



**YANMAR**

MINI EXCAVATOR

# Vi027-6



Operating weight (Canopy / cabin)

2640 / 2745 kg

Engine

3TNV76-NBVA1

Digging force (arm)

14.4 / 12.7 kN (long arm)

Digging force (bucket)

23.1 kN

# Reliability and robustness in a compact package



## COMPACTNESS

Yanmar, inventor of the ViO concept, has an unmatched experience in developing Zero Tail Swing excavators.



## NEW GENERATION YANMAR ENGINE

Latest version of Yanmar TNV engines: electronically-controlled 3-cylinder engine with direct injection to improve performance, fuel consumption and emission levels.



## BEST COMPONENTS

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



## EASE OF MAINTENANCE

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





## CABIN

Upgraded operator station: increased leg room, universal design, new electronic instrumentation, improved ergonomics and greatly improved noise level.



## EASY OPERATION

Control levers ideally located for exceptional movement precision. An "auto-deceleration" feature is available in option.



## HIGH PERFORMANCE

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



## UNMATCHED COMPACTNESS

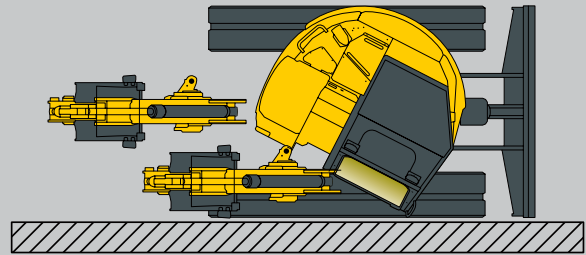
The Vi027-6 is providing Yanmar customers with true peace of mind, especially in urban environment where space is limited.



### 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 Vi027-6 has 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.



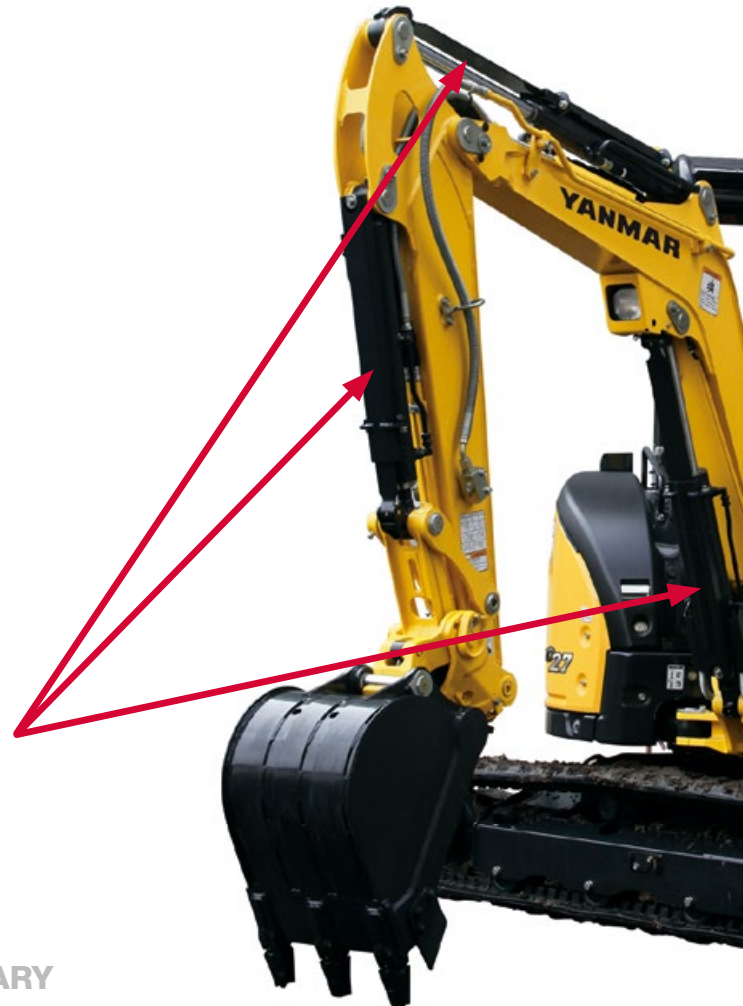
## EASY TRANSPORTATION

The transportation weight is only 2670 kg with cabin and its very compact undercarriage enables the Vi027-6 to be transported with its accessories.



