



**YANMAR**

MINI-EXCAVATOR

# Vi038-6



Operating weight	3575 kg (canopy) / 3695 kg (cabin)
Engine gross power	18.9 kW / 25.3 HP at 2200 rpm
Digging force (arm)	18.1 kN
Digging force (bucket)	32.1 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 Vi038-6 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.



## BEST COMPONENTS

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



## ViPPS HYDRAULIC SYSTEM

The Vi038-6 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





## EASE OF MAINTENANCE

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



## 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.



## EASY OPERATION

Control levers ideally located for exceptional movement precision. The VI038-6 benefits of the proportional control of the boom swing, via the proportional switch located on the right-hand joystick.



## HIGH PERFORMANCE

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



## UNMATCHED COMPACTNESS

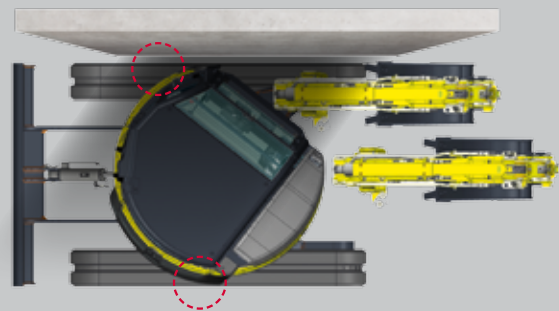
The Vi038-6 is providing Yanmar customers with true peace of mind, especially in urban environment where space is limited.



## 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 Vi038-6 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 Vi038-6 is reduced to 3 695 kg\*, the optimal mass distribution enables to improve the loading chart of the machine in most positions, especially in the front positions. Furthermore, the boom of the Vi038-6 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 centre 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.



## ALL AROUND VISIBILITY

The Vi038-6 design provides an ergonomic environment, excellent visibility and exceptional safety. The shape of the cabin provides the operator with an optimal 360° visibility in order to improve the safety on the jobsite and to make work more efficient. The Vi038-6 is equipped with two mirrors to help the operator control the work area without moving from his seat.



## AIR SUSPENSION SEAT IN STANDARD

The Vi038-6 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 MOTOR

With an output of 18.9 kW at 2200 rpm, Yanmar's 3TNV88-ESBV engine is the result of our continuous efforts to achieve technological advances in fuel consumption and emissions. With the ViO38-6, 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 motor speed which is reduced by 300 rpm, thus allowing a very low fuel consumption.

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

The ViO38-6 is equipped with a ViPPS (ViO Progressive 3 Pump 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 111 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 ViO38-6 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



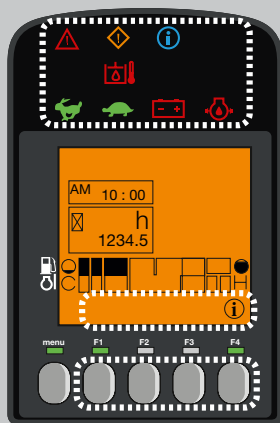
The structure of the Vi038-6 cabin has been designed to meet the ROPS (Roll-Over Protective Structure) certification as well as the FOPS (Falling Object Protective Structure) level 1.

## THE BEST BOOM AND ARM PROTECTION ON THE MARKET

The Vi038-6 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 Vi038-6 is equipped in standard with 1 LED light positioned in the inner part of the boom.



## DIGITAL INTERFACE

The Vi038-6 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, refueling 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 (1620 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 | 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 | Complete protection of the cylinders (boom, arm and blade) | 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 (1370 mm) | Third & fourth circuit with adjustable proportional control by potentiometer | 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

