CERTIFIED ISO 9001

TRANSFLUID®
industrial & marine

TRANSFLUID'S TECHNOLOGY IN THE MARINE PROFESSIONAL WORLD

Transfluid

Founded in Milan, Italy in 1957, Transfluid has always been a point of reference in the world of industrial transmission equipment and the standard that competitors measure themselves.

Fluid couplings, variable speed drives, brakes, clutches, couplings and hydraulic transmissions constitute the core of the product line, while ultra-modern technology, careful selection of materials and meticulous assembly are the key ingredients in the recipe that has placed those products at the forefront of the market. Thousands of customers continue to choose Transfluid for the most diverse and demanding applications, knowing they can rely on Transfluid's technical department, where design, engineering and planning experts are always on hand to quickly resolve client's problems.

Italian dynamic innovation, ongoing staff development and more than fifty years of hard-earned expertise are the foundation of the company's success.

Transfluid's unique approach has sparked small but important revolutions in the field of heavy-duty transmissions, for which recognition has come in the form of international awards.

Transfluid's catalogue boasts a wide range of products, and each unit produced is tested for safety, quality and durability. Being a world leader in the design and manufacture of fluid couplings, Transfluid has earned a reputation for diligent service, which assures the competence of the applications through careful quality control and on-site technical assistance.

In addition to the Italian Headquartes, Transfluid's sales network consists of five branches located in China, France, The Netherlands, Russia and United States and distributors located throughout the world.

Over 60 Years Experience With Fluid Couplings

KFBD - KRDA - KRU Constant Fill Fluid Couplings

Ideal for the latest engine generation to avoid engine stalling during delicate/abrupt maneuvers, typical for marine transmissions.

Suitable for surface propellers

Engineering of surface propeller is simplified by the fluid coupling features, especially for the acceleration phase up to 1000 kW (1340 hp)

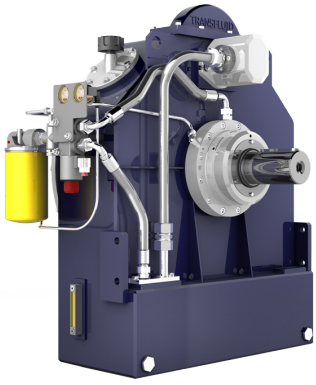
KRU version with output DIN/SAE flange for Universal Joint connection

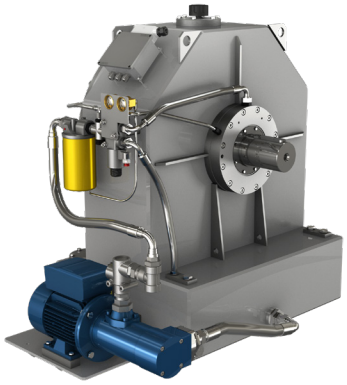
KRDA with torsional elastic coupling

NO ENGINE STALLING

- Smooth start up
- Top efficency
- High number of starts, also reversing rotation direction
- Full protection of engine and driven machine from jams and overloads
- Complete torsional vibration absorption by fluid acting as the power transmission element

KPTU - KPTB - KSL - Variable Fill Fluid Couplings





* Monitorable and controllable by a dedicated Microprocessor MPCB R5

- A drain type fluid coupling acting as a clutch without friction plates remote control operation
- Smooth engagement and quick disengagement of propeller drive line plus all benefits provided by the fluid coupling features
- Speed variation to 25% of the engine input speed Up to 4000 kW (5364 hp)

Tangible benefits of use

Variable Fill Fluid Coupling

- Applied on Azimuth
- Rudder Propeller
- The ferry boat can be powered by one or more engines, constantly protected by the KPT Fluid Coupling

Our experience at your service

More & More Transfluid on Commercial Vessels:

Variable Fill Fluid Couplings and PTOs for:

- Vehicle & Passengers Ferry
- Ice Breaker
- Bunker Barge
- Patrol, Tender, Sport boat (powered by water jet)
- Dredge
- Fast Catamaran
- Fire Fighting Vessel
- Tug
- Sailing Ship
- Life Boat
- Single/Double Hull Tanker
- Fishing Catamarans
- Taxi Boats
- Touristic Vessels