### THE BEST BOOM AND ARM PROTECTION ON THE MARKET

The Vi027-6 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.



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# COMFORT

## SPACIOUS AND COMFORTABLE CABIN

Putting the operator in 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.



Flat and spacious leg room 385 mm



## ALL-AROUND VISIBILITY

The Vi027-6 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 Vi027-6 is equipped with two mirrors to help the operator control the work area without moving from his seat.

## COMFORTABLE SEAT

Reclining seat with storage compartment



# PERFORMANCE



## NEXT GENERATION ELECTRONICALLY CONTROLLED ENGINE

Having a great power output, Yanmar's TNV engine is the result of our endless pursuit for advancements in technology. An improved fuel injection system allows even clearer emissions and reduced noise.

## VIPPS HYDRAULIC CIRCUIT (VIO PROGRESSIVE 3 PUMP SYSTEM)

The hydraulic circuit of the Vi027-6 has an aggregated power regulation equipped with two variable flow piston pumps and a multiple combination directional control valve. Pumps engage automatically depending on the performed operation, providing greater ease of use for the operator. On one hand, the combination of the pump flows can increase the work speed and on the other hand, the system allows smooth and simultaneous performance of all the operations, even while traveling.

# EASY OPERATION

## BOOM SWING BY RIGHT CONTROL JOYSTICK

The boom swing is controlled by just one lever which makes work much easier



## PROPORTIONAL CONTROL OF THE AUXILIARY CIRCUIT

Standard equipment of the Vi027-6 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.



1 P.T.O hold button 2 Adjust lever



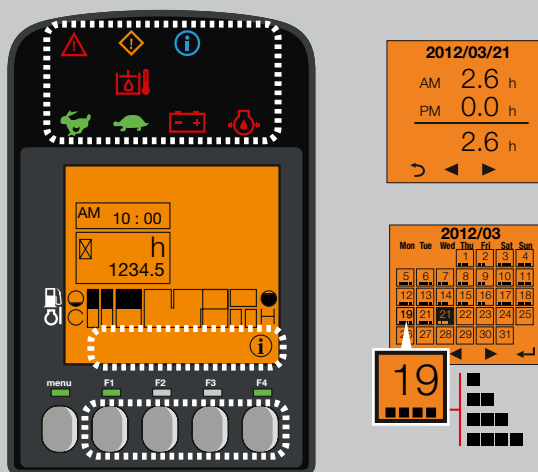
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# SAFETY

The structure of the Vi027-6 cabin has been designed to meet the ROPS (Roll-Over Protective Structure) certification as well as the FOPS (Falling Object Protective Structure) level 1.

## LED LIGHTING: EFFICIENCY AND LOW CONSUMPTION

In order to work safely, efficiently and with accuracy in the darkness, the Vi027-6 is equipped in standard with 1 LED light positioned in the inner part of the boom. The LED technology provides a powerful light while reducing energy consumption which increases the service life of the battery. In option, two LED lights can be added at the front of the cabin as well as one LED rear light and a beacon.



## DIGITAL INTERFACE

The Vi027-6 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 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 3TNV76-NBVA1 Yanmar diesel | Direct Injection | VIPPS Hydraulic system (ViO Progressive 3 Pump System) | Auxiliary circuit with proportional control | 1 LED light integrated into the boom

### COMFORT AND EASE OF USE

LCD interface | Adjustable and reclining seat with fabric covers and headrest | Arm rests | Foot rests | Travelling pedal | Switch on blade lever for travelling speed change | Windshield with 2 fully retractable parts | Sliding double right side window | Transparent upper front part | Wiper | Windshield washer | Automatic ceiling lamp | 1 x 12V outlet | Storage boxes | Secure document storage

### SAFETY AND DURABILITY

Handrails | Safety lever | Seat belt | Evacuation hammer | Anchor points | 3 mirrors | Horn | Blade cylinder supply hose into two parts | 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 ]

### PERFORMANCE

Steel crawlers | Long arm (+250 mm) | Additional counterweight | 1 / 2 circuit | Auto-Deceleration System | Quick couplers 2 LED lights at the front of the cabin | 1 LED light at the rear of the cabin | 1 LED beacon

### COMFORT AND EASE OF USE

Adjustable and reclining seat with ski covers and headrest | Seat Cover | Radio

### SECURITY AND DURABILITY

Safety valves for lifting + overload warning | Anti-theft device (key/keyboard) | GPS Tracking | Travel alarm