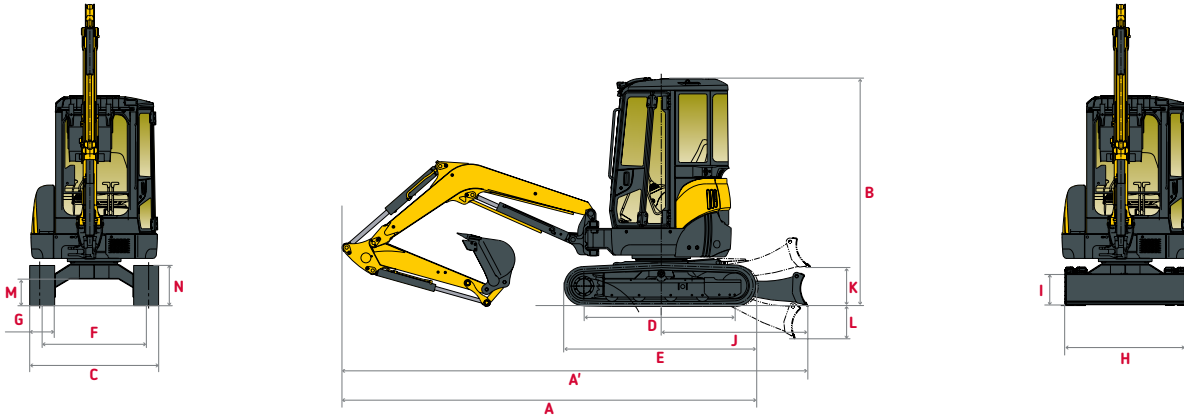
Safety valves for lifting + overload warning | FOPS 1 front protection | Battery main switch | Anti-theft device (key/keyboard) | GPS Tracking | Translation alarm.

## [ ATTACHMENTS ]

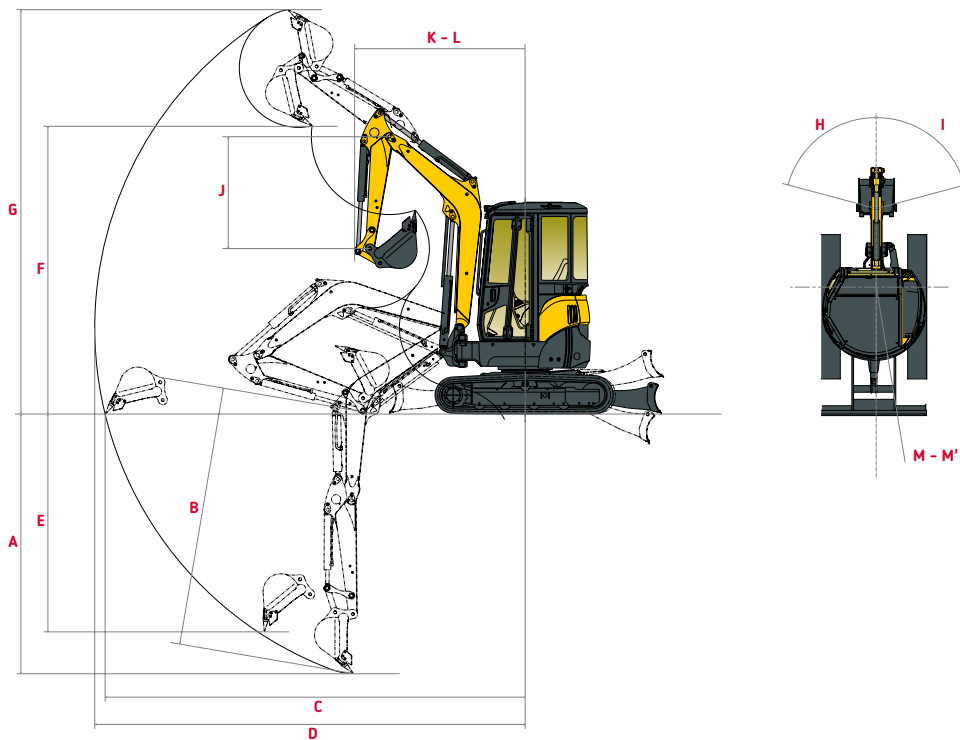
Yanmar gives you the attachment that fit your needs and match the safety standards in force in your country: mechanical quick coupler, hydraulic quick coupler, ditching bucket, swinging bucket, backhoe bucket, hydraulic breaker...



