



AMMANN-YANMAR SAS

25, rue de la Tambourine - F-52100 SAINT DIZIER

sales@ammann-yanmar.fr

www.ammann-yanmar.com



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Mini-excavator



Vi020

- Operating weight : 2320/2215 kg
- Arm digging force : 1200 kgf
- Bucket digging force : 1900 kgf

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Mini-excavator



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Zero Tail Swing

**Yanmar, inventor
of the ZTS mini**

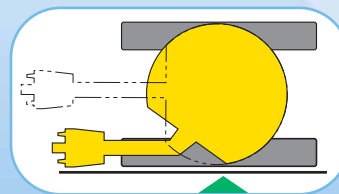
Design principles

- 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.



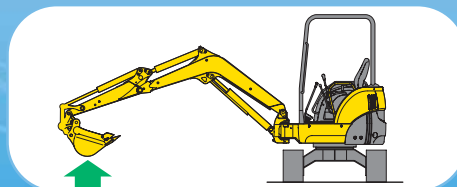
Advantages for the user

- 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.



Mini-excavator



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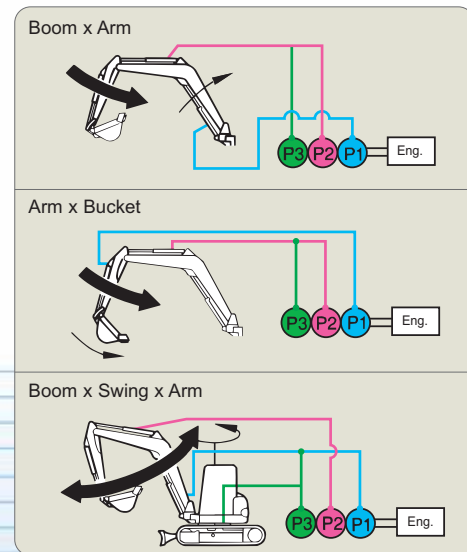


High performance



Hydraulic circuit "VIPPS®" (ViO Progressive 3 Pumps System)

- Hydraulic circuit using a variable flow double-piston pump, a gear pump and a multiple combination control valve.
- Oil flow from all pumps on demand for a higher work speed.
- Powerful and simultaneous operations, even during travel.



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.



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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).

Cabin version

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



Large safety lever

Wider access



Reliability and accuracy

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.





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.



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).



Single-action auxiliary circuit with pedal



Second speed

accessibility

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.



TECHNICAL SPECI

Engine

Yanmar Diesel 3 cylinders 3TNV76-PBV
 Rated Output (DIN 6270B) 14.3 kw/19.4 HP/2400 rpm
 Displacement 1115 cm³
 Max. torque 68.6 N.m./1800 rpm

Hydraulic circuit

System capacity 35 l
 Max. pressure 210 bar
 Variable flow dual piston pump 2 x 21.6 l/mn
 1 gear pump 1 x 21.12 l/mn

Performances

Travelling speed 4.4/2.2 km/h	Grade ability 30°
Swing speed 9.5 rpm	Shoe width 250 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* 0.4/0.38 kg/cm ²	*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) 93/93 dBA*
 *Cabin/Canopy



Optional equipment

Special paint	Safety device for loading
Bio Oil	Anti-theft device

PTO	Theoretical data	
	Pressure	2400 rpm
	0 ~ 170 bar	42.7 ~ 28.1 l/mn
	0 ~ 170 bar	42.7 ~ 28.1 l/mn

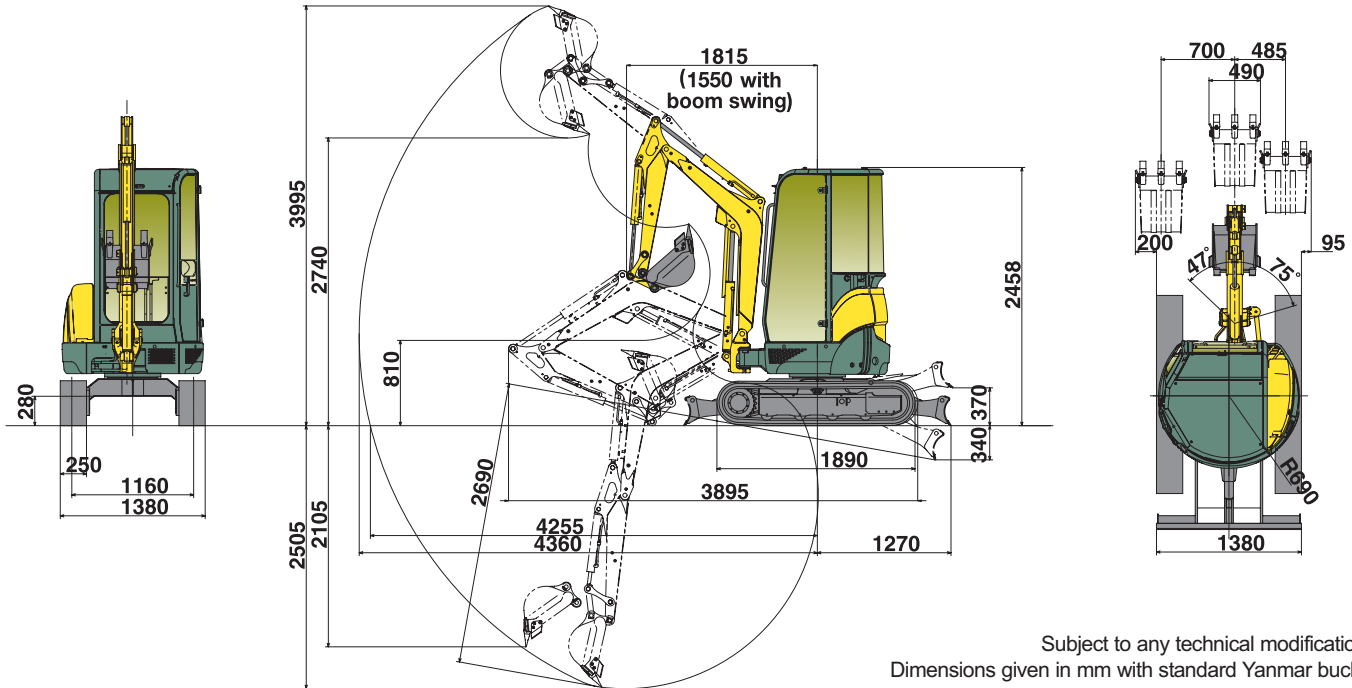
• The output reduces as the pressure increases.



IFICATIONS



Operating weight +2% :
2320/2215 kg (cabin/canopy)

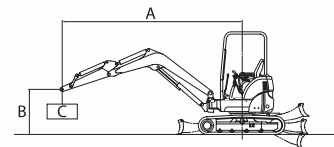


Subject to any technical modifications.
Dimensions given in mm with standard Yanmar bucket.

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	-	-
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	-	-
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 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.