WARGUARD

2022 VANGUARD° Power Guide -

Europe, Middle East and Africa

WANGUARD





VANGUARD® 160, 200 and 400 Single-Cylinder Offer





Steve Andrews President & CEO Briggs & Stratton, LLC

Greetings, Valued Briggs & Stratton Customer:

It's been a busy several months since I joined Briggs & Stratton as President and CEO in September 2020. During this time, I've had the opportunity to meet virtually with many of our customers to hear first hand what is needed from us to be a best-in-class partner, supplier, innovator and support team. This is important to all of us at Briggs & Stratton, as focusing on the customer is one of the most important guiding principles driving our business.

As we focus on building a stronger future, there are several things you can count on from us:

- » We are committed to providing best-in-class power solutions to our customers.
- » Our engine business remains a core part of our expanding power portfolio.
- » We will invest significantly in new power technologies like commercial batteries to keep you at the forefront of market-driven innovation.
- » Backed by a 113-year legacy, we have more expertise in providing and applying power than anybody else in the industry; and we will use that expertise to help you deliver continuous technology improvements to make your work easier.
- » Innovation, new products and growth will be key to a stronger future.

Leading this iconic company over the past several months has been an honour. I look forward to many years of success ahead and thank you for your continued loyalty to Briggs & Stratton.

Steve Andrews

SAFEGUARD

vour investment.





Register your VANGUARD® 160, 200 or 400 single-cylinder on www.vanguardpower.com for an extra 1 YEAR Global Limited Commercial Warranty.**

Industry leading protection.



V-Twin 29,9 Gross kW **EFI / ETC Engine**

Power to perform.

The new VANGUARD® 29,9 Gross kW EFI / ETC engine delivers optimal power when it's demanded. The combination of EFI and ETC technology results on a smoother performance, improved stale fuel resistance, more consistent power and reduced fuel consumption.

Productivity defined.







- els are stated gross kilowatt at 3'600 rpm per SAE J1940 as rated by Briggs & Stratton
- See www.vanguardpower.com for warranty details.
- Fuel savings may vary based on operating conditions.



NEW Commercial Battery Packs

Leading a revolution in power.



The VANGUARD Commercial Battery is an integrated battery system designed to power multiple commercial applications. Our battery pack, Battery Management System (BMS) and charger were designed to work seamlessly with each other, for the most efficient performance.





Seamless integration.

This is the next generation of power.

Integrated battery system. One solution - multiple applications.



BATTERY

BMS

CHARGER

Discover more about VANGUARD® Commercial Battery Packs in pages 38 - 40.

- The battery pack is silent, however the application itself may make noise.
- * See www.vanguardpower.com for warranty details.

The competition is shaking.

Our engines are not.

- Easy starting by design
- Lower noise and vibration by design
- Extreme operation by design
- ✓ Reduced TCO by design
- ✓ TransportGuard[™] by design
- Drop-fit by design
- Easy maintenance by design
- ✓ Power Application Centre support
- European Stage 5 exhaust emissions compliant

Choosing the VANGUARD® single-cylinder engines benefit you and your customers.

TRUST THE POWER





Quieter Operation



Oil Replacement



Lower Vibration



Air-Cleaner Life



Angle of Operation**



Fuel Shut Off System



Less Oil Waste*





3+1 Commercial Limited Warranty[†]

- * Based on manufacturer's service recommendations per operator's manuals.
- ** High Inclination Package optional. Refer to equipment operators manual for usage instructions.
- Applies only to VANGUARD* 160, 200 and 400 after engine registration. Additional 1 year limited commercial warranty available for free subject to engine registration on www.vanguardpower.com. See www.vanguardpower.com for warranty detail.

Productivity. Defined.

You have no time for wasted time. That's why everything we do is focused on increasing your productivity and your bottom line. Our VANGUARD® commercial-grade engines deliver unrelenting, reliable performance. And practical innovations make them easier to start and maintain.

But that's just the beginning. Our commitment to keeping you running all day – day after day – includes a dealer network designed to support your needs. It's backed by genuine parts delivered within 48 hours, 24/7 technical support, expert training, and fast warranty recovery.

That's our total solution to lower your cost of ownership, increase productivity and decrease downtime.

That's the VANGUARD® advantage.



World-class parts delivery and availability



- » A state-of-the-art Netherlands warehouse facility built in 2016 and a robust network of 80+ **Distribution Partners**
- » Parts delivery within 24/48 hours

Industry leading commercial warranty



- 3-year global commercial limited engine warranty*
- » 90% of claims processed in 48 hours or less
- » 24/7/365 online claim submittal
- » European-based Power Application Centre

Dedicated commercial technical support and resources



- » Highly skilled, industry-expert support staff
- » International network of commercially-focused dealers
- » 24/7 online support through our Power Portal
- » Access to the documentation you need: Illustrated Parts List, Replacement Engine Data and Service Bulletins

Right parts, right price



- » Over 20,000 genuine parts in inventory
- Competitively priced parts so you can focus on your bottom line

Unmatched service education



- » Manufacturer-certified classroom training and advanced EFI training for dealers
- 99% competency rate among the technicians we certify every single year
- Over 6.000 technicians certified worldwide every year

See www.vanguardpower.com for warranty details.