Certificates:

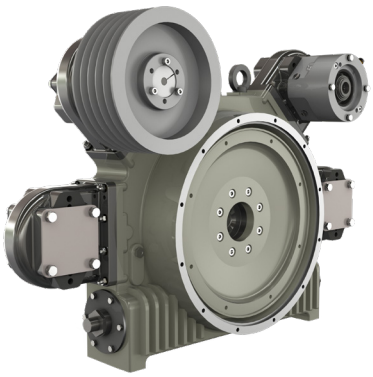
- Lloyd's R.
- DNV-GL
- RINA
- BV

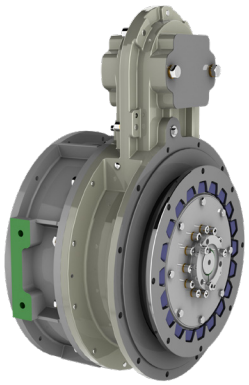
Single & Multi-Head Pump Drive

- Modular unit from one to eight pump pads
- Face to face for power up to 1385 kW (1857 hp)
- Input high torsional flexible coupling for vibration dampening

STELLADRIVE

Input & output side ready for any SAE standard transmission





Accessories:

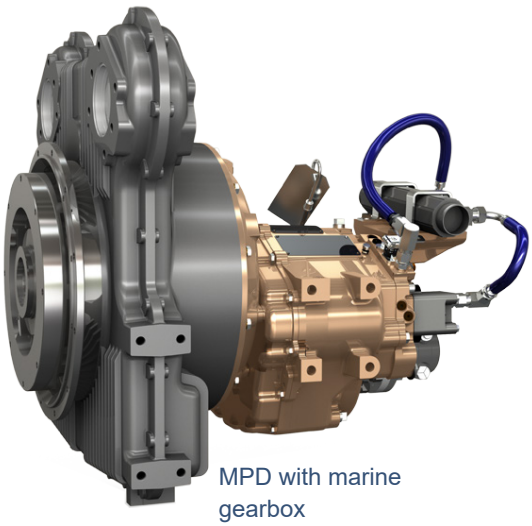
Oil/air actuated clutches for pump disconnection

- Stub shaft PTO implement with side load capacity
- Disconnecting SAE B and C wet clutch

