2 500/*2 510 mm
<b>S</b> Max. vertical wall	3 700/*4 000 mm	<b>Z</b> Front turning radius with boom swing	1 790/*1 795 mm
<b>T</b> Max. unloading height	4 720/*4 920 mm	<b>AA</b> Rear turning radius	1 185 mm
<b>U</b> Max. cutting height	6 830/*7 030 mm	<b>AA'</b> Rear turning radius with additional counterweight	1 265 mm

\*Long arm.

# SPECIFICATIONS

## [ WEIGHT +/- 2% (EU-STANDARD) ]

	Transport weight	Operating weight	Ground pressure
With rubber tracks	8 600 kg	8 675 kg	0.387 kg/cm <sup>2</sup>
With steel tracks (+ 20 kg)	8 620 kg	8 695 kg	0.390 kg/cm <sup>2</sup>


## [ ENGINE ]

Type	4TNV98CT-VBV2
Regulation	EC NRMM STAGE V
Fuel	Diesel
Net power	48.0 kW/65.3 HP at 1800 min <sup>-1</sup>
Gross power	50.0 kW/68.0 HP at 1800 min <sup>-1</sup>
Displacement	3.318 l
Maximum torque	283-308 N·m
Cooling	Water-cooling
Starter	12V - 3kW
Battery	12V - 100Ah (for 20 hours)
Alternator	12V - 80A

## [ HYDRAULIC SYSTEM ]

Maximum pressure	275 bars
1 piston pump with variable flow	118.1 l/min
1 piston pump with variable flow	118.1 l/min
1 gear pump for pilot line	18 l/min

## [ AUXILIARY LINES ]

AUX	Theoretical data at 1800 rpm		 Oil flow decreases as the pressure increase.
	Pressure	Oil flow	
1	0 - 245 bars	65 - 100 l/min	
2	0 - 245 bars	50 - 70 l/min	
3	0 - 245 bars	50 - 60 l/min	

## [ PERFORMANCE ]

Travel speed with rubber crawler (low/high)	2.5/4.8 km/h
Travel speed with steel crawler (low/high)	2.3 /4.5 km/h
Rotation speed	9.0 min <sup>-1</sup>
Digging force (short arm/long arm)	39.6/35.9 kN
Digging force (bucket)	61.3 kN
Traction force	62.0 kN
Gradability	25°
Noise level (2000/14/CE & 2005/88/CE)	LwA:97.5 dBA ; LpA:73 dBA

## [ UNDERCARRIAGE ]

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

## [ CAPACITIES ]

Fuel tank	115 l
Coolant	13.3 l
Engine oil	11.2 l
Hydraulic circuit (including hydraulic tank)	118 l
Hydraulic tank	60 l

## [ MAINTENANCE FREQUENCY ]

[ Change engine oil and filter: **500 hours** ] [ Change fuel filter: **500 hours** ] [ Change hydraulic oil filter: **500 hours** ] [ Change hydraulic oil: **1 000 hours** ] [ Change cooling fluid: **2 000 hours** ] [ Clean particulate filter: **3 000 hours** ] [ Change particle filter: **9 000 hours** ]

# EQUIPMENT

## [ STANDARD EQUIPMENT ]

### PERFORMANCE

EU Stage V diesel engine -Diesel particulate filter (DPF) | Direct injection | Common rail system | EGR Electrical control system | Engine control unit (ECU) | Water separator | Power and Eco modes | Auto-idle and automatic engine shutdown | ViPPS2i hydraulic system (progressive 2-stage pump system) | 2 additional hydraulic circuits with proportional control -Flow rate adjustable on the display | 5 storage slots for attachments settings | Electronic control of the hydraulic pumps | 2-speed automatic transmission | External hydraulic oil indicator | Floating position for the blade | Additional counterweight.

### OPERATING COMFORT

7" colour display | Cab mounted on viscoelastic silent blocks | Automatic air conditioning | Adjustable reclining seat with fabric covers, air suspension and headrest | Adjustable wrist rest | Footrests | Wide drive pedals | Windscreen with 2 fully extendible sections | Roof window | Sun visor | Windscreen wiper | Windscreen washer system | Automatic ceiling light | USB and 12 V socket | Storage compartments | Compartment for mobile phone | Cup holder.

### SAFETY AND DURABILITY

Handrails | Safety lever | Safety belt with retractor | Evacuation hammer | Lashing points | Rear and side camera | Horn | Drive alarm that can be switched off | 1 LED headlight integrated in the boom | 2 LED headlights on the front of the cab | Asymmetrical VICTAS crawlers | Two-piece blade cylinder supply hose | Safety valves for lifting operations and overload warning.

### MISCELLANEOUS INFORMATION

Electric refuelling pump with automatic switch-off | Fuel gauge | Blade cylinder and boom cylinder protection | Hose protection with abrasion-resistant cover | Cathaphoresis-treated steel parts | Lockable covers | Toolbox | Tool kit | Grease gun.

## [ OPTIONAL EQUIPMENT ]

### PERFORMANCE

Long dipper arm | Safety valve for bucket cylinder | Proportional 3rd hydraulic auxiliary circuit | Pipework for Powertilt | Grapple circuit | Leak oil line | High-pressure line for hydraulic quick coupler system | Quick coupler | Steel tracks | Screw-on rubber plates for steel tracks | Bio-oil filling.

### OPERATING COMFORT

Premium seat cover | Vinyl seat | MP3-radio with USB ports.

### SAFETY AND DURABILITY

Automatic central lubrication system | SmartAssistRemote | 270°camera system | Driving alarm -Cry of lynx (can be switched off or not) | 1 LED rear headlight and amber rotating beacon | Battery cut-off switch | Anti-theft device with password and/or coded key.

### MISCELLANEOUS INFORMATION

Customized paint finish.

## [ ATTACHMENTS ]

To maximise the versatility of your midi excavator, we offer a range of factory-fitted attachments. The Yanmar range includes selected mechanical and hydraulic quick couplers, Powertilt, backhoe buckets, ditch cleaning buckets, ripper teeth and crushers.



**YANMAR**



Yanmar Compact Equipment EMEA

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