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TRANSFLUID'S TECHNOLOGY IN THE NAVAL PROFESSIONAL WORLD

Constant Fill Fluid Couplings
Variable Fill Fluid Couplings
Oil/Air Actuated PTOs
Oil/Air Clutches
Hydraulic Brakes
Flexible Couplings
Multi Pump Drives

Navigate with us

OVER 50 YEARS EXPERIENCE WITH FLUID COUPLING

Ready to be mounted directly on SAE engine flywheels and SAE engine housing by RBD elastic coupling

KFBD - KRDA - KRU Constant Fill Fluid Couplings

Ideal for the latest engines 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 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 absorbtion by fluid acting as the power transmission element

A drain type Fluid Coupling acting as a Clutch without friction plates

KPT - Variable Fill Fluid Couplings

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 3350 kW (4450 hp)

Monitorable and controllable by a dedicated Microprocessor MPCB R5 (*)

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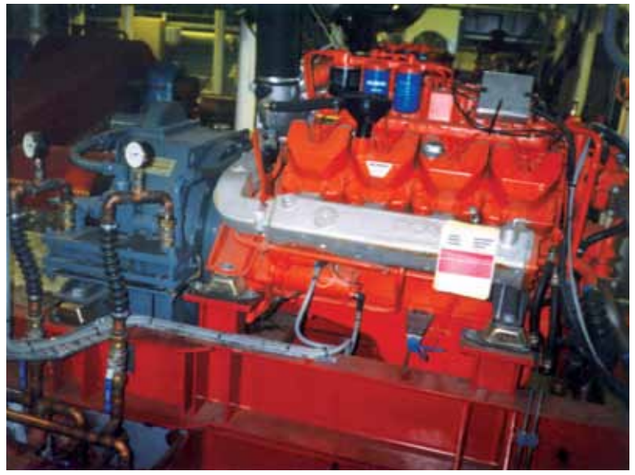
TANGIBLE BENEFITS OF USE



Variable Fill Fluid Coupling

Applied on Azimuth
Rudder Propeller

The ferry boat can be powered either by one or more engines, constantly protected by the KPT Fluid Coupling

SIDE LOAD OR IN LINE CLUTCH

Remote control operation just by button pushing (self adjusting)
No flywheel pilot bearing needed
Kevlar friction discs for PTO life extension and torsional vibrations dampening
Up to 7750 Nm (5715 lb-ft)

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

HF Oil/Air Actuated Power Take Off
Suitable for disengagement/engagement of water jets impeller

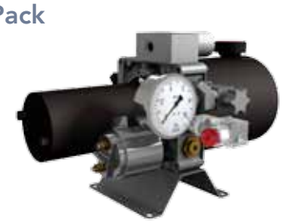
DEDICATED DEVICE FOR A SELF WORKING PTO

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

Hydraulic and 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)

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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

Lloyd's R. - DNV - RINA - BV On Board Classifications

SINGLE & MULTI-HEAD PUMP DRIVE

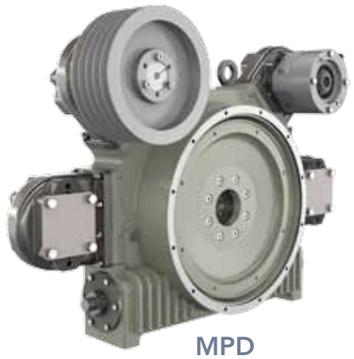
Stub Shaft PTO implement with side load capacity
Disconnecting SAE B and C wet clutch
Modular unit from one to eight pump pads
Face to Face for power up to 1500 kW (2010 hp)
Input high torsional flexible coupling for vibration dampening

SPD

Oil/air actuated clutches
for pump disconnection

CC650

BB640



MPD

Stelladrive

Input & Output side
ready for any SAE
standard transmission

MAXIMUM FLEXIBILITY FOR TRANSMISSION PACKAGE

MPD - Stelladrive

MPD18 with Variable Fill Fluid Coupling

MPD22 with marine gear box

Input & Output side ready for any SAE standard transmission

TC14 - 311R

TowerClutch

Multi pump heads 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 2)