# DIMENSIONS

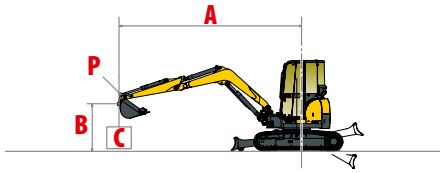



<b>A</b> Overall length	4760 mm	<b>H</b> Overall blade width	1740 mm
<b>A'</b> Overall length with blade at the back	5320 mm	<b>I</b> Overall blade height	380 mm
<b>B</b> Overall height	2470 mm	<b>J</b> Blade distance	1630 mm
<b>C</b> Overall width	1740 mm	<b>K</b> Max. blade height above the ground	425 mm
<b>D</b> Length of track on ground	1710 mm	<b>L</b> Max. lowering depth from the ground	370 mm
<b>E</b> Undercarriage length	2160 mm	<b>M</b> Minimum ground clearance	320 mm
<b>F</b> Lane	1440 mm	<b>N</b> Ground clearance under counterweight	544 mm
<b>G</b> Track width	300 mm		




<b>A</b> Max. digging depth - Blade lifted	3350 mm	<b>H</b> Boom swinging base to left	43°
<b>B</b> Max. digging depth - Blade lowered	3530 mm	<b>I</b> Boom swinging base to right	65°
<b>C</b> Max. digging reach on ground	5350 mm	<b>J</b> Arm length	1620 mm
<b>D</b> Max. digging reach	5470 mm	<b>K</b> Front turning radius	2100 mm
<b>E</b> Max. vertical wall	2820 mm	<b>L</b> Front turning radius with boom swing	1870 mm
<b>F</b> Max. unloading height	3730 mm	<b>M</b> Rear turning radius	775 mm
<b>G</b> Max. cutting height	5130 mm	<b>M'</b> Rear turning radius with additional counterweight	850 mm





















# LIFTING FORCE























 Tipping load, rating over front

 Tipping load, rating over side 90°





















## Cabin, Standard counterweight, long arm

Blade on ground												Blade above ground											
A	(A=)	Max.		3,5 m		3 m		2,5 m		2 m		(A=)	Max.		3,5 m		3 m		2,5 m		2 m		
B																							
3 m	4253	480	*815	*720	*720	-	-	-	-	-	-	4253	490	560	*720	*720	-	-	-	-	-	-	-
2 m	4654	410	*845	640	*885	*925	*925	*780	*780	-	-	4654	410	450	640	745	*925	*925	*780	*780	-	-	-
1 m	4771	375	*835	600	*1090	755	*1305	970	*1680	-	-	4771	365	450	590	650	795	815	950	1040	-	-	-
0 m	4629	385	*865	560	*1235	685	*1500	875	*1955	1180	*2465	4629	400	450	560	620	675	775	875	970	1150	1295	-
-1 m	4195	440	*905	540	*1205	685	*1470	875	*1825	1180	*2375	4195	430	490	540	600	685	745	875	980	1235	1295	-
-1,5 m	3834	500	*940	550	*1090	725	*1345	885	*1640	1215	*2080	3834	490	540	570	610	665	785	855	950	1205	1285	-
-2 m	3323	695	*845	-	-	755	*1050	1030	*1395	-	-	3323	640	715	-	-	745	785	1080	1020	-	-	-





















## Cabin, additional counterweight, long arm

Blade on ground												Blade above ground											
A	(A=)	Max.		3,5 m		3 m		2,5 m		2 m		(A=)	Max.		3,5 m		3 m		2,5 m		2 m		
B																							
3 m	4253	530	*815	*720	*720	-	-	-	-	-	-	4253	540	615	*720	*720	-	-	-	-	-	-	-
2 m	4654	455	*845	710	*885	*925	*925	*780	*780	-	-	4654	455	500	710	815	*925	*925	*780	*780	-	-	-
1 m	4771	420	*835	665	*1090	835	*1305	1075	*1680	-	-	4771	410	495	660	725	875	905	1055	1155	-	-	-
0 m	4629	435	*865	625	*1235	765	*1500	980	*1955	1330	*2465	4629	445	500	625	695	755	865	980	1085	1300	1460	-
-1 m	4195	490	*905	605	*1205	765	*1470	980	*1825	1330	*2375	4195	480	545	605	675	765	830	980	1095	1380	1460	-
-1,5 m	3834	560	*940	615	*1090	805	*1345	990	*1640	1360	*2080	3834	550	605	640	685	745	875	960	1060	1350	1450	-
-2 m	3323	765	*845	-	-	835	*1050	1135	*1395	-	-	3323	715	790	-	-	825	875	1185	1135	-	-	-