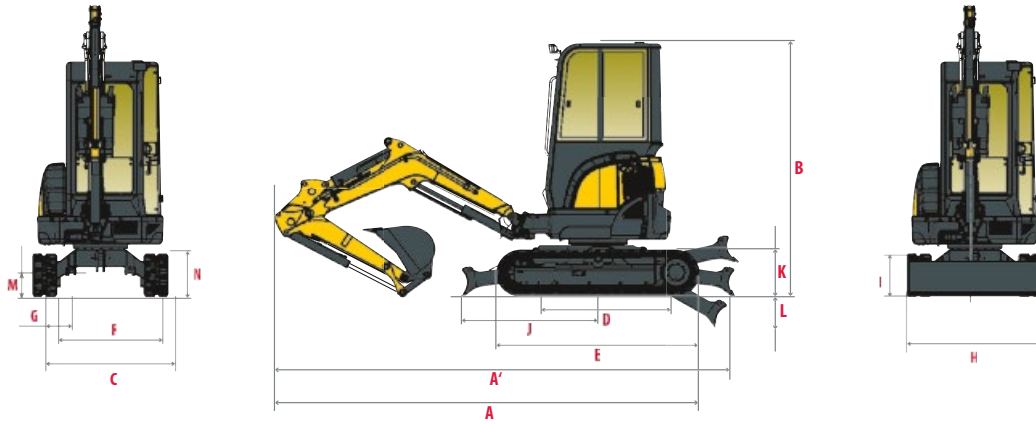
## [ ATTACHMENTS ]

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...

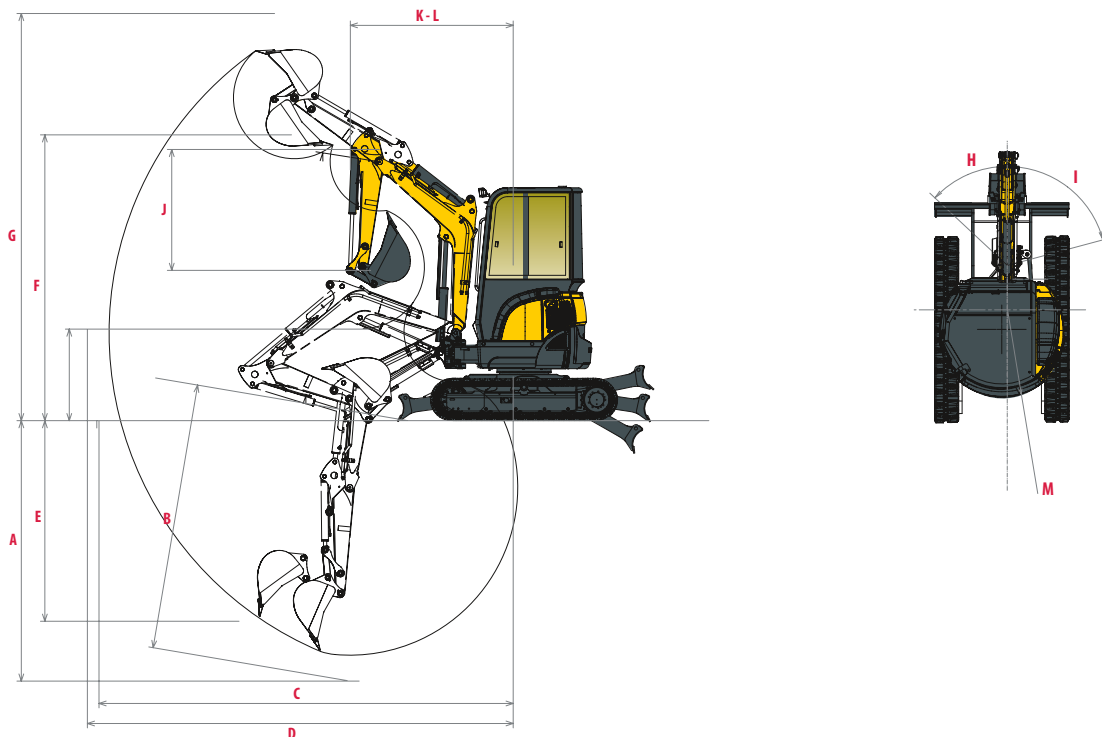
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# DIMENSIONS



