



PRESS RELEASE
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Victory Motorcycles reveals road-legal electric motorcycle – the Empulse TT

- **Race proven electric power**
- **The quickest charging battery on the market**
- **Top speed of over 100mph**

Building on the innovative design and engineering that produced the fastest U.S. electric motorcycle at the 2015 Isle of Man TT Zero race, Victory Motorcycles has introduced the 2016 Empulse TT, the first all-electric addition to the Victory line up.

The Empulse TT is a fully electric road-legal streetbike that is as capable of carving tight lines on twisting roads as it is powering the daily commute.

Building on Victory Motorcycles' focus on performance, the Empulse TT features a sportsbike-style aluminum beam-frame, adjustable suspension and strong brakes.

With advanced technology this unique new motorcycle delivers outstanding overall performance, zero-emission output and has a torquey electric motor.

“We have always been known for great handling and power, so the Empulse TT is an ideal fit in the expanding Victory lineup,” said Motorcycle Product Director Gary Gray.

“The Empulse TT was developed primarily as an electric motorcycle delivering a sporty ride,” said Victory Electric Product Manager Joshua Katt. “With dual ride modes – ECO and SPORT – to choose from and the addition of a gearbox, the Empulse TT is a versatile motorcycle that can be used for impressively sporty riding or as a casual commuter.”

The key features that allow Empulse TT to deliver a sporty riding experience include: fully adjustable suspension featuring a single rear shock and inverted front forks; dual-disk front brakes; lightweight cast aluminum wheels; the greatest lean angle in the electric class; and a sportsbike-style riding position.

Steve Menneto, VP Motorcycles, said Victory Motorcycles is committed to expanding brand awareness and sales globally, and the Empulse TT will allow the brand to reach more markets. “This is a company that does not fear technology and progressive products and we want to be strong in the electric motorcycle segment,” he said.

The Empulse TT shares some DNA with the original Brammo Empulse R motorcycle. Victory has been working with Brammo since 2011, but in January 2015 Victory's parent company, Polaris Industries, acquired Brammo's motorcycle assets.



Since then, Victory engineers worked with the Brammo product team to achieve improvements in battery capacity, display function and handling.

The Victory Empulse TT is capable of top speeds over 100 mph and it has a high-capacity 10.4kWh battery. The bike has a built-in battery charger and an easily accessible SAE J1772 plug atop the bodywork to the front of the seat.

The bike's Brammo Power Lithium Ion battery fully charges up in just 3.9 hours using a Stage 2 charger (available as an accessory utilising a 240V outlet).

In typical riding, the Empulse TT battery provides riders with a range of about 65 miles and a range of 100 miles is possible with throttle management and use of the bike's regenerative charging. In preliminary testing, the bike demonstrated a Motorcycle Industry Council (MIC) city range of 94 miles. The bike delivered an MIC "combined 70 mph highway and city range" of 57 miles.

Riders can make the most efficient use of the battery's 10.4kWh of electricity by using the six-speed gearbox. Shifting and downshifting helps to create regenerative power (when the bike is under deceleration) and also produces a feeling similar to the compression braking that riders experience on petrol-powered motorcycles.

The clutch only needs to be used when shifting between gears, not for taking off or coming to a stop. To take off from a stop, the rider simply needs to twist the throttle to unleash the liquid-cooled electric motor's impressive torque.

In the Empulse TT's proprietary transmission, neutral is found between 2nd and 3rd gear. A rider can leave the bike in 3rd gear for most riding speeds and conditions. To begin riding, a rider can simply turn the bike's power on, select 3rd gear (without the clutch), twist the throttle and go.

Not all competitive electric motorcycles have gearboxes, so the Empulse TT gearbox gives the bike a significantly sportier feel and it enhances a rider's engagement with the bike.

In everyday riding conditions, the Victory Empulse TT can be operated in ECO mode, but it also has an optional SPORT mode for high-performance riding. In SPORT mode, 20 percent more battery power is released to the motor, resulting in enhanced acceleration.

SPORT mode also increases the amount of regenerative braking – or "regen" – that further increases the feeling similar to compression braking when the rider rolls off the throttle. Regen uses the inertia of the motorcycle to return energy from the motor back into the battery pack. To select SPORT mode, a rider presses and holds the start button for 1 second.

The bike's LCD data display features a speedometer, tachometer, gear indicator, and clock. It also displays the battery level as a horizontal bar accompanied by the



percentage of battery energy remaining and provides an estimate of remaining riding range.

Genuine Victory Accessories immediately available for the Empulse TT include Victory performance forks, frame sliders, tall and short windscreens and panniers.

The new Victory Empulse TT electric motorcycle is scheduled to be available for purchase in the United States in late 2015.

Victory is in the process of determining global demand for the bike before announcing its international sales plan.

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TECHNICAL SPECIFICATION

ENGINE

ELECTRIC MOTOR	Internal Permanent Magnet AC Induction
PEAK MOTOR POWER	54hp
PEAK TORQUE	61ftlbs
TRANSMISSION	6-speed gearbox with multi-plate, hydraulic activated wet clutch

BATTERY PACK

BATTERY	Brammo Power Lithium Ion
BATTERY CAPACITY	10.4 kWh
BATTERY VOLTAGE	103.6V / 117.6V (max)
CHARGE TIME	3.9 hrs (Level II / 0% to 100% SOC) 8 hrs (Level I / 0% to 100% SOC)
EMISSIONS	None

BRAKES

FRONT BRAKING SYSTEM	Dual 310mm Brembo floating discs with twin 4-piston radial mounted Brembo brake calipers
REAR BRAKING SYSTEM	Brembo single disc with dual piston hydraulic Brembo brake caliper

PERFORMANCE

MAX SPEED	100mph+
REGENERATIVE BRAKING	Extends riding range and provides familiar rider feedback

SUSPENSION



FRONT SUSPENSION Adjustable 43mm Inverted Forks
REAR SUSPENSION Adjustable Direct-Acting Shock

CHASSIS

CARRY CAPACITY 167 kg
DRY WEIGHT 213 kg
GROUND CLEARANCE 18.54 cm
LENGTH 206.5 cm
RAKE/TRAIL 24° / 7.62 cm
SEAT HEIGHT 80.0 cm
WHEELBASE 147.32 cm

OTHER COMPONENTS

INSTRUMENTATION LCD display; speed, tach, odometer, gear position, energy consumption, battery status, estimated range and system status

TYRES FRONT & REAR Continental Sport Attack II 120-70 ZR17 58W & 160/60ZR17 69W

WHEELS FRONT & REAR 17" x 3.5" / 17" x 4.5"
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About Victory Motorcycles

Victory Motorcycles designs, engineers, manufactures and markets a full line of cruisers, baggers and touring motorcycles. Every Victory model delivers industry-leading performance, comfort, style, storage and reliability. The first Victory was produced on the Fourth of July, 1998, in Spirit Lake, Iowa, where every Victory motorcycle continues to be produced today. Information about Victory motorcycles, apparel and accessories is available at www.victorymotorcycles.com and on Facebook at facebook.com/VictoryMotorcycles

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