Optimizing equipment productivity and reducing downtime are the most important factors for commercial users. Oil Guard™ technology exclusive to VANGUARD® significantly reduces the time and costs associated with oil maintenance by providing enhanced oil protection resulting in extended oil life for hard working commercial engines.



Advanced oil protection & maintenance.



Oil Guard™ benefits:

- » Extended maintenance intervals from **100** to **500 hours**
- » 60% cost savings per unit per season*
- » Lower labour costs
- » Engine can operate continuously at angles up to 45°**
- » Cleaner, easier and faster oil changes
- » Thermal breakdown protection
- » Fewer oil changes
- » 82% larger filter decreases oil aeration
- » Wider oil opening no mess and no need for a funnel
- » Longer engine life

Cost savings are based on standard oil maintenance with 100-hour interval versus the new Oil Guard System 500-hour service interval.

^{**} Refer to specific usage/operating conditions as approved by the equipment manufacturer in the operator's manual.







Electronic Fuel Injection (EFI)

Our VANGUARD* V-Twin EFI engines feature an automotive-based, EFI system that delivers easier starting and improved performance, with fuel savings of up to 25%.*



Electronic Throttle Control (ETC)

VANGUARD* ETC technology reacts instantaneously to any applied load from its environment to maintain power when the application demands it. The flywheel speed sensor detects any change in RPM and sends a signal to the throttle body, ensuring consistent engine speed - which means consistent power and quality of cut.

Fuel savings may vary based on cutting conditions and other factors



TransportGuard™

One of the most common issues with petrol powered rental equipment is the operator failing to shut off the fuel supply before transporting the equipment. Failure to shut off the fuel supply results in costly oil and fuel dilution. With the innovative TransportGuard™ system, exclusive to VANGUARD* 3,7 - 10,4 Gross Kilowatt¹ engines, simply move the TransportGuard™ lever to shut off both engine and fuel supply simultaneously.

This system eliminates operator error and ensures trouble free equipment transportation. Problem solved.



[†] Power levels are stated gross kilowatt at 3'600 rpm per SAE J1940 as rated by Briggs & Stratton.

VANGUARD® Horizontal Shaft Commercial Engines

Model Number	e	Pag
10V3	VANGUARD* 160 – 3,7 Gross kW Single-cylinder, 4-stroke, air-cooled, OHV	16
12V3	VANGUARD* 200 – 4,8 Gross kW Single-cylinder, 4-stroke, air-cooled, OHV	17
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2964, 3054	VANGUARD* 10,4 - 11,9 Gross kW V-Twin, 4-stroke, air-cooled, OHV	22
3564	VANGUARD* 13,4 Gross kW V-Twin, 4-stroke, air-cooled, OHV	23
3854, 3864	VANGUARD* 15,7 - 17,2 Gross kW V-Twin, 4-stroke, air-cooled, OHV	24
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38E3	VANGUARD* EFI 17,2 Gross kW V-Twin, 4-stroke, air-cooled, OHV with EFI	28
54E1	VANGUARD* EFI 24,6 Gross kW V-Twin, 4-stroke, air-cooled, OHV with EFI	29
61E1, 61E3	VANGUARD* EFI 26,1 - 27,6 Gross kW V-Twin, 4-stroke, air-cooled, OHV with EFI	30
61G2	VANGUARD* EFI / ETC 29,9 Gross kW V-Twin, 4-stroke, air-cooled, OHV with EFI / ETC	31

VANGUARD® Vertical Shaft Commercial Engines

32	VANGUARD® 11,9 Gross kW V-Twin, 4-stroke, air-cooled, OHV	3057
33	VANGUARD® 13,4 Gross kW V-Twin, 4-stroke, air-cooled, OHV	3567
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35	VANGUARD* 17,9 - 19,4 Gross kW V-Twin, 4-stroke, air-cooled, OHV	49V6, 49R9
36	VANGUARD® EFI 20,9 Gross kW V-Twin, 4-stroke, air-cooled, OHV with EFI	49E8

VANGUARD® Commercial Battery Packs

TBC	NEW VANGUARD* 3,8kWh Commercial Battery Pack 48V Lithium-lon battery, integrated battery management system	38
80095528	VANGUARD* 5kWh Commercial Battery Pack 48V Lithium-lon battery, integrated battery management system	39
твс	NEW VANGUARD* 10kWh Commercial Battery Pack 48V Lithium-lon battery, integrated battery management system	40

WANGUARD

THE RENTAL ENGINE



- Simplified 3 step starting
- ✓ Easy starting down to -29°C*
- ✓ TransportGuard™ technology for engine protection
- Quieter engine and lower vibration
- √ 50% less maintenance than the industry standard[±]
- Reduced total cost of ownership
- ✓ 3+1 commercial limited warranty[†]
- † Applies only to VANGUARD* 160, 200 and 400 after engine registration. Additional 1 year limited commercial warranty available for free subject to engine registration on www.vanguardpower.com. See www.vanguardpower.com for warranty details.
- * Based on manufacturer's service recommendations per operator's manuals.
- \neq Compared to leading competitors. Results may vary based upon application and conditions.

