

VANGUARD®



A DIESEL ALTERNATIVE

**Vanguard® V-Twin
EFI/ETC Engine**
29,9 Gross kW*
(40,0 Gross HP*)



Unrelenting. Robust Power.

Vanguard V-Twin EFI/ETC 29,9 Gross kW*
(40,0 Gross HP*) Engine

Your work requires an efficient and durable diesel alternative power solution – look no further than the new Vanguard V-Twin 29,9 Gross kW* engine featuring Electronic Fuel Injection (EFI) and Electronic Throttle Control (ETC) technology.

VERSATILE POWER

Whether powering concrete trowels, remote controlled equipment, wood chippers or more, the Vanguard V-Twin EFI/ETC 29,9 Gross kW* **EU Stage 5 Compliant** engine delivers the durable performance your job demands. The compact engine design delivers more useable power without any additional weight, resulting in an exceptional power-to-weight ratio. The combination of EFI and ETC technology provides improved load acceptance together with automatic altitude compensation on start-up to ensure smoother operation with more consistent power and torque when working at higher elevations. Featuring choke-less all-weather electric starting enables the engine to be started remotely making it the perfect power solution for unmanned equipment.

POWERING WITH VANGUARD EFI/ETC

Designed to keep your engineering costs to a minimum, the new Vanguard V-Twin EFI/ETC 29,9 Gross kW* engine is easy to install and is available with a broad range of accessories together with application engineering support from our Power Application Center to make your repower as simple and efficient as possible.

**Designed, engineered and
hand-assembled in the USA.**



* All power levels are stated gross kilowatt at 3'600 rpm per SAE J1940 as rated by Briggs & Stratton.



KEY FEATURES	HIGHER DURABILITY	SUPERIOR AIR MANAGEMENT	REDUCED NOISE, VIBRATION & HARSHNESS
Heavy-Duty Cylinder & Sump	●		
High-Efficiency Head Design	●		
Forged Connecting Rods	●		
High-Capacity Oil Pump	●		
Cast Aluminium Valve Covers	●		●
Dynamically Balanced Crankshaft	●		●
Automotive Material Pistons	●		●
Cyclonic / Flat Panel Air Cleaner	●	●	
External Oil Cooler	●		
High-Flow Blower Housing & Static Guard		●	
Balanced Flywheel			●

GET MORE POWER, USE LESS FUEL



With the automotive-style EFI, the 29,9 Gross kW* engine can reduce fuel consumption† compared to carbureted equivalents.

CONSISTENT POWER



Vanguard ETC technology reacts instantaneously to any applied load from its environment to ensure consistent engine speed and maintain power when the application demands it.

VANGUARD EFI/ETC MEANS:

POTENTIAL FUEL SAVINGS

as fuel is delivered more efficiently.

NO-CHOKE, NO-HASSLE STARTING

regardless of temperature and pressure.

MORE POWER

to get more done.

SMOOTH AND CONSISTENT POWER

in any condition.

LOAD PICKUP

with on-demand power.

ALTITUDE COMPENSATION

for worry-free performance at all altitudes.

STALE FUEL RESISTANCE

so your engine is ready when you are.

† Fuel consumption saving potential is dependent upon application and usage conditions.

* All power levels are stated gross kilowatt at 3'600 rpm per SAE J1940 as rated by Briggs & Stratton.

** See vanguardpower.com for warranty details.

Vanguard EFI/ETC

29,9 Gross kW*

UNDENIABLE POWER.

The 29,9 Gross kW* (40,0 Gross HP*) Vanguard EFI/ETC engine is designed to deliver maximum power with increased torque. Featuring EFI and ETC technologies, this engine is designed to deliver easy all-weather starting together with improved load acceptance and instant power on-demand. Ideal for powering: utility vehicles, wood chippers, construction equipment, agricultural equipment and remote operational machinery.