<b>A</b> Overall length	4110 / 4120 * mm	<b>H</b> Overall blade width	1500 mm
<b>A'</b> Overall length with blade at the back	4470 / 4480 * mm	<b>I</b> Overall blade height	290 mm
<b>B</b> Overall height	2530 mm	<b>J</b> Blade distance	1380 mm
<b>C</b> Overall width	1500 mm	<b>K</b> Max. lifting height above the ground	340 mm
<b>D</b> Length of track on ground	1590 mm	<b>L</b> Max. lowering depth from the ground	355 mm
<b>E</b> Undercarriage length	2040 mm	<b>M</b> Minimum ground clearance	320 mm
<b>F</b> Lane	1250 mm	<b>N</b> Ground clearance under counterweight	-
<b>G</b> Track width	250 mm		

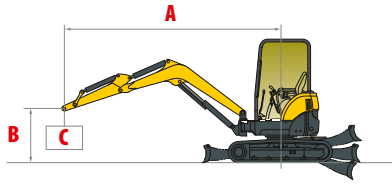


<b>A</b> Max.digging depth-Blade lifted	2490 / 2740 * mm	<b>H</b> Boom swinging base to left	47°
<b>B</b> Max.digging depth-Blade lowered	2690 / 2940 * mm	<b>I</b> Boom swinging base to right	74°
<b>C</b> Max.digging reach on ground	4340 / 4590 * mm	<b>J</b> Arm length	1150 / 1400 * mm
<b>D</b> Max.digging reach	4460 / 4700 * mm	<b>K</b> Front boom swing	1950 / 1990 * mm
<b>E</b> Max vertical wall	1150 / 1290 * mm	<b>L</b> Front turning radius with boom swing	1650 / 1680 * mm
<b>F</b> Max.unloading height	2830 / 2985 * mm	<b>M</b> Rear boom swing	750 mm
<b>G</b> Max.cutting height	3990 / 4140 * mm		

\* with long arm

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# LIFTING FORCE



Tipping load, rating over front



Tipping load, rating over side 90°

Cabin, Standard arm																		
Blade on ground										Blade above ground								
A	(A=)	Max.		3 m		2,5 m		2 m		(A=)	Max.		3 m		2,5 m		2 m	
B																		
3 m	3020	*525	*525	*525	*525	-	-	-	-	3020	*525	*525	*525	*525	-	-	-	-
2,5 m	3380	400	*520	*495	*495	-	-	-	-	3380	400	*520	*495	*495	-	-	-	-
2 m	3620	350	*520	*525	*525	*550	*550	-	-	3620	350	410	*525	*525	*550	*550	-	-
1 m	3810	310	*550	460	*670	*670	*850	830	*1220	3810	310	360	450	540	600	730	830	1040
0 m	3650	320	*570	430	*760	*610	*970	750	*1320	3650	310	370	420	500	540	650	750	910
-1 m	3120	380	*600	420	*660	530	*860	730	*1150	3120	380	450	410	490	530	640	730	880
-1,5 m	2610	500	*580	-	-	550	*650	740	*880	2610	500	580	-	-	540	*650	740	*880

Cabin, Long arm																		
Blade on ground										Blade above ground								
A	(A=)	Max.		3 m		2,5 m		2 m		(A=)	Max.		3 m		2,5 m		2 m	
B																		
3 m	3020	400	*450	-	-	-	-	-	-	3020	390	*450	-	-	-	-	-	-
2,5 m	3380	350	*460	410	*460	-	-	-	-	3380	340	410	*460	*460	-	-	-	-
2 m	3620	320	*470	380	*460	-	-	-	-	3620	310	370	380	*460	-	-	-	-
1 m	3810	280	*490	310	*600	*760	*760	-	-	3810	280	330	460	*600	*760	*760	-	-
0 m	3650	330	*520	420	*730	540	*950	760	*1310	3650	280	340	420	500	540	660	730	930
-1 m	3120	340	*540	410	*700	530	*920	740	*1200	3120	330	400	400	490	530	630	740	910
-1,5 m	2610	420	*530	-	-	540	*760	720	*960	2610	410	480	-	-	540	640	720	870