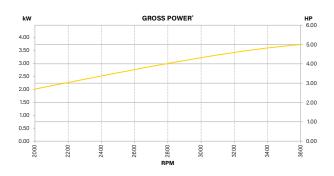
"The new generation of VANGUARD" single-cylinder engines offer many game-changing improvements.

The engines allow us to cut our equipment service intervals almost by half and drop our oil waste and recycling, thus reducing the environmental impact of our fleet."

Guy Cremer - Director of Fleet Operations, Boels Rental



Engine type	Single-cylinder, 4-stroke, air cooled, OHV (Overhead Valve)
Model number	10V3
Gross power kW (HP) @ 3'600 rpm	3,7° (5,0)
Displacement (cc)	169
Cylinder	Cast iron sleeve
Bore & stroke (mm)	62,0 x 56,0
Fuel tank capacity (I)	3,1
Oil capacity (I)	0,6
Dry weight (kg)	17,9
Dimensions L x W x H (mm)	274 x 366 x 361
Features	TransportGuard [™] , dual ball bearing, integrated cyclonic air cleaner, Super Lo-Tone [™] muffler
Optional	Electric start, low oil sensor, 45° inclination package, clear flange muffler



All power levels are stated gross kilowatts per SAE J1940 as rated by Briggs & Stratton.

^{**} Extra year warranty after engine registration. See www.vanguardpower.com for warranty details.









Engine type	Single-cylinder, 4-stroke, air cooled,
	OHV (Overhead Valve)

Model number 12V3

Gross power kW (HP) 4,8* (6,5)

Displacement (cc) 203

. . .

Cylinder Cast iron sleeve

Bore & stroke (mm) 68,0 x 56,0

Fuel tank capacity (I)
Oil capacity (I)

Dry weight (kg)

Dimensions L x W x H (mm)

Features

289 x 375 x 361

TransportGuard™, dual ball bearing,

integrated cyclonic air cleaner,

Super Lo-Tone™ muffler

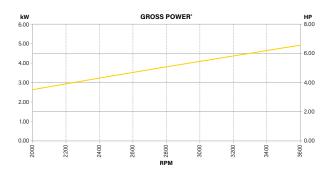
Optional Electric start, low oil sensor, 45° inclination package,

3.1

0.6

17,9

clear flange muffler



All power levels are stated gross kilowatts per SAE J1940 as rated by Briggs & Stratton.

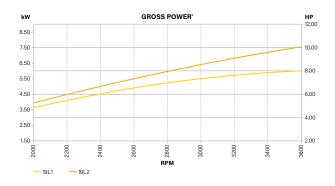
Extra year warranty after engine registration. See www.vanguardpower.com for warranty details.







Engine type	Single-cylinder, 4-stroke, air cooled, OHV (Overhead Valve)		
Model number	19L1	19L2	
Gross power kW (HP) @ 3'600 rpm	6,0* (8,0)	7,5* (10,0)	
Displacement (cc)	305		
Cylinder	Cast iron sleeve		
Bore & stroke (mm)	79,2 x 61,9		
Fuel tank capacity (I)	3,6		
Oil capacity (I)	0,8		
Dry weight (kg)	25,9		
Dimensions L x W x H (mm)	314 x 422 x 403		
Features	TransportGuard [™] , dual ball bearing, Super Lo-Tone [™] muffler		
Optional	Electric start, low oil sensor		



^{*} All power levels are stated gross kilowatts per SAE J1940 as rated by Briggs & Stratton.

^{**} See www.vanguardpower.com for warranty details.









Engine type Single-cylinder, 4-stroke, air cooled, OHV (Overhead Valve)

25V3 Model number

Gross power kW (HP)

10,4* 408

@ 3'600 rpm

(14.0)

Displacement (cc)

Cylinder

Cast iron sleeve

Bore & stroke (mm)

88,0 x 67,0

Fuel tank capacity (I)

6.1

Oil capacity (I)

0.94

Dry weight (kg)

35,5 363 x 455 x 460

Dimensions LxWxH(mm)

Features

Optional

TransportGuard™, dual ball bearing,

Super Lo-Tone™ muffler,

integrated cyclonic air cleaner

Electric start, low oil sensor,

45° inclination package,

clear flange muffler



All power levels are stated gross kilowatts per SAE J1940 as rated by Briggs & Stratton.

Extra year warranty after engine registration. See www.vanguardpower.com for warranty details.



Protects your engine. Increases productivity.



- Based on standard oil maintenance with 100-hour interval versus Oil Guard™ system 500-hour service interval.
- Refer to specific usage/operating conditions as approved by the equipment manufacturer in the operator's manual.