29,9
Gross kW*

993
Displacement (cc)

2
No. of Cylinders

PETROL
Fuel Type

Engine Type	V-Twin, 4-stroke, air cooled, OHV (Overhead Valve)
Model Number	61G2
Gross Power kW (HP) @ 3'600 rpm	29,9* (40,0*)
Displacement (cc)	993
Cylinder	Cast iron sleeve
Bore & Stroke (mm)	85,5 x 86,5
Fuel Tank Capacity (l)	N/A
Oil Capacity (l)	2,3
Dry Weight (kg)	56,7
Dimensions L x W x H (mm)	See dimensional drawings

STANDARD FEATURES:

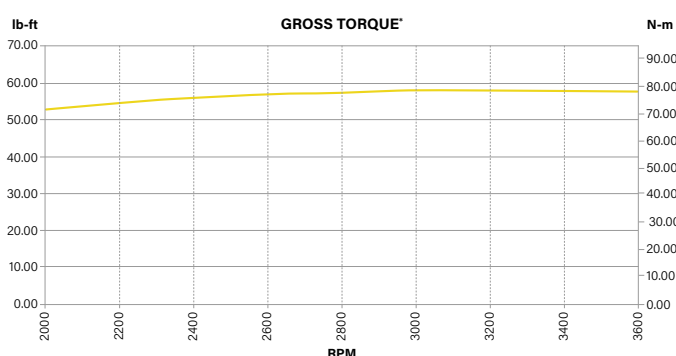
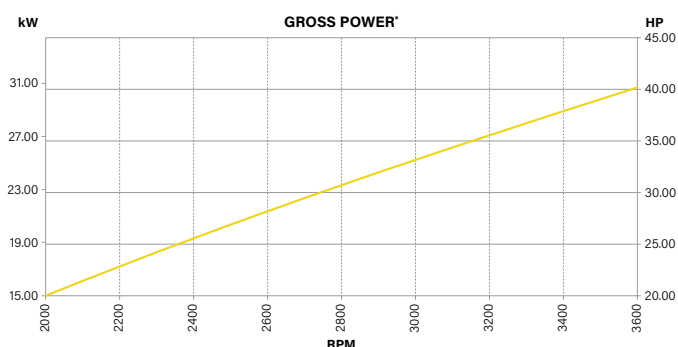
- > Electronic fuel injection
- > Electronic throttle control
- > Oil filter
- > Full pressure lubrication
- > Oil cooler
- > Electric start
- > Dynamically balanced crankshaft
- > Cyclonic air cleaner
- > Oil pressure switch
- > CANJ1939 communications

OPTIONAL FEATURES:

- > Flywheel stub shaft
- > Tach/hour meter with check engine light
- > Alternators (20, 20-50 amp)
- > High and mid mounted mufflers
- > Flat panel air cleaner

CRANKSHAFT OPTIONS:

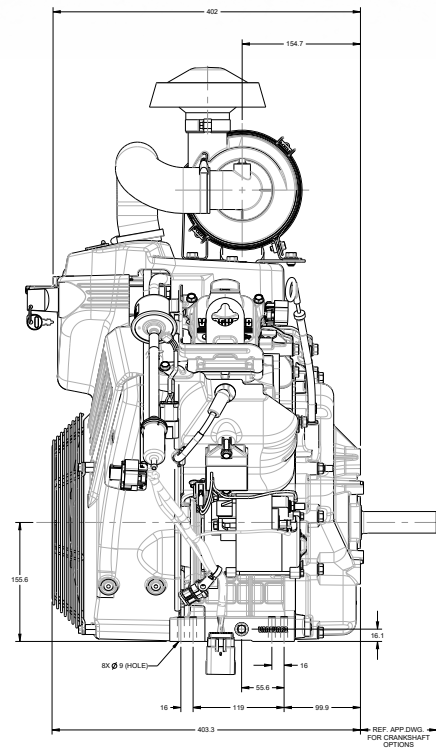
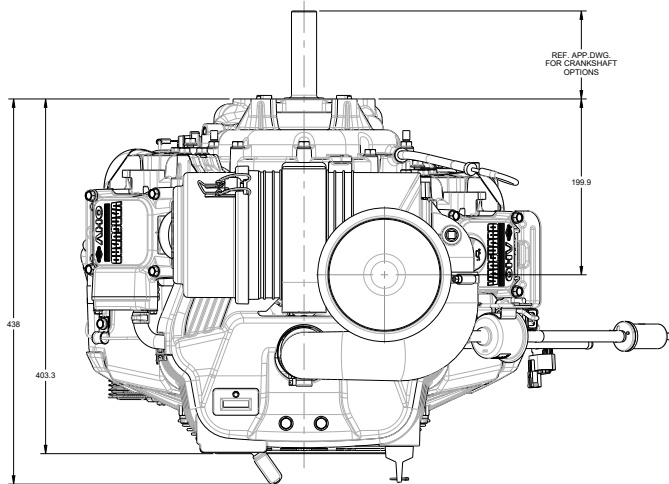
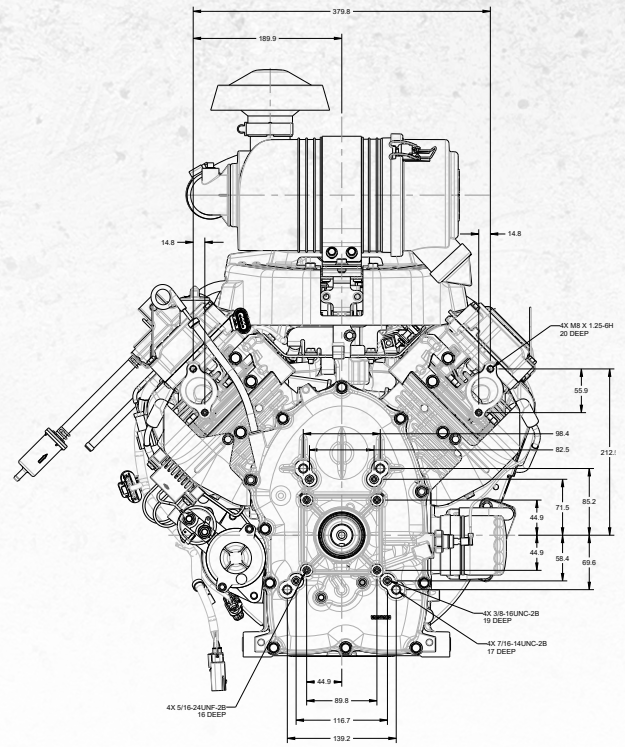
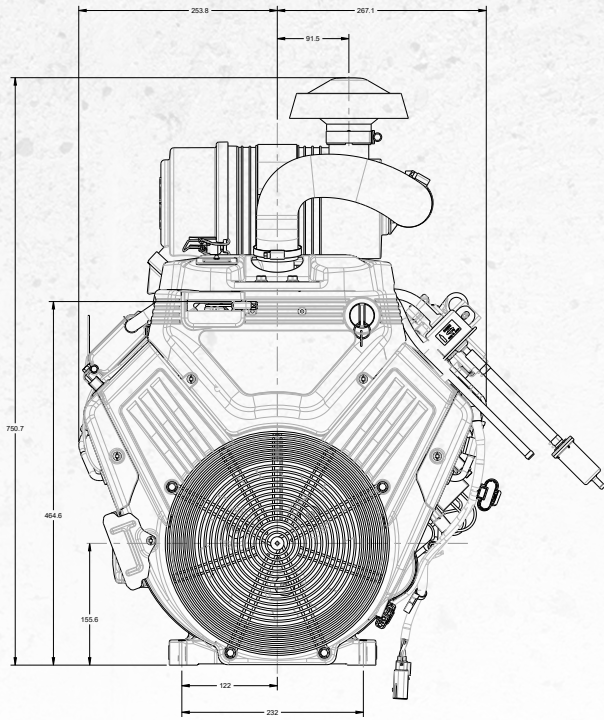
- > 1-1/8" and 1-7/16" straight keyway (28.5 and 36.5mm dia.)
- > Tapered SAE 2.25"/12" and 10:1 taper
- > Spline crankshaft (11-tooth & 13-tooth)