Canopy, Standard arm																		
Blade on ground										Blade above ground								
A	(A=)	Max.		3,5 m		2,5 m		2 m		(A=)	Max.		3 m		2,5 m		2 m	
B																		
3 m	3020	*525	*525	*525	*525	-	-	-	-	3020	*525	*525	*525	*525	-	-	-	-
2,5 m	3380	390	*520	*495	*495	-	-	-	-	3380	390	*520	*495	*495	-	-	-	-
2 m	3620	340	*520	*525	*525	*550	*550	-	-	3620	340	400	*525	*525	*550	*550	-	-
1 m	3810	300	*550	440	*670	*670	*850	790	*1220	3810	300	350	430	520	570	700	790	1000
0 m	3650	310	*570	410	*760	*610	*970	710	*1320	3650	300	360	400	480	510	620	710	870
-1 m	3120	370	*600	400	*660	500	*860	690	*1150	3120	370	440	390	470	500	610	690	840
-1,5 m	2610	490	*580	-	-	520	*650	700	*880	2610	490	580	-	-	510	*650	700	*880

Canopy, Long arm																		
Blade on ground										Blade above ground								
A	(A=)	Max.		3,5 m		2,5 m		2 m		(A=)	Max.		3 m		2,5 m		2 m	
B																		
3 m	3020	390	*450	-	-	-	-	-	-	3020	380	*450	-	-	-	-	-	-
2,5 m	3380	340	*460	390	*460	-	-	-	-	3380	330	400	*460	*460	-	-	-	-
2 m	3620	310	*470	360	*460	-	-	-	-	3620	300	360	360	*460	-	-	-	-
1 m	3810	270	*490	290	*600	*760	*760	-	-	3810	270	320	440	*600	*760	*760	-	-
0 m	3650	320	*520	400	*730	510	*950	720	*1310	3650	270	330	400	480	510	630	690	890
-1 m	3120	330	*540	390	*700	500	*920	700	*1200	3120	320	390	380	470	500	600	700	870
-1,5 m	2610	410	*530	-	-	510	*760	680	*960	2610	400	470	-	-	510	610	680	840

[ 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) ]

	Weight	Ground Pressure
Operating Weight (Canopy / Cabin)	2640 / 2745 kg	29 / 30,8 kg/cm <sup>2</sup>
Transport Weight (Canopy / Cabin)	2570 / 2670 kg	-
With steel tracks	+ 110 kg	-

## [ ENGINE ]

Type	3TNV76-NBVA1
Fuel	Diesel
Net Power	15.2 kW / 20.7 HP at 2500 rpm
Gross Power	15.8 kW / 21.5 HP at 2500 rpm
Displacement	1.115 l
Maximum torque	63.4-69 at 1800 rpm (±100)
Cooling	Water-cooling
Starter	12 V - 1.4 kW
Battery	12 V - 36 Ah
Alternator	12 V - 40 A

## [ HYDRAULIC SYSTEM ]

Maximum pressure	206 bar
1 double piston pump with variable flow	2 x 30 l.min <sup>-1</sup>
1 gear pump	21.3 l.min <sup>-1</sup>
1 gear pump for pilot line	11.3 l.min <sup>-1</sup>

PTO	Theoretical data	
	Pressure (bar)	Flow (l.min <sup>-1</sup> )
<b>2 way</b>	0 - 206	54.2 - 1.3
<b>1 way</b>	0 - 206	54.2 - 1.3



Oil flow decreases as the pressure increases

## [ PERFORMANCE ]

Travel speed	2.8 / 4.5 km/h
Rotation speed	10 rpm
Digging force (arm)	14.4 / 12.7 kN (with long arm)
Digging force (bucket)	23.1 kN
Gradability	25°
Noise Level (2000/14/CE&2005/88/CE)	LWAG: 93 dBA ; LPAG: 80 dBA

## [ UNDERCARRIAGE ]

Number of top rollers	1
Number of bottom rollers	3
Track tensioning system	Grease Cylinder

## [ CAPACITIES ]

Fuel tank	30.5 l
Coolant: Incl.Sub-tank Capacity (0.4)	3.8 l
Engine oil	3.4 l
Hydraulic circuit	39 l
Hydraulic tank	25 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: **1000 hours** ]  
 [ Change hydraulic filter: **50 hours (1<sup>st</sup>) / 500 hours (2<sup>nd</sup>)** ] [ Change cooling fluid: **2000 hours** ]

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