INNOVATION · TECHNOLOGIES GROUNDBREAKING POWER SOLUTIONS





Only available on the new VANGUARD⁶ EFI / ETC 29,9 Gross kW engine







Engine type	V-Twin, 4-stroke, air cooled,
	OHV (Overhead Valve)

2964 Model number 3054 Gross power kW (HP) 10,4* 11,9*

@ 3'600 rpm (14,0)(16,0)

Displacement (cc) 479

Cast iron sleeve Cylinder

Bore & stroke (mm) 68,0 x 66,0

1.7 Oil capacity (I) Dry weight (kg) 32,7

Fuel tank capacity (I)

Dimensions 279 x 410 x 438

Oil filter, full pressure lubrication

NA

LxWxH(mm) **Features**

Optional



Rewind start, fuel tank†, muffler

All power levels are stated gross kilowatts per SAE J1940 as rated by Briggs & Stratton.

^{**} See www.vanguardpower.com for warranty details.

HORIZONTAL · V-TWIN VANGUARD° 13,4 GROSS kW*





Engine type

V-Twin, 4-stroke, air cooled,

OHV (Overhead Valve)

Model number 3564

Gross power kW (HP) 13,4* (18,0)

Displacement (cc) 570

Cylinder Cast iron sleeve

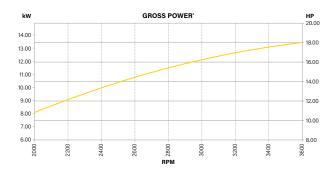
Bore & stroke (mm) 72,0 x 70,0 Fuel tank capacity (I) NA

Oil capacity (I) 1,7

Dry weight (kg) 33,6

Dimensions 318 x 410 x 438 L x W x H (mm)

Features
Oil filter, full pressure lubrication
Optional
Rewind start, fuel tank†, muffler



^{*} All power levels are stated gross kilowatts per SAE J1940 as rated by Briggs & Stratton.

^{**} See www.vanguardpower.com for warranty details.





Engine type	V-Twin, 4-stroke, air cooled OHV (Overhead Valve)

 Model number
 3854
 3864

 Gross power kW (HP)
 15,7*
 17,2*

Displacement (cc) 627

Cylinder Cast iron sleeve

Bore & stroke (mm) 75,5 x 70,0

Fuel tank capacity (I) NA

Oil capacity (I) 1,7

Dry weight (kg) 35,0

Dimensions 318 x 407 x 449 L x W x H (mm)

Features Oil filter, full pressure lubrication

Rewind start, fuel tank[†], muffler, cyclonic air cleaner

Features Oil f
Optional Rew



All power levels are stated gross kilowatts per SAE J1940 as rated by Briggs & Stratton.

^{**} See www.vanguardpower.com for warranty details.





Engine type	V-Twin, 4-stroke, air cooled, OHV (Overhead Valve)			
Model number	5404	5414	5424	5434
Gross power kW (HP) @ 3'600 rpm	18,7* (25,0)	20,1* (27,0)	21,6* (29,0)	23,1* (31,0)
Displacement (cc)	896			
Cylinder	Cast iron sleeve			
Bore & stroke (mm)	85,5 x 78,0			
Fuel tank capacity (I)	NA			
Oil capacity (I)	2,3			
Dry weight (kg)	56,8			
Dimensions L x W x H (mm)	379 x 49	96 x 725		
Features	Oil filter, full pressure lubrication.			

cyclonic air cleaner

Muffler, flat panel air cleaner



^{*} All power levels are stated gross kilowatts per SAE J1940 as rated by Briggs & Stratton.

Optional

^{**} See www.vanguardpower.com for warranty details.





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Engine type	V-Twin, 4-stroke, air cooled,
	OHV (Overhead Valve)

 Model number
 6114
 6134

 Gross power kW (HP)
 24,6°
 26,1°

 @ 3'600 rpm
 (33,0)
 (35,0)

Displacement (cc) 993

Cylinder Cast iron sleeve
Bore & stroke (mm) 85,5 x 86,5

Fuel tank capacity (I) NA
Oil capacity (I) 2,3
Dry weight (kg) 56.8

 Dry weight (kg)
 56,8

 Dimensions
 379 x 496 x 725

LxWxH(mm)

Features Oil filter, full pressure lubrication,

cyclonic air cleaner

Optional Muffler, flat panel air cleaner



^{*} All power levels are stated gross kilowatts per SAE J1940 as rated by Briggs & Stratton.

^{**} See www.vanguardpower.com for warranty details.

WARGUARD[®]





Our VANGUARD® V-Twin EFI engines feature an EFI system that delivers easier starting and improved performance.

For more information about the VANGUARD V-Twin EFI engines and details of the 3-year limited global warranty visit www.VANGUARDPOWER.com

TRUST THE POWER*





Engine Type V-Twin, 4-stroke, air cooled, OHV (Overhead Valve)

Model number 38E3 17,2*

Gross Power kW (HP) @ 3'600 rpm

(23,0)

Displacement (cc)

627

Cylinder

Cast iron sleeve

Bore & stroke (mm)

75,5 x 70,0

Fuel Tank Capacity (I)

NA

Oil Capacity (I)

1.7

Dry Weight (kg)

35,0

Dimensions LxWxH(mm) 318 x 407 x 449

Features

Electronic governor, oil filter, full pressure lubrication, EFI

Optional

Rewind start, muffler, cyclonic air cleaner



All power levels are stated gross kilowatts per SAE J1940 as rated by Briggs & Stratton.