Maximum Flexibility For Transmission Package

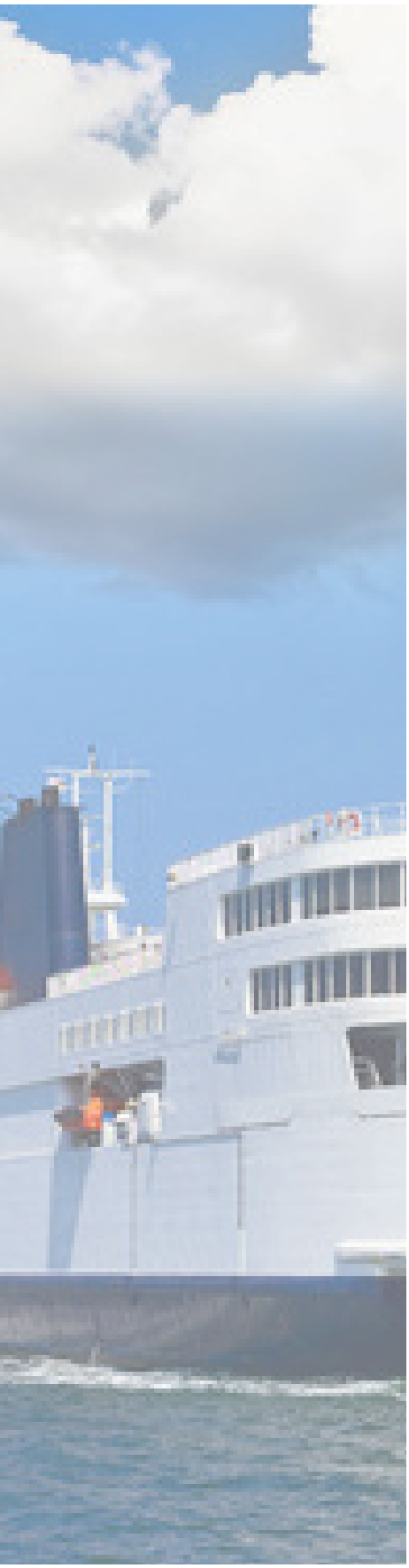
MPD - STELLADRIVE

Input & output side ready for any SAE standard transmission



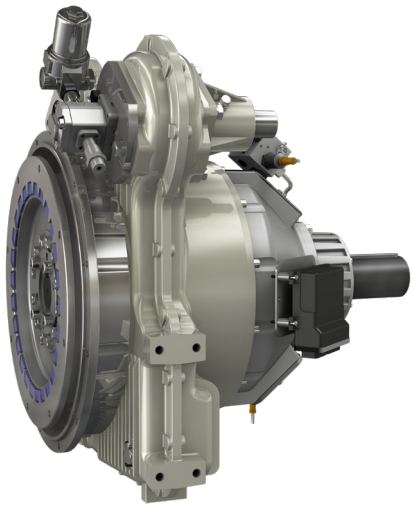
MPD with marine gearbox

MPD with Variable Fill Fluid Coupling



TOWERCLUTCH

Multi-pump head power take off available for operation of boat auxiliary equipment as winches, bow thruster, rudder, water pump. Fully controlled by a dedicated microprocessor MPCB - R5 mounted on board. (*see page 3*)



Propulsion or Auxiliary

SL - Spring Loaded Brakes

Installed on:
Sub-Sea Winch, operating in deep sea water

Main applications:

- Life Boat
- Off Shore Installation in Oil & Research Development
- Static Torque up to 8800 Nm (6510 lb-ft)

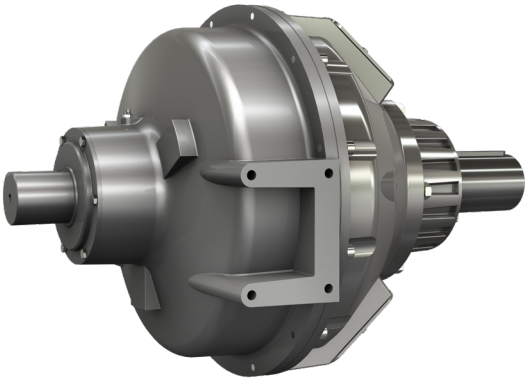
SHC - Hydraulic Clutches

- Integrated in water jet propulsion system for impeller disengagement and reverse for grid debris cleaning (back-flush)
- Dynamic Torque up to 2492 Nm (1838 lb-ft)

Side Load or In Line Clutch

Free Standing PTO

For engine front side to drive pump, alternator, splitter box, etc.



HFR Oil / Air Actuated Power Take Off

Suitable for disengagement / engagement of water jets impeller

- Remote control operation by button pushing (self adjusting)
- No flywheel pilot bearing needed
- The HFR's specific design eliminates side loads on engine flywheel
- Kevlar friction discs for PTO life extension and torsional vibration dampening
- Up to 7750 Nm (5715 lb-ft)

Dedicated Device for a Self Working PTO

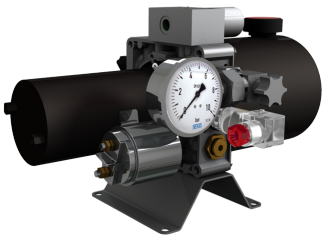
Microprocessor Controller MPCB R5 with Can Bus interface according to Communication protocol SAE J 1939.

- Operation monitoring
- Speed control
- Overload detection / protection
- Start up control (smooth acceleration)
- Integrated events logging
- Low / High oil pressure alarm
- High temperature alarm

Dedicated firmware either for Variable Fill Fluid Couplings and for oil/air Actuated PTOs

Air Power Pack for PTO actuation

Hydraulic and Air Power Packs 12 or 24Vdc with motor relay pressure switch and gauge (manual override available for hydraulic version only)




STARTRAMP
RT123

Single Pump Drive

SAE Flywheel Flexible Coupling ‘RBD’ (rubber block drive) & Shaft PTO ‘PF-RBD’

RBD for a flexible misalignement compensation
Up to a nominal torque of 5300 Nm (3908 lb-ft)
Up to SAE 18” flywheel

