

YANMAR

Solutioneering Together



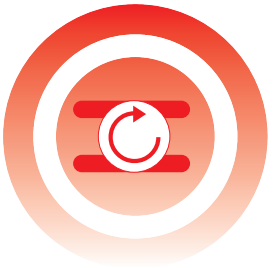
Mini-excavator ViO20

Operating weight: 2335/2230 kg

Arm digging force: 1200 kgf

Bucket digging force: 1900 kgf

Yanmar, inventor and leader



Zero Tail Swing

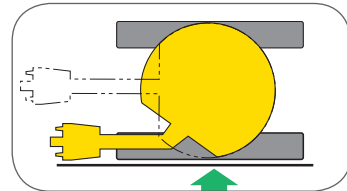


Design principles

- The VIO20 is a real Zero Tail Swing machine: neither the counterweight nor the front part of the upper frame exceed the width of the crawlers.
- Compact dimensions:
 - front swing radius with boom swing: 1550 mm ;
 - rear swing radius: 690 mm ;
 - width of the machine reduced to 1380 mm.

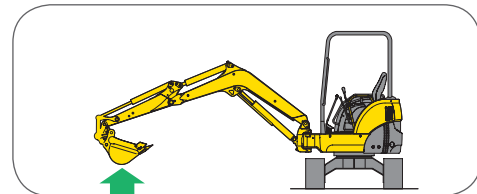
Advantages for the user

- Possibility to work in narrow areas, where a conventional machine is not able to work.
- Possibility to work along a wall.
- No dead angle in the upper structure: maximum superb all-round visibility.
- Safety and productivity for the operator.
- Easier transport thanks to reduced width.



Excellent weight distribution

- The use of a large counterweight, asymmetric crawlers (VICTAS® system) and high tensile equipment allows:
 - equalled stability, even higher than that of a conventional machine of the same weight ;
 - increased lifting capacity.



Asymmetric crawlers (patented VICTAS® System)

- Increased foot print without the increase of machine width.
- Higher sideward stability and higher lift capacity.
- Noise and vibration free travel.
- Less ground damage.



of the ZTS mini-excavators



Comfort and safety

Spacious and ergonomic pilot system

- Perfect position of joysticks, armrests and travel levers.
- Luxurious adjustable operators seat with headrest (forward and aft adjustment, backrest inclination adjustment, and weight adjustment).
- Canopy and cabin fully compliant with safety norms: ROPS (Roll Over Protective Structure), FOPS 1 (Falling Object Protective Structure) and TOPS (Tip-Over Protective Structure).
- Large safety lever on access to operating position: locks working movements and travel (in raised position).
- Battery isolator in standard.



Wider access



Cabin version

- Windscreen in 2 parts, stored overhead. Sliding side windows.
- Wide access to the operating position.
- Defroster, heater, ventilation, inside lighting, windscreen washer.



Higher productivity for the operator

- Separate pedals for 3rd circuit and boom swing + forward and backward travelling possible with feet: possibility to combine various working movements and travelling.
- Single-action auxiliary circuit with pedal to add accessories (for example: hydraulic rock breaker, auger...).
- Second speed.
- Dual-action auxiliary circuit with the right joystick allowing a higher precision (for example: swivelling ditch cleaning bucket).

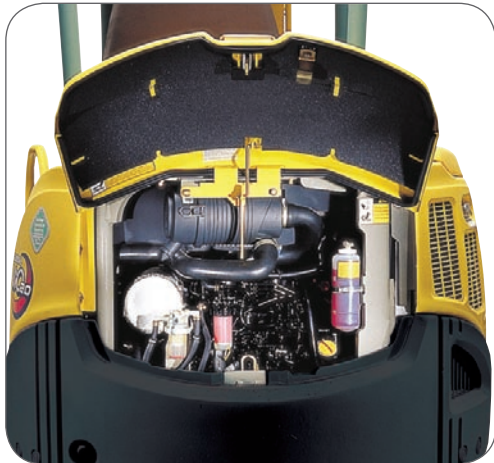
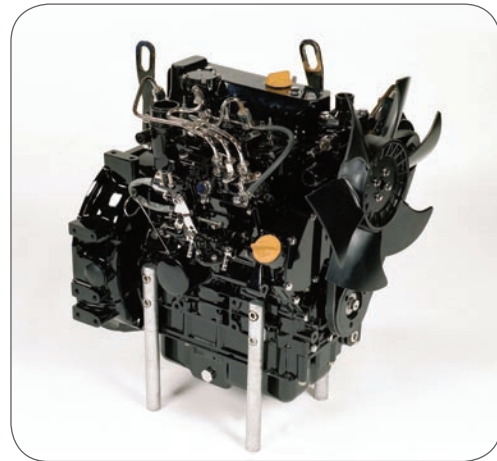
Yanmar, inventor and leader