^{**} See www.vanguardpower.com for warranty details.

HORIZONTAL · V-TWIN EFI VANGUARD® EFI 24,6 GROSS kW*



Engine Type

V-Twin, 4-stroke, air cooled,
OHV (Overhead Valve)

Model number 54E1

Gross Power kW (HP) @ 3'600 rpm 24,6* (33,0)

Displacement (cc)

896

Cylinder

Cast iron sleeve

Bore & stroke (mm)
Fuel Tank Capacity (I)

85,5 x 78,0

Oil Capacity (I)

NA

Dry Weight (kg)

2.3

Dimensions

56,7

L x W x H (mm)

379 x 496 x 725

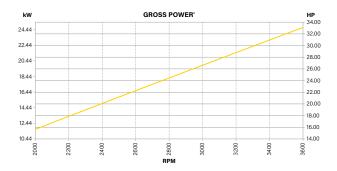
Features

Oil filter, full pressure lubrication,

cyclonic air cleaner, EFI

Optional

Muffler, flat panel air cleaner



^{*} All power levels are stated gross kilowatts per SAE J1940 as rated by Briggs & Stratton.

^{**} See www.vanguardpower.com for warranty details.



Engine type	V-Twin, 4-stroke, air cooled, OHV (Overhead Valve)		
Model number	61E1 61E3		
Gross Power kW (HP) @ 3'600 rpm	26,1* 27,6* (35,0) (37,0)		
Displacement (cc)	993		
Cylinder	Cast iron sleeve		
Bore & stroke (mm)	85,5 x 86,5		
Fuel tank capacity (I)	NA		
Oil capacity (I)	2,3		
Dry weight (kg)	56,7		
Dimensions L x W x H (mm)	379 x 496 x 725		

Oil filter, full pressure lubrication,

Muffler, flat panel air cleaner

cyclonic air cleaner, EFI



All power levels are stated gross kilowatts per SAE J1940 as rated by Briggs & Stratton.

Features

Optional

^{**} See www.vanguardpower.com for warranty details.

HORIZONTAL · V-TWIN EFI/ETC VANGUARD° EFI / ETC 29,9 GROSS kW*



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 (I)

NA

Oil capacity (I)

2.3

Dry weight (kg)

56,7

Dimensions

379 x 496 x 725

L x W x H (mm) Features

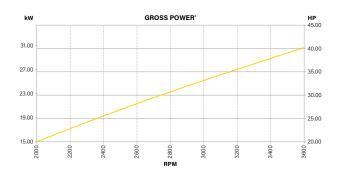
EFI / ETC (electronic throttle control),

oil filter, full pressure lubrication,

cyclonic air cleaner

Optional

Muffler, flat panel air cleaner



^{*} All power levels are stated gross kilowatts per SAE J1940 as rated by Briggs & Stratton.

^{**} See www.vanguardpower.com for warranty details.





Engine type	V-Twin, 4-stroke, air cooled,
	OHV (Overhead Valve)

 Model number
 3057

 Gross power kW (HP)
 11,9*

 @ 3'600 rpm
 (16,0)

Displacement (cc) 479

Cylinder Cast iron sleeve
Bore & stroke (mm) 68,0 x 66,0

Fuel tank capacity (I) NA
Oil capacity (I) 1,6
Dry weight (kg) 32,4

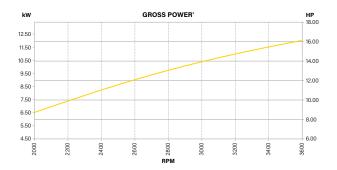
Dry weight (kg) 32,4

Dimensions 434 x 409 x 307

LxWxH(mm)

Features Oil filter, full pressure lubrication

Optional Rewind start



^{*} All power levels are stated gross kilowatts per SAE J1940 as rated by Briggs & Stratton.

^{**} See www.vanguardpower.com for warranty details.





Engine type V-Twin, 4-stroke, air cooled, OHV (Overhead Valve)

Model number 3567

Gross power kW (HP) @ 3'600 rpm

13,4* (18,0)

Displacement (cc)

570

Cylinder

Cast iron sleeve

Bore & stroke (mm)
Fuel tank capacity (I)

72,0 x 70,0 NA

Oil capacity (I)

1.6

Dry weight (kg)

-,-

Dimensions

33,3 434 x 409 x 345

LxWxH(mm)

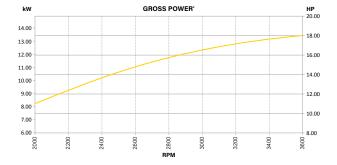
Oil filter, full pressure lubrication

Features Optional

Rewind start,

onal Rewind star

Electronic Fuel management (EFM)



^{*} All power levels are stated gross kilowatts per SAE J1940 as rated by Briggs & Stratton.

^{**} See www.vanguardpower.com for warranty details.





