



PARALLEL HYBRID^{NG}



[Diesel & Electric Full Hybrid Propulsion System]

**NEXT
GENERATION**

with revolutionary peak
power output (1 min)
of 60 kW and continuous
power output of 30 kW



THE NEXT GENERATION OF HYBRID PROPULSION SYSTEMS OPENS UP UNPRECEDENTED POSSIBILITIES

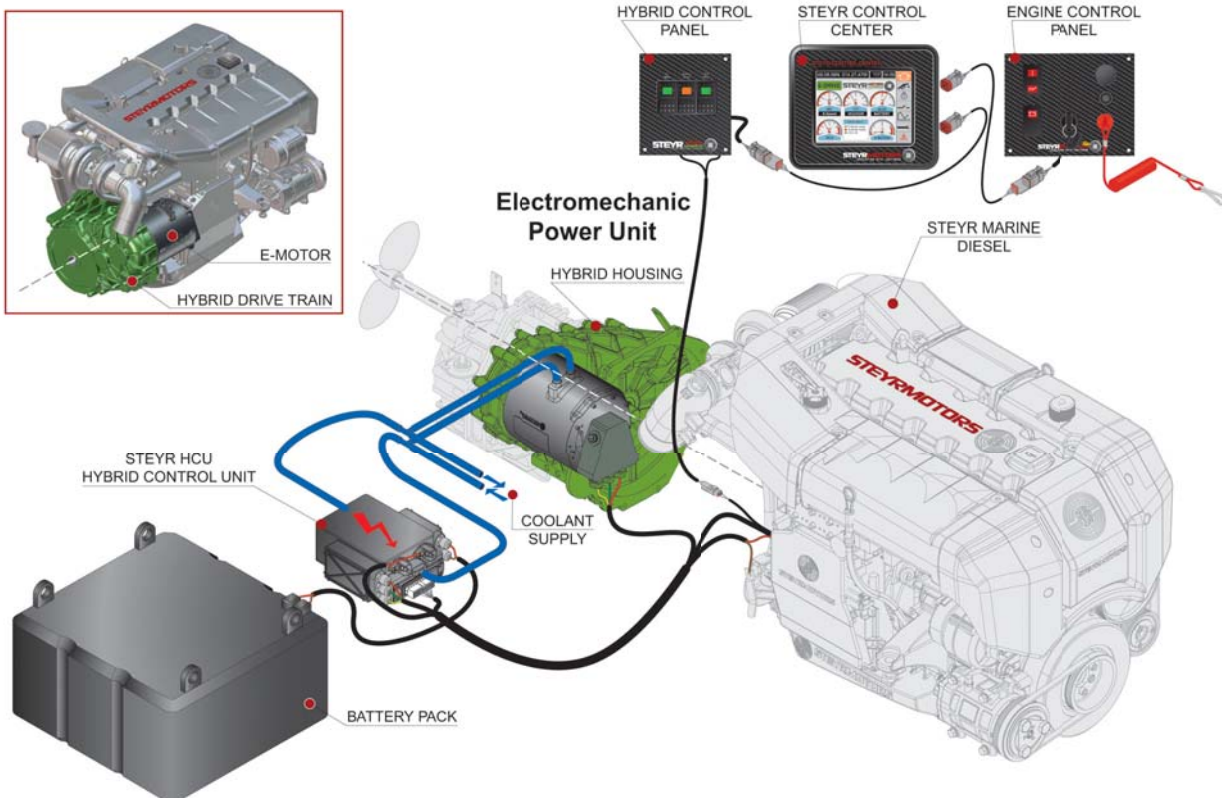


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HYBRID DRIVE SYSTEM[®]

The environmentally friendly HYBRID SOLUTION marks a new chapter in the history of pleasure and light working boats. It not only assures zero emission and low speed manoeuvring in harbours, noiseless drive on inland waters and nature reserves, but also eliminates the need for separate generator units for other onboard equipment. The “zero emission” electric drive mode allows a speed of 5+ knots using solely electric propulsion and switches to the combustion engine, just following the command on the throttle control.

The ingenious propulsion then gets “boosted” by the electric drive and enables quicker acceleration, lowering fuel consumption, improving response and dynamics. Significantly reduced maintenance costs and improved ease of service are further irrevocable arguments that STEYR MOTORS is introducing a serious technological novelty.



Schematic Diagram

THE STEYR MOTORS HYBRID CAN BE INSTALLED ON ALL ENGINES AND DRIVE COMBINATIONS.



FACTS

POWER OUTPUT:

60 kW peak power output (1 min)
 30 kW continuous power output

WEIGHT:

75 kg (165,4 lb) for Hybrid Unit
 (exclusive battery pack)

ADDITIONAL LENGTH:

215 mm (8,5")



4
 MODES

THE ELECTRIC MOTOR OPERATES IN 4 MODES:

STARTER MODE

In Starter Mode the more robust and powerful electric motor/generator starts the combustion engine, very smoothly and under all conditions.

GENERATOR MODE

In Generator Mode, the extended battery pack is optimised and charged through the powerful permanent magnet generator.

ELECTRIC CRUISE MODE

In Electric Cruise Mode, the boat is driven purely by the electric motor through the high precision reduction gear. This reduction gear multiplies the torque from the high-speed electric motor and provides an impressive boost already from idle speed. The battery pack is constantly monitored on its state of charge and battery condition. This is brought to the attention of the driver through the STEYR CONTROL CENTER (SCC).

