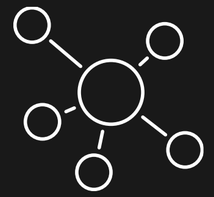
DTORQUE 50
PRODUCT TRAINING

WE INNOVATE AND BUILD EFFICIENT, PREMIUM DIESEL PROPULSION FOR MARINE PROFESSIONALS. WE ARE NEANDER.

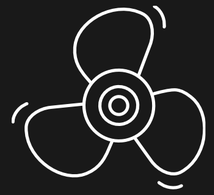
RAPID GROWTH WITH A GROWING GLOBAL NETWORK

70 M
INVESTED



5
CONTINENTS

1M
RUNNING HOURS



10M
NAUTICAL MILES

8M
LITRES FUEL SAVED

ADVANTAGES OF DIESEL

ADVANTAGES OF DIESEL

Safer

High calorific value produces more energy per volume of fuel

Runs at lower temperature resulting in high thermal efficiency

Higher efficiency and lower fuel consumption

Increased reliability

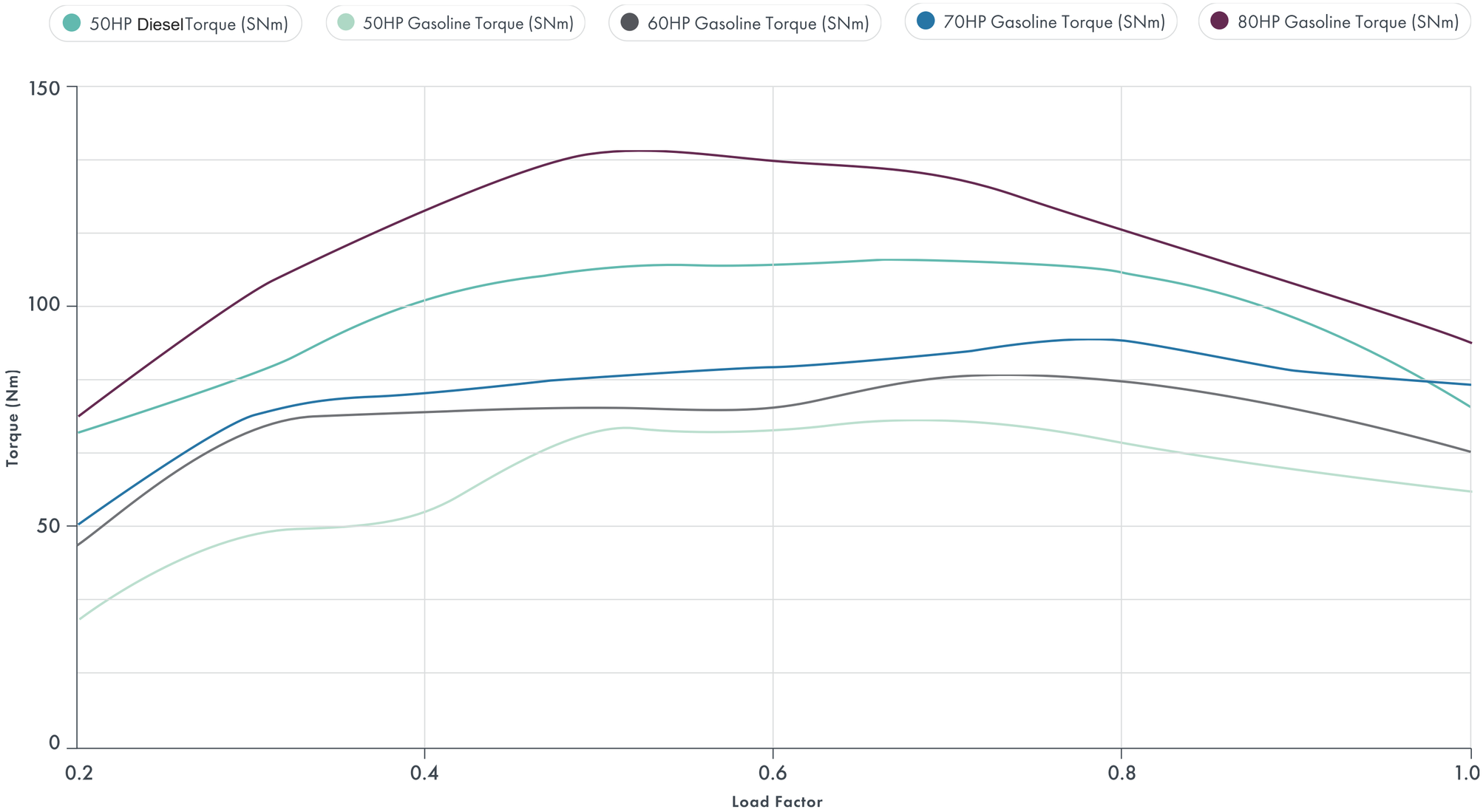
Less CO2 emitted

Different grades of diesel fuels

Greater low-end torque

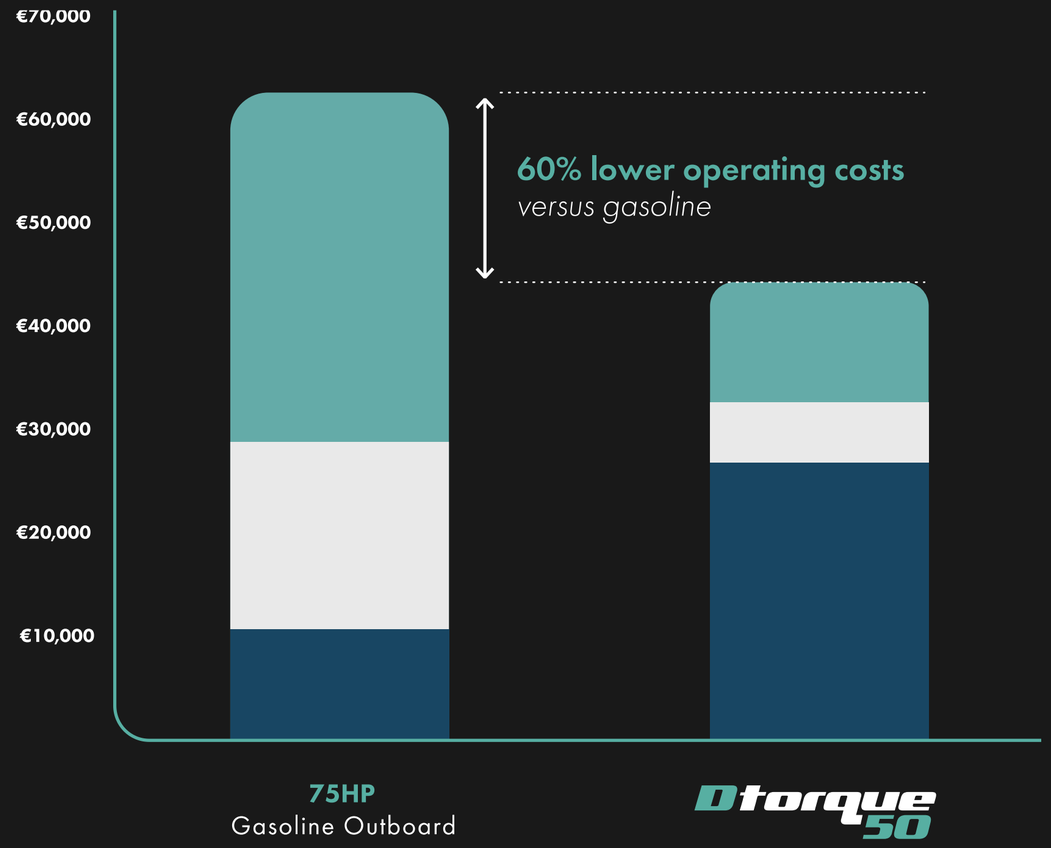
ENGINE TORQUE COMPARISON

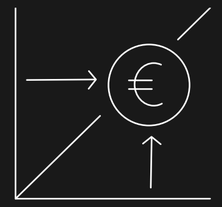
DTORQUE COMPARED TO 50, 70 AND 80 HP GASOLINE