Engine type	V-Twin, 4-stroke, air cooled,
	OHV (Overhead Valve)

 Model number
 3857
 3867

 Gross power kW (HP)
 15,7°
 17,2°

 @ 3'600 rpm
 (21,0)
 (23,0)

 Displacement (cc)
 627

Displacement (cc) 627

Cylinder Cast iron sleeve

Bore & stroke (mm) 75,5 x 70,0 Fuel tank capacity (I) NA

Oil capacity (I) 1,6 Dry weight (kg) 35,0

Dimensions 449 x 409 x 345 L x W x H (mm)

Features Oil filter, full pressure lubrication

Optional Rewind start



All power levels are stated gross kilowatts per SAE J1940 as rated by Briggs & Stratton.

^{**} See www.vanguardpower.com for warranty details.

VERTICAL · V-TWIN

VANGUARD® 17,9 - 19,4 GROSS kW*





Optional Feature



Engine type

V-Twin, 4-stroke, air cooled,
OHV (Overhead Valve)

 Model number
 49V6
 49R9

 Gross power kW (HP)
 17,9*
 19,4*

Gross power kW (HP) 17,9* 19,4* (24,0) (26,0)

Displacement (cc) 810

Cylinder Cast iron sleeve

Bore & stroke (mm) 83,8 x 73,4

Fuel tank capacity (I) NA
Oil capacity (I) 1,98

Dry weight (kg) 41,7 Dimensions 505

Features

Dimensions 505 x 462 x 582 L x W x H (mm)

Oil filter, full pressure lubrication, cyclonic air cleaner

Optional Oil Guard™



^{*} All power levels are stated gross kilowatts per SAE J1940 as rated by Briggs & Stratton.

^{**} See www.vanguardpower.com for warranty details.

VERTICAL · V-TWIN EFI VANGUARD° EFI 20,9 GROSS kW*



Engine type	V-Twin, 4-stroke, air cooled, OHV (Overhead Valve)
Model number	49E8

Gross power kW (HP) 20,9* @ 3'600 rpm (28,0)

Displacement (cc) 810

Cylinder Cast iron sleeve

Bore & stroke (mm) 83,8 x 73,4 Fuel tank capacity (I) NA

Oil capacity (I) 1.98

Dry weight (kg) 41,7 **Dimensions** 505 x 462 x 582

LxWxH(mm) **Features** Oil filter, full pressure lubrication,

cyclonic air cleaner, EFI

Optional Oil Guard™, flat panel air cleaner, integrated air cleaner



All power levels are stated gross kilowatts per SAE J1940 as rated by Briggs & Stratton.

^{**} See www.vanguardpower.com for warranty details.

VARGUARD

Commercial **Battery Packs**

The next generation of integrated power.



Integrated battery system







See www.vanguardpower.com for warranty details

The battery pack is silent, however the application itself may make noise.





Battery type	48V 3.8kWh Lithium-Ion battery pack, integrated battery management system						
Model number	TBC						
Nominal Voltage (V)	51,6						
Top Voltage (V)	58,8						
Cut-off Voltage (V)	35,0						
Nominal Capacity / Energy (Ah / kWh)	73,8 / 3,80						
Weight (kg)	46,8						
Durability (cycles) at 80% capacity retention	Up to 2000						
Charge time (hours)	Less than 4,5 hours						
Dimensions L x W x H (mm)	876 x 283 x 264						
Features	Battery Managment System, dual CANbus communication, plug-in ready charging system, aluminium diecast enclosure						



³⁻year warranty applies to battery and charger.

^{*} See www.vanguardpower.com for warranty details.

LITHIUM-ION BATTERY PACKS 5kWh COMMERCIAL BATTERY PACK





Battery type	48V 5kWh Lithium-Ion battery pack,
	integrated battery management system

Model number	8009552
Nominal Voltage (V)	51,6

Top Voltage (V) Cut-off Voltage (V) 35,0

Nominal Capacity / 98,7 / 5,09 Energy (Ah / kWh)

Weight (kg)

Durability (cycles) at 80% capacity retention

Charge time (hours)

Dimensions L x W x H (mm)

Features

28

58.8

49.9

Up to 2000

5,3 hours 591 x 266 x 366

Battery Managment System, dual CANbus communication, plug-in ready charging system, HDPE pack enclosure, aluminium outer shell, cast aluminium base

Up to 16 batteries can be combined in parallel for additional capacity



5kWh BATTERY

BATTERY MANAGEMENT SYSTEM (BMS)

CHARGER

³⁻year warranty applies to battery and charger.

See www.vanguardpower.com for warranty details.





Battery	type
----------------	------

LITHIUM-ION BATTERY PACKS

48V 10kWh Lithium-Ion battery pack, integrated battery management system

Model number

TBC

Nominal Voltage (V)

51,6

Top Voltage (V)
Cut-off Voltage (V)

58,8 35.0

Nominal Capacity / Energy (Ah / kWh) 197,4 / 10,17

Weight (kg)

retention

99

Durability (cycles) at 80% capacity

Up to 2000

Charge time (hours)

9,5 hours

Dimensions L x W x H (mm)

624 x 439 x 366

Features

Battery Managment System, dual CANbus communication, plug-in ready charging system, HDPE pack enclosure, aluminium outer shell, cast aluminium base

Up to 4 batteries can be combined in parallel for additional capacity







10kWh BATTERY

BATTERY MANAGEMENT SYSTEM (BMS) CHARGER

³⁻year warranty applies to battery and charger.

