



# VANGUARD

## FERRIS



## CHANGING THE ANGLE ON SLOPE MOWING

**Ferris delivers a powerful solution for the challenges of steep mowing and demanding terrains, leveraging the capabilities of Briggs & Stratton's Vanguard® 17.2 Gross kW / 23HP EFI horizontal shaft engine**

Founded in the US in 1909, Ferris has built a reputation for engineering innovative, high-performance turf equipment designed to tackle the toughest mowing conditions. Every machine is built with the operator in mind, prioritizing comfort, safety, and ease of use. Combined with industry-leading customer support, Ferris continues to set the standard for commercial mowing.

Traditional mowing equipment has been designed primarily for flat areas or gentle slopes, but on steep inclines and rough terrain, there are risks associated with these machines. Operators face dangerous working conditions, with a higher risk of rollover accidents or loss of control. Beyond safety concerns, these extreme conditions also push machines beyond their limits, leading to excessive wear, higher

fuel consumption, and increased emissions. To face these challenges head-on, Ferris introduced the FRC7 slope mower, a remote-controlled, low-level machine intended to revolutionize this longstanding landscaping challenge. Featuring a cutting-edge hybrid e-drive system and a dual direction mower deck, the FRC7 is designed to deliver consistent performance in the toughest conditions, including mowing slopes as steep as 55 degrees.

The compact, hybrid design of the FRC7 required Ferris to source an engine that was not only durable and reliable but also small enough to fit within the machine's limited space. As the FRC7 is remote controlled, the selected engine also had to communicate via CAN-bus, allowing all components of the mower to work seamlessly together.

With more than 100 years of engineering expertise and a long history of powering Ferris mowers, Briggs & Stratton was a clear first choice for this cooperation. Ultimately, Briggs & Stratton's Vanguard 23HP horizontal shaft engine was selected over the vertical shaft version. Not only for its seamless integration and ideal size but, most importantly, for its upward-facing cylinder orientation. This prevents inefficiencies caused by the pistons working against the oil column in the engine sump when operating at extreme inclination angles.

Patrick Limberg, Manager of Regional Sales for Central Europe at Briggs & Stratton, says: "The Vanguard 23HP horizontal shaft engine is a reliable and powerful product and an excellent choice for demanding professional applications no matter the requirements. Combining this powerful and dependable Vanguard commercial engine with Ferris' cutting-edge mower created the perfect solution to a long-standing mowing issue."

The innovative FRC7, paired with Vanguard's engine expertise, is redefining what's possible in the landscaping industry. At the heart of the machine is a mild hybrid drive system, where two power sources—combustion and electric—work in tandem to enhance performance. A generator, directly linked to the Vanguard engine, charges a 48-volt battery bank that acts as the main energy buffer for the mower's electric drive system. This hybrid e-drive setup combines the strength of the combustion engine with the smooth, efficient responsiveness of electric motors. In addition, Vanguard's Electronic Fuel Injection (EFI) system enhances engine performance by improving efficiency, reducing fuel consumption and minimising emissions. Managed by the CAN-bus controller, the Vanguard 23HP horizontal shaft engine seamlessly integrates into the sophisticated communication network that facilitates real-time data exchange between the various components of the mower to ensure highly



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Manager of Regional Sales for Central Europe  
Briggs & Stratton

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**CAPABLE OF CAN-BUS COMMUNICATION AND A DESIGN OPTIMIZED FOR EASY INTEGRATION, THIS VANGUARD ENGINE FULLY SUPPORTS THE MOWER'S GROUNDBREAKING REMOTE CONTROLLED HYBRID SYSTEM.**

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Dennie Smeets  
Product Manager  
Ferris



dynamic and efficient operation, optimizing the mower's performance. In addition, the Vanguard engine comes with a three-year manufacturer warranty to ensure long-term reliability of this critical component.

Dennie Smeets, Product Manager at Ferris, said: “We were thrilled with the outcome of the incorporation of the 23HP engine from our sister brand Vanguard into the FRC7. Capable of CAN-bus communication and a design optimized for easy integration, this Vanguard engine fully supports the mower’s groundbreaking remote controlled hybrid system including remote diagnostic capabilities, delivering exceptional performance on steep slopes and challenging terrains.”



**VANGUARD 17.2 GROSS KW\*  
EFI V-TWIN HORIZONTAL SHAFT  
COMMERCIAL ENGINE  
23.0 GROSS HP\***

<b>MODEL NUMBER</b>	38E3
<b>GROSS POWER KW (HP) @ 3,600 RPM:</b>	17.2* (23.0*)
<b>DISPLACEMENT (CC)</b>	627
<b>CYLINDER</b>	Cast iron sleeve
<b>OIL CAPACITY L (OZ)</b>	1.4 / (48)
<b>DRY WEIGHT KG (LBS)</b>	35 / (77)
<b>DIMENSIONS L X W X H MM (IN)</b>	318 x 410 x 438 / (12.52 x 16.02 x 17.68)
<b>FEATURES</b>	EFI, J1939 CAN-bus Communication, Low Profile Dual-Clean® Air Cleaner, Full Pressure Lubrication with Spin-On Oil Filter, Oil Cooler, Oil Pressure Switch
<b>OPTIONAL</b>	Cyclonic Air Cleaner, Rewind Start (no engine battery needed), Key Switch, Flywheel Stub Shaft, Oil Pressure Switch, High Mount Mufflers, Idle Down, Three Speed Throttle, Variable Speed Throttle, Remote Speed Option, Spline Crankshaft

\* Power levels are stated gross kilowatts per SAE J1940 as rated by Briggs & Stratton.

\*\* See operator's manual or dealer for complete warranty details.

# CONTACT US NOW

## TO FIND OUT HOW VANGUARD CAN HELP YOU POWER YOUR EQUIPMENT



Find out more about Vanguard on: [www.vanguardpower.com](http://www.vanguardpower.com)



For more news and updates, follow us on LinkedIn:

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### ABOUT BRIGGS & STRATTON | VANGUARD

Briggs & Stratton, headquartered in Milwaukee, Wisconsin, provides innovative products and diverse power solutions to help people get work done. Briggs & Stratton is the world's largest producer of engines for lawn and garden, turf care and job site power equipment and is a leading designer, manufacturer and marketer of lithium-ion batteries, standby generators and energy storage systems through its Briggs & Stratton®, Vanguard®, Ferris®, Simplicity®, Snapper®, Billy Goat®, Allmand®, Branco® and Victa® brands. Briggs & Stratton products are designed, manufactured, marketed and serviced in over 100 countries on six continents.

Vanguard helps professionals to get their work done by applying power to their unique commercial applications. For more than 35 years, Vanguard has partnered with customers to conquer challenges and develop innovative products. As Vanguard doesn't simply provide components, it supports customers in applying commercial lithium-ion and petrol power throughout the entire integration process, from development to serial production to after sales and training support. [www.vanguardpower.com](http://www.vanguardpower.com)

### ABOUT FERRIS

Ferris provides commercial landscaping equipment designed to enhance efficiency, increase productivity, and improve ease of use. This is achieved through industry-leading innovation, uncompromising performance, and exceptional quality.

The foundation of this innovation was the development of the first multi-patented suspension system for riding lawn mowers, allowing operators to maintain speed even on uneven terrain without slowing down.

Whether it's a riding, walk-behind, stand-on, or remote-controlled mower, every machine in the fleet is built for durability, capable of withstanding the demands of all-day, all-week commercial landscaping and maintenance.

[www.ferrismowers.com](http://www.ferrismowers.com)

# VANGUARD

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