Ideal to easily connect the engine to:

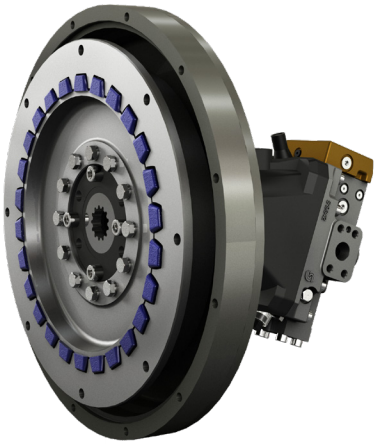
- Marine Gear Box
- Hydraulic pump
- Splitter Box
- Single or Double Bearing Alternator

Positive driven machine shaft connection by QD bushing technology

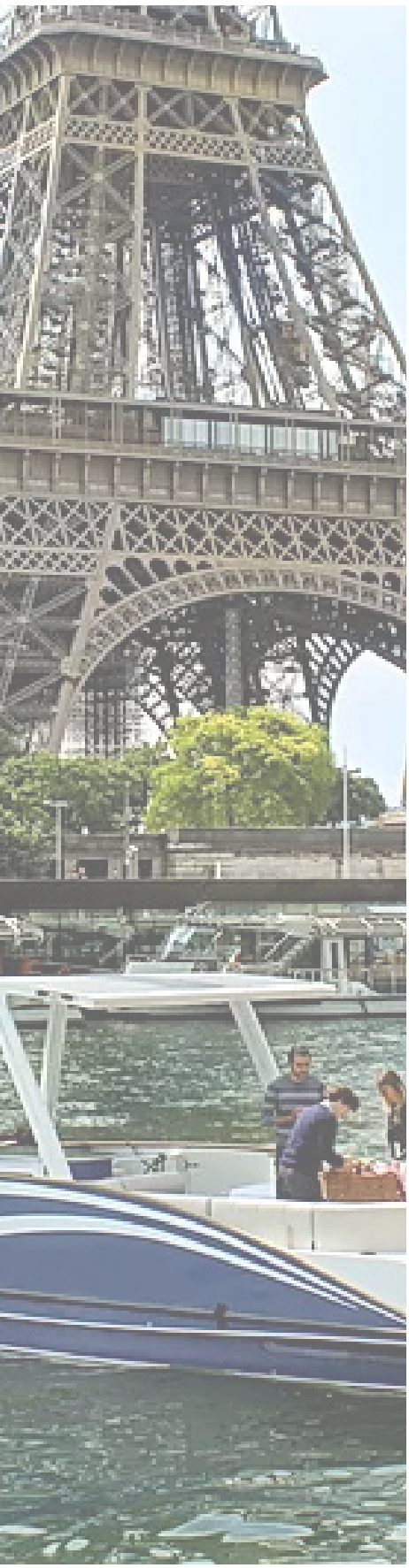
The clamping force of RBD-QD prevents fretting and pitting of the driven shaft

Available in SAE and DIN standard bore

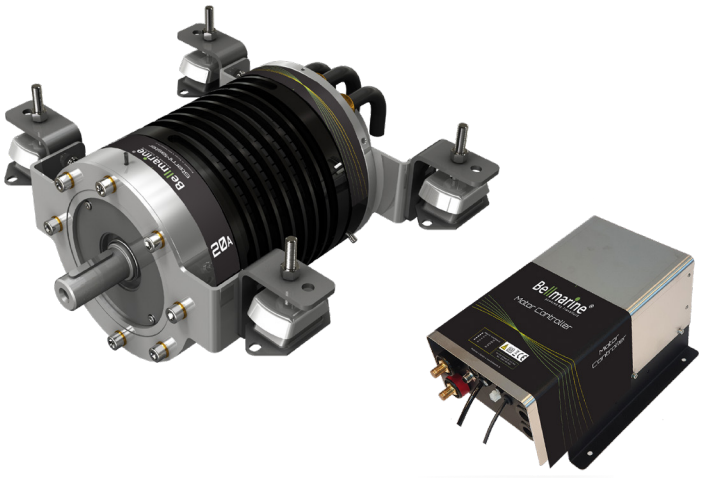
Integrated in the standard scope of supply of KFBD fluid coupling and Stelladrive MPD14



- Power Take Off ready to be installed on SAE flywheel and SAE engine housing for side load or U-joint
- Strong housing and bearing system for long lasting life
- Suitable up to SAE 0-18”



EPS - Electric Propulsion System



The EPS (ELECTRIC PROPULSION SYSTEM) provides innovative electric propulsion through the combination of standard TRANSFLUID products. Integrating standard components and adhering to SAE standards create a new product which easly interfaces with any user and application.