See www.vanguardpower.com for warranty details.

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Power Ratings Disclaimer

Power Ratings: The gross power rating for individual petrol 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 2'600 rpm / 3'600 rpm; horsepower values are derived at 3'600 rpm; kilowatt values are derived at 3'600 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 petrol 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 another engine.

VANGUARD® Horizontal Shaft / Vertical Shaft Commercial Engines and Commercial Battery Packs

Fold out to view the specification reference tables for VANGUARD* horizontal and vertical shaft engines as well as commercial battery packs.

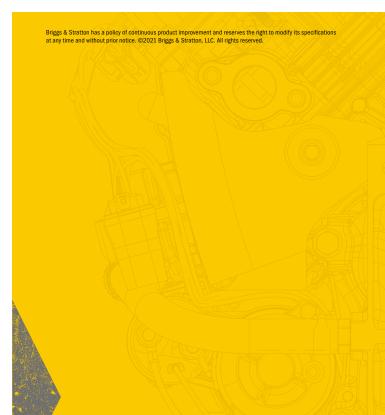


_			0	0	1		0	1	1	1	-					1		1
-	"i Guard"		1	1	1	1	1	1	1	1	-	1	1	1	1	1	1	1
_	TransportGuard‴		s	s	s	s	s	1	1	1	1	1	1					1
atio	Full Pressure Lubrication With Oil Filter			1	-	1	1	s	s	s	s	s	s	s	s	s	so	s
Lubrication	Spalsh Lubrication		s	s	s	s	s	1	1	1	1			-		1		
lon	ECM Fired Ignition Coil					-		,	-	,	-				-			
Ignition	Magnetron Ignition		s	s	s	s	s	s	s	s	s	s	s	s	s	s	s	s
ing ing	Electronic Fuel Management (EFM)			1	1	1		1	1	1	-	1	1		1		1	1
Starting	Manual Choke		so	s	s	s	s	s	s	s	s	s	s	s	s	s	so	s
	Centrifugal Multi Stage Cyclonic Air Cleaner							,	1	0	0	0	s	s	s	s	so	s
ner	Automotive Style Air Cleaner With Foam Pre-Cleaner (Dual Element)			-		-		s	s	s	s	s	0	0	0	0	0	0
Air Cleaner	Paper Air Cleaner (Oval) With Foam Pre-Cleaner (Dual Element)			-	s	s		1	-	1	-		1					-
	Integrated Cyclonic Air Cleaner		s	s	-		s	1	-	1	-					1		
_	noitoe(nel lajection			1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Fire	Carburetor		so	s	s	s	s	s	s	s	s	s	s	s	s	s	so	s
_	Electronic Throttle Control			-				1	1	1	-							
Governo	Electronic Governor		1	1	1	1	1	1	1	1	-	1	1	1		1		
5	Mechanical Governor		s	s	so	s	s	s	s	s	s	so	s	s	s	s	s	s
	Cast Iron Sleeve Cylinders		so	s	so	s	s	s	s	s	s	s	s	s	s	s	s	s
	Dimensions (mm) L x W x J		274 x 366 x 361	289 x 375 x 361	314 x 422 x 403	314 x 422 x 403	363×455×460	279 x 410 x 438	279 x 410 x 438	318 x 410 x 438	318×407×449	318 x 407 x 449	379 x 496 x 725					
	(I) Capacity (I)		9'0	9,0	8,0	8,0	0,94	1,7	1,7	1,7	1,7	1,7	2,3	2,3	2,3	2,3	2,3	2,3
	Dry Weight (Kg)		17,9	17,9	25,9	25,9	35,5	32,7	32,7	33,6	35,0	35,0	26,8	26,8	26,8	26,8	56,8	26,8
	Fuel Tank (I)		3,1	3,1	3,6	3,6	6,1	0	0	0	0	0	1			1	1	1
	Displacement (cc)		169	203	305	305	408	479	479	570	627	627	968	968	968	968	993	993
	Model Number	es	1003	12V3	1311	1912	25V3	2964	3054	3564	3854	3864	5404	5414	5424	5434	6114	6134
	Features Keyr. Not available Standard Optional	/ANGUARD* Horizontal Shaft Commercial Engines	VANGUARD* 160 - 3,7 Gross kW	VANGUARD° 200 – 4,8 Gross kW	VANGUARD® 6,0 Gross kW	VANGUARD* 7,5 Gross kW	VANGUARD* 400 - 10,4 Gross kW	VANGUARD* 10,4 Gross kW	VANGUARD* 11,9 Gross kW	VANGUARD* 13,4 Gross kW	VANGUARD* 15,7 Gross kW	VANGUARD* 17,2 Gross kW	VANGUARD* 18,7 Gross kW	VANGUARD* 20,1 Gross kW	VANGUARD* 21,6 Gross kW	VANGUARD* 23,1 Gross kW	VANGUARD* 24,6 Gross kW	VANGUARD" 26,1 Gross kW