## Canopy, standard counterweight, long arm

Blade on ground												Blade above ground											
A	(A=)	Max.		3,5 m		3 m		2,5 m		2 m		(A=)	Max.		3,5 m		3 m		2,5 m		2 m		
B																							
3 m	4253	455	*815	*720	*720	-	-	-	-	-	-	4253	465	535	*720	*720	-	-	-	-	-	-	-
2 m	4654	390	*845	615	*885	*925	*925	*780	*780	-	-	4654	390	425	615	715	*925	*925	*780	*780	-	-	-
1 m	4771	360	*835	575	*1090	720	*1305	925	*1680	-	-	4771	350	430	565	620	760	775	905	990	-	-	-
0 m	4629	365	*865	535	*1235	650	*1500	830	*1955	1120	*2465	4629	380	425	535	590	640	735	830	920	1090	1225	-
-1 m	4195	415	*905	510	*1205	650	*1470	830	*1825	1120	*2375	4195	405	465	510	570	650	705	830	930	1170	1225	-
-1,5 m	3834	475	*940	520	*1090	690	*1345	840	*1640	1150	*2080	3834	465	515	545	580	630	745	810	900	1140	1215	-
-2 m	3323	665	*845	-	-	720	*1050	985	*1395	-	-	3323	610	680	-	-	710	745	1035	970	-	-	-

## Canopy, additional counterweight, long arm

Blade on ground												Blade above ground											
A	(A=)	Max.		3,5 m		3 m		2,5 m		2 m		(A=)	Max.		3,5 m		3 m		2,5 m		2 m		
B																							
3 m	4253	510	*815	*720	*720	-	-	-	-	-	-	4253	520	590	*720	*720	-	-	-	-	-	-	-
2 m	4654	435	*845	680	*885	*925	*925	*780	*780	-	-	4654	435	475	680	785	*925	*925	*780	*780	-	-	-
1 m	4771	405	*835	640	*1090	800	*1305	1030	*1680	-	-	4771	395	475	630	695	840	865	1010	1105	-	-	-
0 m	4629	415	*865	600	*1235	730	*1500	940	*1955	1270	*2465	4629	425	475	600	660	720	825	940	1035	1240	1385	-
-1 m	4195	470	*905	580	*1205	730	*1470	940	*1825	1270	*2375	4195	460	520	580	640	730	795	940	1045	1320	1385	-
-1,5 m	3834	535	*940	590	*1090	770	*1345	950	*1640	1300	*2080	3834	525	575	610	650	710	835	915	1015	1290	1375	-
-2 m	3323	735	*845	-	-	800	*1050	1090	*1395	-	-	3323	685	755	-	-	790	835	1140	1085	-	-	-

[ 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	3500 kg	3575 kg	0,337 kgf/cm <sup>2</sup>
Canopy version / Steel crawlers	3600 kg	3675 kg	0,346 kgf/cm <sup>2</sup>
Cabin version / Rubber crawlers	3620 kg	3695 kg	0,347 kgf/cm <sup>2</sup>
Cabin version / Steel crawlers	3720 kg	3795 kg	0,356 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	220 bars
1 double piston pump with variable flow	2 x 37 l.min <sup>-1</sup>
1 gear pump	26.2 l.min <sup>-1</sup>
1 gear pump for pilot line	10.8 l.min <sup>-1</sup>

PTO	Theoretical data	
	Pressure (bar)	Flow (l.min <sup>-1</sup> )
<b>2 ways</b>	0 - 220	63.2 - 1
<b>1 way</b>	0 - 220	63.2 - 1



Oil flow decreases as the pressure increases

## [ PERFORMANCE ]

Travel speed	2.7 / 4.5 km/h
Rotation speed	9.5 rpm
Digging force (arm)	18.1 kN
Digging force (bucket)	32.1 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**



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