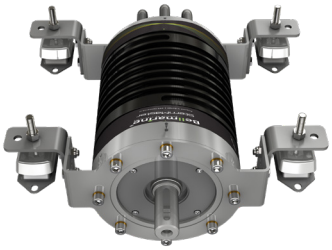
The innovative concept of the marine EPS REVERMATIC11-700 RBD marine gear coupled to the electric motor allows you to maximize the maneuverability of the boat and to increase the performance of the electric motor. The reduction ratio of the marine gear allows the user to size the propeller of the boat to demand the maximum power delivered by the electric motor, fully exploiting the motor power and speed.

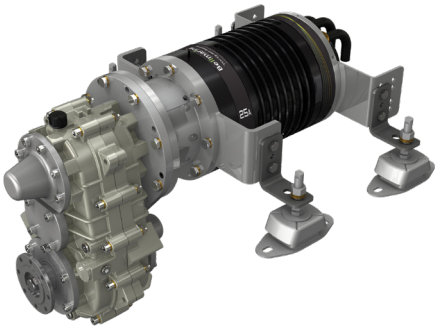
The reverse function is performed by the REVERMATIC11-700 RBD marine gear. This protects the electrical components from transient current peaks. In addition, the EPS Marine system can be used as an extra drive system on large power engines by connecting the output of the EPS system to the PTO (commonly called PTI in marine transmission).

To optimize the performance of the motor a DROP BOX DP280 can be mounted on the output of the EPS system, before to PTI, to provide additional gear ratios optimizing the motor torque output.

An example:
By using a compact EPS system weighting only 220 kg, powered at 300 V dc, it is possible to obtain on the PTI a torque of 2750 Nm, a very interesting value for the propulsion of large boats.

Bellmarine®
powered by Transfluid





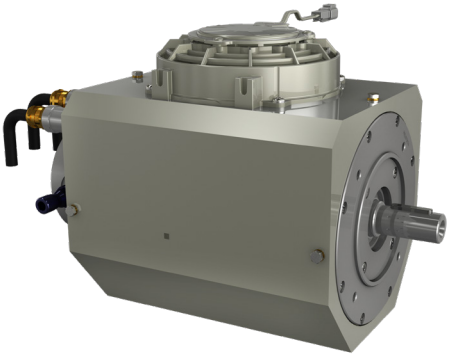
AND MANY OTHER SOLUTIONS

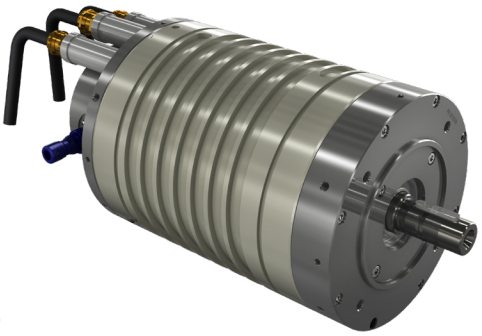
In the world of electric propulsion systems, Bellmarine is the standard. Years of experience, quality, innovation and durability are a guarantee for pure boating pleasure.

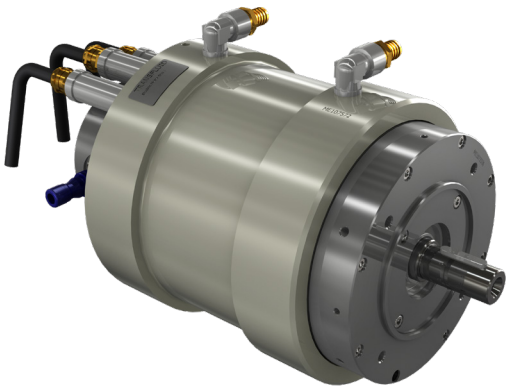
The Bellmarine systems are developed and produced in Italy and in the Netherlands. With thousands of electric propulsion systems in use Bellmarine has set the standard.