* All power (kW) and torque (Nm) levels are stated Gross per SAE J1940 as rated by Briggs & Stratton

** See www.vanguardpower.com for warranty details.

DIMENSIONS (unit mm)



Technical drawing of the 1000 Series 1/2" (Figure 1000 Series 1/2"). The drawing shows two views: a front view (left) and a side view (right). The front view shows a circular cross-section with a central hole. The side view shows the profile of the component with a threaded section.

Dimensions and tolerances:

- Top view (left):
 - Outer diameter: 6.31-6.36 [0.2485-0.2503]
 - Inner diameter: 24.79-25.04 [0.9760-0.9858]
- Side view (right):
 - Overall length: 100.075 [3.94]
 - Distance from end to start of thread: 81 [3.189]
 - Thread specification: SAE 7/16-20 UNF-2B THREAD
 - Thread length: 38 [1.496] MIN. FULL THREAD
 - Distance from end to start of thread (with tolerance): 28.55^{+0.025}₀
 - Distance from end to start of thread (with tolerance): 1.124^{+0.0009}_{-0.0000}

Technical drawing of a 1/2-20 UNF-2B threaded plug. The drawing shows a side view of the plug with the following dimensions and features:

- Overall length: 96.63 [3.804]
- Thread specification: SAE 5/16-24 UNF-2B THREAD
- Thread length: 28 [1.102] MIN. FULL THREAD
- Internal thread specification: Ø 35±0.1 [1.378±0.0039]
- Feature: 2.25 TAPER PER FOOT

Technical drawing of a crankshaft end view. The drawing shows a cross-section of the crankshaft with various components labeled. Dimensions are provided in inches and millimeters:

- Top dimension: 25 [0.9843]
- Right dimension: 17.75 [0.6988]
- Bottom dimension: 38 [1.4961]

Text on the right side of the drawing: CRANKSHAFT END TO CUSTOMER MTO FACE

11 TOOTH
INVOLUTE SPLINE
6/32 DIAMETRIC PITCH
30° PRESSURE ANGLE

13 TOOTH
INVOLUTE SPLINE
6/32 DIAMETRIC PITCH
30° PRESSURE ANGLE

[illegible]

Technical drawing of a 1/2-20 UNF-2B threaded rod with a 3/8 inch diameter. The drawing includes a side view and an end view. Dimensions are given in inches and millimeters. The side view shows a total length of 83 inches [3.268], a threaded section length of 65 inches [2.559], and a diameter of 3/8 inch [1.496]. The end view shows a major diameter of 6.31-6.36 inches [0.249-0.250] and a minor diameter of 24.79-25.04 inches [0.976-0.985]. A tolerance table is provided for the dimensions.

1.124	+0.0009 -0.0000
28.55	+0.025 0

SAE 7/16-20 UNF-2B THREAD

Technical drawing of a 1/2-20 UNF-2B threaded plug. The drawing includes a side view and a top view. Dimensions are provided in inches [in millimeters].

Side View Dimensions:

- Total length: 37 [1.457]
- Threaded section length: 28.55 $\begin{matrix} +0.025 \\ 0 \end{matrix}$
- Thread specification: SAE 7/16-20 UNF-2B THREAD
- Unthreaded section length: 38 [1.496]
- Overall diameter: 55 [2.165]

Top View Dimensions:

- Outer diameter: 6.31-6.36 [0.249-0.250]
- Inner diameter: 24.79-25.04 [0.976-0.985]

[†] Pilot diameter and hole locations meets SAE C specifications. Outline shape is unique for Vanguard but does not affect pump mounting.