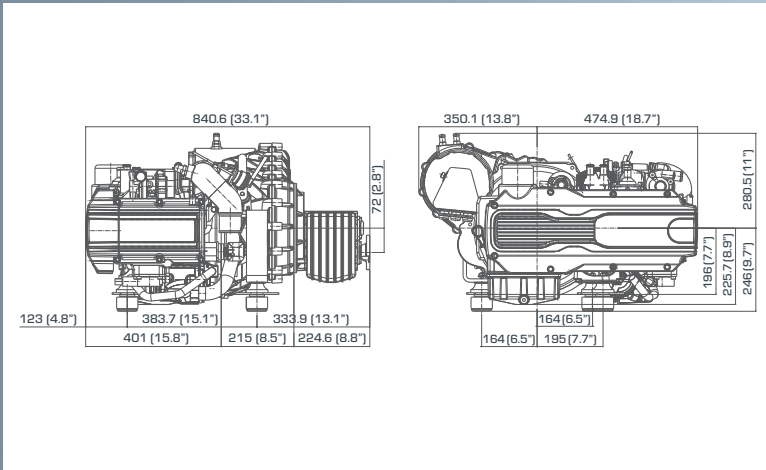
BOOST MODE

In the lower speed range, depending on dynamic requirements of the driver and the battery condition, the Boost Mode is used and the combustion engine is then supported by the massive torque of the electric motor. The E-motor supports the response of the drive unit through the boost mode. The STEYR CONTROL CENTER (SCC) unit forwards the driver's demands via CAN protocol to the engine control unit (ECU) and the hybrid control unit (HCU). Both control units regulate the combination of torque from the Diesel engine and the permanent magnet motor depending on dynamic requirements. At the same time, the condition of the components (batteries, E-motor, combustion engine, environmental conditions) is monitored through the STEYR CONTROL CENTER (SCC). The control units have adjustable functions and engine characteristics in order to coordinate all drive train variants to the driver's demands in the appropriate boat.

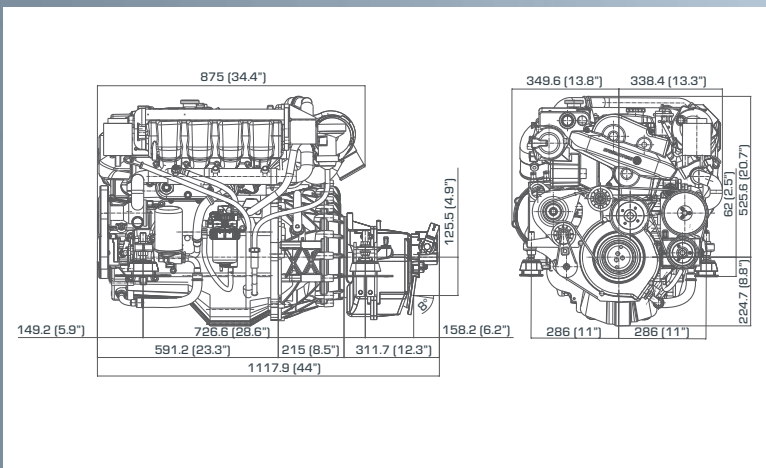


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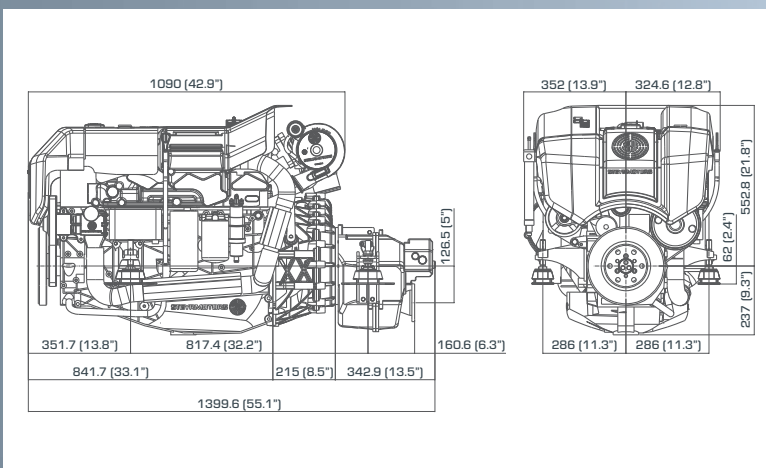
2-cylinder (M032)



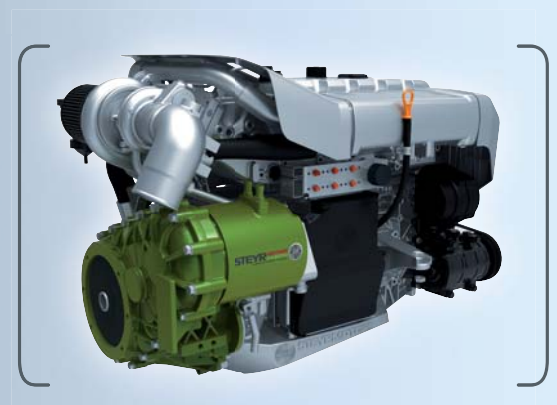
4-cylinder (M0174V40)



6-cylinder (SE266 and SE306)



Dimensions may differ according to engine types and are not for installations



To use QR-Codes you need a Smart-Phone App. For Example „Red Laser“ for iPhone and „Barcode Scanner“ for Android. The installed App will automatically recognize it when you point your camera at the QR Code. Your preferred App is available in your trusted App-Store. (Terms according to your mobile phone provider.)