Reliability and accessibility

A new-generation Yanmar “TNV” (Totally New Value) engine

- Improvement and modernisation of TNE series, which is already well-known for its “clean and quiet” profile:
 - reduced emissions for an even cleaner engine ;
 - noise reduction for an even quieter engine ;
 - improved starting (warms up faster).
- The new TNV series exceeds the most stringent emissions standards.



Easy access to maintenance points

- Large rear bonnet allowing access to all engine components and hydraulic pumps.
- Daily check points gathered under the front bonnet (top up oil, water, diesel).
- Quick access to test points of all hydraulic circuits from the pilot system.

of the **ZTS mini-excavators**



High performance

Hydraulic circuit Load-Sensing. Variable flow piston pump.

- Precise working movements.
- Simultaneous operations.
- Safety and productivity, particularly for operations requiring accuracy: grading.

Single-action auxiliary circuit with pedal



Second speed



Working equipment

- Dual or single-action auxiliary circuit to add various accessories (swivelling ditch cleaning buckets...).
- Integrated working lamp.
- Clean routing of flexible hoses in and on the boom.
- Cylinder protection on boom.



TECHNICAL SPECI

Engine

Yanmar Diesel 3 cylinders3TNV76-PBV
 Rated Output (DIN 6270B)14.3 kw/19.4 HP/2400 rpm
 Displacement..... 1115 cm³
 Max. torque68.6 N.m./1800 rpm

Load-Sensing hydraulic circuit

System capacity24.5 l Straight travelling
 Hydraulic tank capacity..... 16 l Direct return to hydraulic tank.....
 Max. pressure.....210 bar Accumulator
 Variable flow piston pump55 l/mn

Performances



Travelling speed..... 4.3/2.5 km/h Grade ability 30°
 Swing speed..... 9.7 rpm Shoe width250 mm
 Digging force (arm/bucket).....1200/1900 kgf Ground clearance.....280 mm
 Boom swing (L/R)47°/75° Blade (width x height).....1380 x 280 mm
 Ground pressure* 0.4/0.38kg/cm² *Cabin/Canopy


Miscellaneous

Fuel tank.....28.5 l
 Cooling system.....2.9 l
 Transport dimensions (L x w x h).....3895 x 1380 x 2458 mm
 Noise Level LwA (2000/14/EC & 2005/88/EC) 91/91 dBA*
 * Cabine/Canopy

Optional equipment

Special paint Anti-theft device
 Bio oil Mechanical quick coupler
 Anti-start system Hydraulic hammer
 Safety device for loading

PTO	Theoretical data	
	Pressure	2500 rpm
	0 ~ 190 bar	51 ~ 20.5 l/mn
	0 ~ 190 bar	51 ~ 20.5 l/mn

 • The output reduces as the pressure increases.