Why Power with the 29,9 Gross kW* EFI/ETC Engine:

The new EFI/ETC engine is application engineered to deliver maximum power and consistent performance to get work done.

APPLICATION EFFICIENCY

- > Superior power-to-weight ratio
- > Optimized weight, noise and vibration
- > Load pickup with on-demand power
- > Altitude compensation
- > CAN J1939 remote operation capabilities

RELIABILITY

- > Easy all weather choke-less starting
- > Improved stale fuel resistance

DURABILITY

- > Heavy duty sump and cylinder
- > Automotive material pistons
- > IP 66 connectors
- > 3-year limited commercial warranty**

POWER APPLICATION EXPERTS

- > Full application engineering support from our Power Application Center to ensure the best integration of engine and machine at no added cost

EMISSIONS COMPLIANT

- > EU Stage 5 and US emissions compliant

MAINTENANCE

- > No expensive diesel particulate filter required
- > Easier routine maintenance checks
- > Remote diagnostics capabilities for easier and faster trouble shooting leading to reduced equipment downtime and improved ROI.



Every Vanguard engine is backed by a full **3-year limited commercial warranty**** and a comprehensive factory trained dealer network.

Markets and Applications

The new Vanguard 29,9 Gross kW* engine is the best power solution to ensure improved equipment productivity even in the toughest work conditions:



CONSTRUCTION & INDUSTRIAL

Ride-on trowels
Hydraulic power pack
Street painting equipment
Fire pumps
Drain jetting packs
Water pumps
Pressure washers



FORESTRY

Wood chippers



OUTDOOR EQUIPMENT

Gensets
Remote or unmanned equipment

Plus many more applications.

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GETTING THE JOB DONE.

ENGINE TECHNICAL SPECIFICATIONS



ENGINE	29,9 Gross kW* (40,0 Gross HP*)
MODEL NUMBER	61G2
DISPLACEMENT CC	993
WEIGHT kg	56,7
LENGTH mm	379
WIDTH mm	496
HEIGHT mm	725
OIL CAPACITY ltr	2,3
VALVE CONFIGURATION	Overhead Valve (OHV)
CYLINDER	Cast Iron Sleeve
AIR CLEANER	5" Cyclonic Air Cleaner
IGNITION	Digital Ignition Coils
LUBRICATION	Full Pressure Lubrication
DATA COMMUNICATIONS	CAN J1939 Communications

OPTIONS

KEY SWITCH	●
FLAT PANEL AIR CLEANER	●
FLYWHEEL STUB SHAFT	●
TACH/HOUR METER WITH CHECK ENGINE LIGHT	●
ENGINE-MOUNTED THROTTLE CONTROL	●
MUFFLER OPTIONS AVAILABILITY	●

VANGUARD

BRIGGS & STRATTON

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WWW.VANGUARDPOWER.COM

The gross power rating for individual gasoline engine models is labeled in accordance with SAE (Society of Automotive Engineers) code J1940 Small Engine Power & Torque Rating Procedure, and is rated in accordance with SAE J1995. Torque values are derived at 2600 RPM for those engines with "rpm" called out on the label and 3060 for all others; horsepower values are derived at 3600 RPM. The gross power curves can be viewed at www.BRIGGSandSTRATTON.COM. Net power values are taken with exhaust and air cleaner installed whereas gross power values are collected without these attachments. Actual gross engine power will be higher than net engine power and is affected by, among other things, ambient operating conditions and engine-to-engine variability. Given the wide array of products on which engines are placed, the gasoline engine may not develop the rated gross power when used in a given piece of power equipment. This difference is due to a variety of factors including, but not limited to, the variety of engine components (air cleaner, exhaust, charging, cooling, carburetor, fuel pump, etc.), application limitations, ambient operating conditions (temperature, humidity, altitude), and engine-to-engine variability. Due to manufacturing and capacity limitations, Briggs & Stratton may substitute an engine of higher rated power for this engine.

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