Electric Machines

TRANSFLUID manufactures for its hybrid modules three-phase, permanent magnet synchronous electric machines (PMSM) with forced air cooling, natural convention air cooling or liquid cooling. This solution ensures high efficiency and simplicity with a limited weight and size. The electric machine PMSM is controlled by a motor controller (frequency drive) that allows to work both as a motor and as a generator. The perfect integration of the range of electric machines with the controllers allows for a compact installation of the system, as well as easy management and effectiveness during any operation stage.

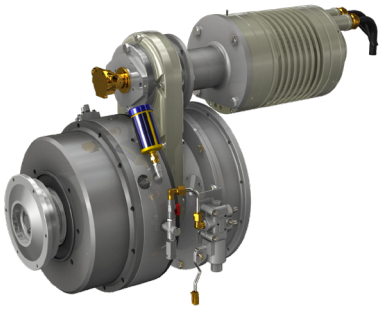




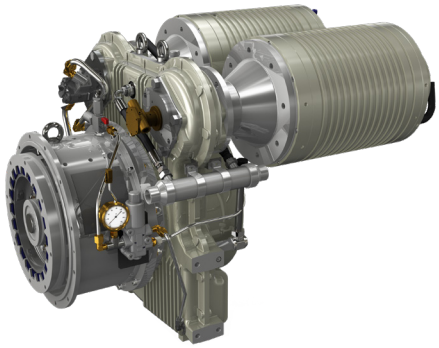


HM Series For Green Power And Fuel Economy

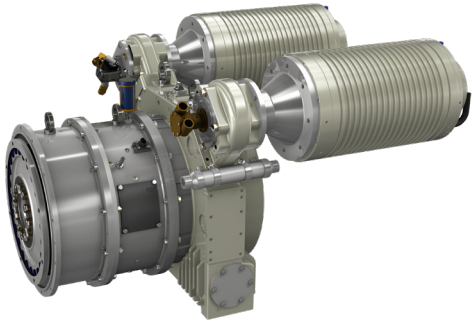
- Based on consolidated standard products utilized for marine and industrial heavy duties
- Ecological sustainability emissions (gas and noise)
- Fuel saving
- SAE engine and SAE transmission
- No need of large space
- Possibility of vessels retrofitting against low costs
- Fours different navigation modes: elecric, regeneration, diesel and booster mode
- DNV-GL N° Certificate TAM00000XY



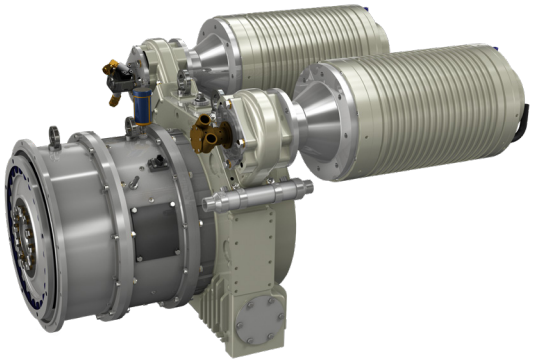
- HM450 - HM560 Hybrid Modules
- Max input power:
  180 kW (241 hp) @ 3800 rpm
- Max tot electric input power:
  35 kW (46 hp) @ 3000 rpm



- HM2000 Hybrid Module
- Max input power:
  435 kW (583 hp) @ 3000 rpm
- Max tot electric input power:
  150 kW (201 hp) @ 3000 rpm



- HM3350 Hybrid Module
- Max input power:
  620 kW (831 hp) @ 2300 rpm
- Max tot electric input power:
  200 kW (268 hp) @ 3000 rpm



- HM6300 Hybrid Module
- Max input power:
  1230 kW (1649 hp) @ 2300 rpm
- Max tot electric input power:
  200 kW (268 hp) @ 3000 rpm


PILOTS


HYBRID
BOAT
TRANSFLUID

NOTES

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