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APPLICATIONS

Multiple pump drives
for any vessel requirement

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 clambing 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"

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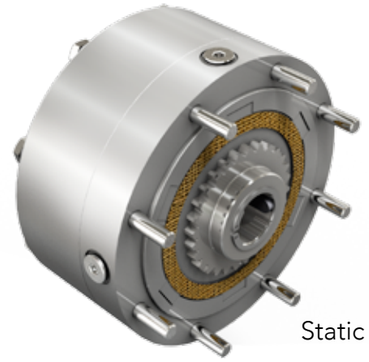
PROPULSION OR AUXILIARY

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 propeller disengagement and reverse
for grid debris cleaning

Dynamic Torque up to
2492 Nm (1838 lb-ft)

HIGH SPEED = MAX EFFICENCY

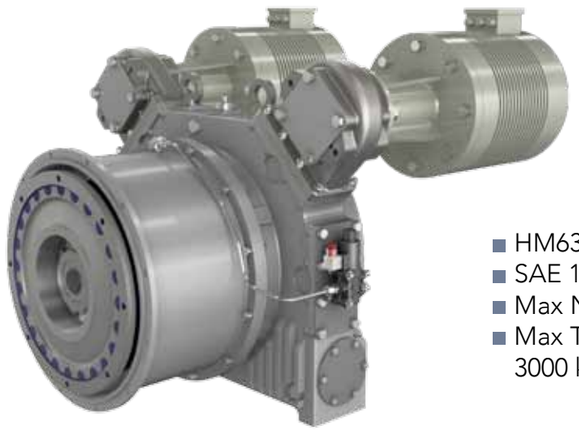
HM SERIES FOR GREEN POWER AND FUEL ECONOMY

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
Powered by electric or engine propulsion or booster modes

- HM560 Hybrid Module
- SAE 4 to SAE 4 distance = 305 mm
- Max N° of electric Machine: 1
- Max Tot Electric Input Power: 20 kW @ 3000 rpm

- HM2000 Hybrid Module
- SAE 3 to SAE 3 distance = 483 mm
- Max N° of electric Machine: 2
- Max Tot Electric Input Power: 2x75 kW @ 3000 rpm

- HM3350 Hybrid Module
- SAE 1 to SAE 1 distance = 593 mm
- Max N° of Electric Machine: 2
- Max Tot Electric Input Power: 2x75 kW @ 3000 rpm



- HM6300 Hybrid Module
- SAE 1 to SAE 0 distance = 791 mm
- Max N° of Electric Machine: 4
- Max Tot Electric Input Power: 3000 kW @ 3000 rpm

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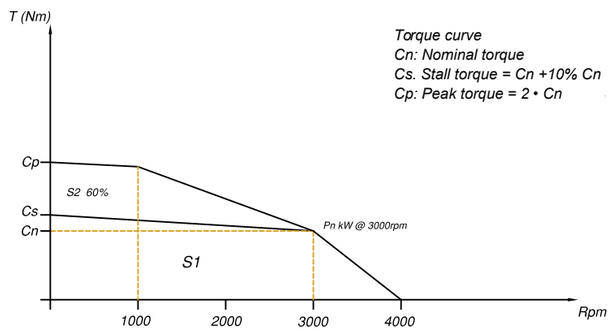
EPS - ELECTRIC PROPULSION SYSTEM

The EPS (ELECTRIC PROPULSION SYSTEM) provides innovative electric propulsion through the combination of standard TRANSFLUID products. Integrating standard components and adhering to SAE standards produces a new product which easily interfaces with any user and application. When used with commercial vehicles, the EPS system includes an automatic "Powershift" RANGERMATIC or REVERMATIC transmission. For marine propulsion the REVERMATIC marine gear uses the reliable RBD coupling. Both transmissions can be installed with Transfluid's permanent magnets electric motor. This improves the operations of the vehicle or boat by using the efficiency and performance of the electrical machine.

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.



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