	9900		l	ı	ı	l	ı		ı	l	l	ı	l	l	l	l
	45° Inclination Package			1	1	'			'			1				
	"il Guard		1	1	1	1	1		1		1	1	.0	*0	*0	
-	"breu@thoqsnerIT			1	1	1	1		1		1	1	1	1	1	
Lubrication	Full Pressure Lubrication With Oil Filter		so.	s	s	s	S		S	s	s	s	s	s	s	
Lub	Spalsh Lubrication		1	1	1	1	1		1	1	1	1	1	1	1	
gnition	ECM Fired Ignition Coil		so	s	s	s	S		1		1	1	-	1	s	
20	Magnetron Ignition			1	1	1	1		s	s	s	s	s	s		
Starting	Electronic Fuel Management (EFM)		1	1	1	1	1		1	0	1	1	1	1	1	
St	Manual Choke		1	1	1	1	1		S	s	s	s	s	s	1	
	Centrifugal Multi Stage Cyclonic Air Cleaner		0	s	s	s	s		1		1	1	s	s	s	
aner	Automotive Style Air Cleaner With Foam Pre-Cleaner (Dual Element)		so	0	0	0	0		s	s	s	s			0	
Air Cleaner	Paper Air Cleaner (Oval) With Foam Pre-Cleaner (Dual Element)			1							1					
	Integrated Cyclonic Air Cleaner			1		1					1		1		0	
	Electronic Fuel Injection		so	s	s	s	s		-	1	1	1	1	1	s	
Fuel	Carburetor			1		1			s	s	s	s	s	s		
	Electronic Throttle Control			1			s				1					
Governor	Electronic Governor		so	1		-	1				1			-		
G	Mechanical Governor		-	s	so	s	1		s	so	s	so	s	s	so	
	Cast Iron Sleeve Cylinders		so	s	s	s	s		so	s	s	s	s	s	s	
	Dimensions (mm) L x W x H		318 x 407 x 449	379 x 496 x 725		434 x 409 x 307	434 x 409 x 345	449 x 409 x 345	449 x 409 x 345	505 x 462 x 582	505 x 462 x 582	505 x 462 x 582				
	Oil Capacity (I)		1,7	2,3	2,3	2,3	2,3		1,6	1,6	1,6	1,6	1,98	1,98	1,98	
	Dry Weight (Kg)		35,0	26,7	2,99	2,99	26,7		32,4	33,3	35,0	35,0	41,7	41,7	41,7	
	Enel Tank (I)		1	1	1	1	1		1	1	1	1	7	7 -	7	
	Displacement (cc)		627	968	993	993	993		479	570	627	627	810	810	810	
		Sa				E3 9										
	Model Number	Engin	38E3	54E1	61E1	611	6162	gines	3057	3567	3857	3867	4906	49R9	49E8	
	Features Key: Not available \$ Standard 0 Optional	VANGUARD® Horizontal Shaft Commercial Engines	VANGUARD® EFI 17,2 Gross kW	VANGUARD® EFI 24,6 Gross kW	VANGUARD® EFI 26,1 Gross kW	VANGUARD* EFI 27,6 Gross kW	VANGUARD® EFI/ETC 29,9 Gross kW	VANGUARD® Vertical Shaft Commercial Engines	VANGUARD* 11,9 Gross kW	VANGUARD* 13,4 Gross kW	VANGUARD* 15,7 Gross kW	VANGUARD* 17,2 Gross kW	VANGUARD* 17,9 Gross kW	VANGUARD* 19,4 Gross kW	VANGUARD* EFI 20,9 Gross kW	

All VANGUARD" engines are stated gross kilowatt at 3'6'00 mm per SAE J1940 as rated by Brig 窦 & Stratton. i For turf applications only. *Oil Guard* allows 45° inclination.

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Parallel Capable		No	Yes	Yes
Aluminium Diecast Enclosure		s	,	
Nounimul Shell			s	s
HDPE Pack Enclosure		s	s	so
Plug-in Ready Charging System		s	s	s
Dual CANbus Communication		s	s	so
Battery Management System		s	s	s
H x W x J (mm) anoiznəmid		876 x 283 x 264	591 x 266 x 366	624 x 439 x 366
Charge Time (hrs)		< 4,5	5,3	9,5
Durability (cycles) at 80% Capacity Retention		2000	2000	2000
(gA) trigieW		46,8	49,9	66
Nominal Capacity / Energy (Ah / kWh)		73,8 / 3,80	98,7 / 5,09	197,4 / 10,17
Cut Off Voltage (V)		35	35	35
(V) agatloV qoī		58,8	58,8	58,8
(V) əgsəloV lanimoM		51,6	51,6	51,6
Model Number		TBC	80095528	TBC
Features Key: Not available S Standard O Optional	VANGUARD' Commercial Battery Packs	NEW VANGUARD® 3,8kWh Commercial Battery Pack	VANGUARD® 5kWh Commercial Battery Pack	NEW VANGUARD* 10kWh Commercial Battery Pack
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VANGUARD® COMMERCIAL POWER

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