IFICATIONS



Operating weight +-2%

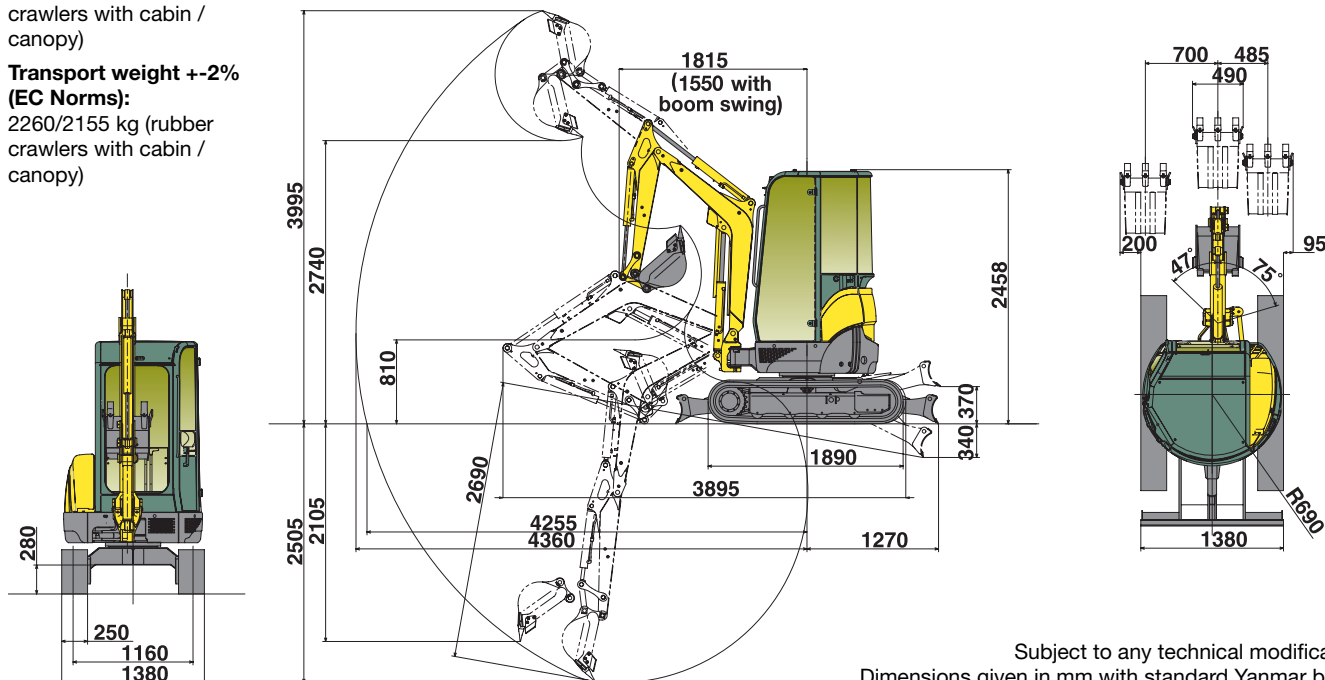
(EC Norms):

2335/2230 kg (rubber crawlers with cabin / canopy)

Transport weight +-2%

(EC Norms):

2260/2155 kg (rubber crawlers with cabin / canopy)



Subject to any technical modifications.
Dimensions given in mm with standard Yanmar bucket.

Blade on ground

A	Maxi		3.0 m		2.5 m		2.0 m		
B									
3.4	*390	*390	-	-	-	-	-	-	
2.5	290	*405	-	-	*335	*335	-	-	
2.0	245	*405	320	*400	*390	*390	-	-	
1.5	215	*425	305	*530	*495	*495	-	-	C
1.0	200	*425	270	*510	420	*615	605	*790	
0	210	*460	290	*600	390	*770	515	*1095	
-1.0	275	*475	-	-	375	*700	515	*980	
-1.5	360	*500	-	-	-	-	540	*735	

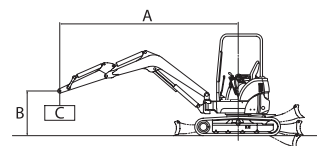
Machine with canopy, rubber crawlers, bucket of 52 kg (490 mm).

A: Overhang from rotational axis (m).

B: Height of hooking point (m).

C: Safe working load (kg).

(+ 4% with cab).



Blade above ground

A	Maxi		3.0 m		2.5 m		2.0 m		
B									
3.4	*390	*390	-	-	-	-	-	-	
2.5	290	320	-	-	*335	*335	-	-	
2.0	245	275	320	*400	*390	*390	-	-	
1.5	215	245	305	335	*495	*495	-	-	C
1.0	200	240	270	350	420	470	605	*790	
0	210	245	290	335	390	440	515	605	
-1.0	275	305	-	-	375	435	515	620	
-1.5	360	440	-	-	-	-	540	615	



Tipping load, rating over front



Tipping load, rating over side 90°

The data contained in these tables represent the lifting capacity in accordance with ISO standard 10567. They don't include the weight of the bucket and correspond to 75% of the maximum static tipping load or 87% of the hydraulic lifting power. Data marked * are the hydraulic limits of the lifting power.

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Printed in France – Materials and specifications are subject to change from the manufacturer without notice – Please contact your local Yanmar Construction Equipment Europe dealer for further information.

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