Fuel consumption between 30-40% less: 12.5 liters vs 20 liters per hour at full load / rated speed

Can carry a wider range of load without loss of performance

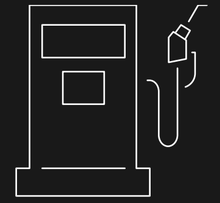




Total cost of ownership
break even at **9 months**

12 (D50) vs **30** (Gas)
service intervals

Equivalent torque to
90hp Gas Outboard

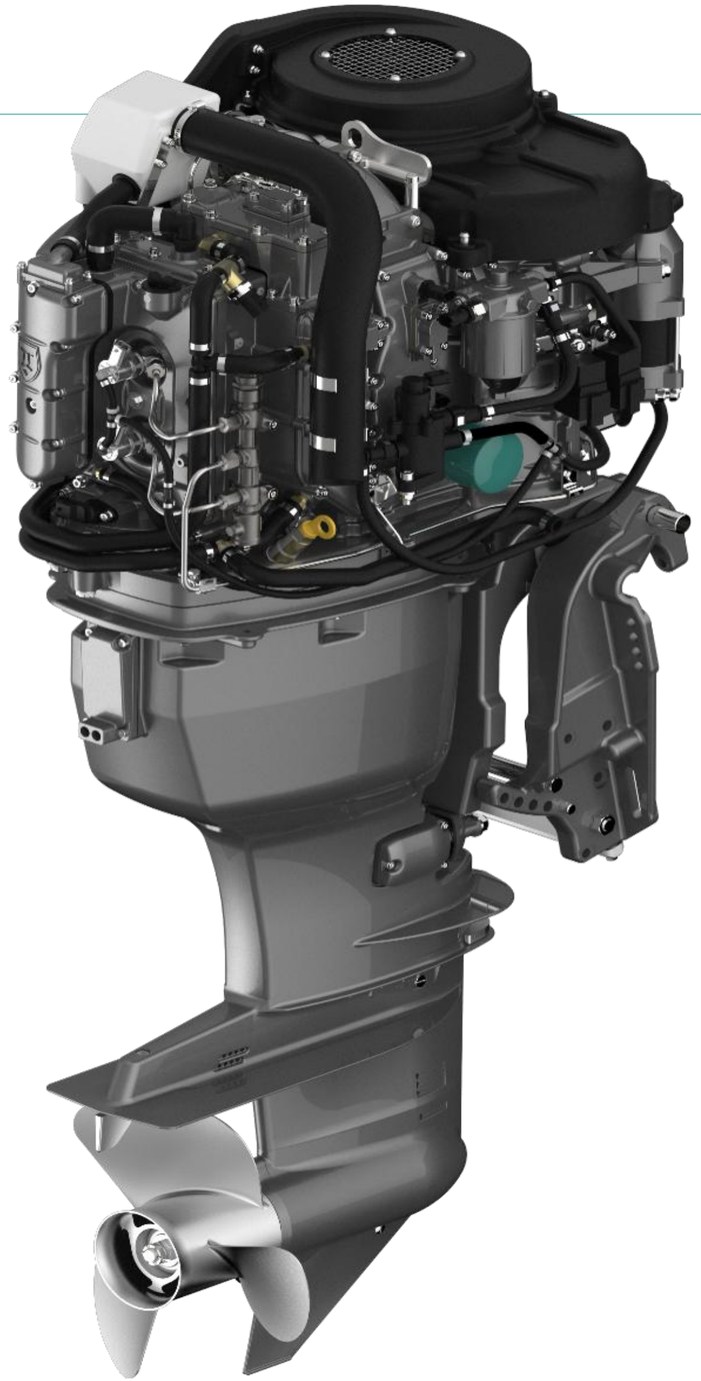


40% less fuel consumption
versus gasoline

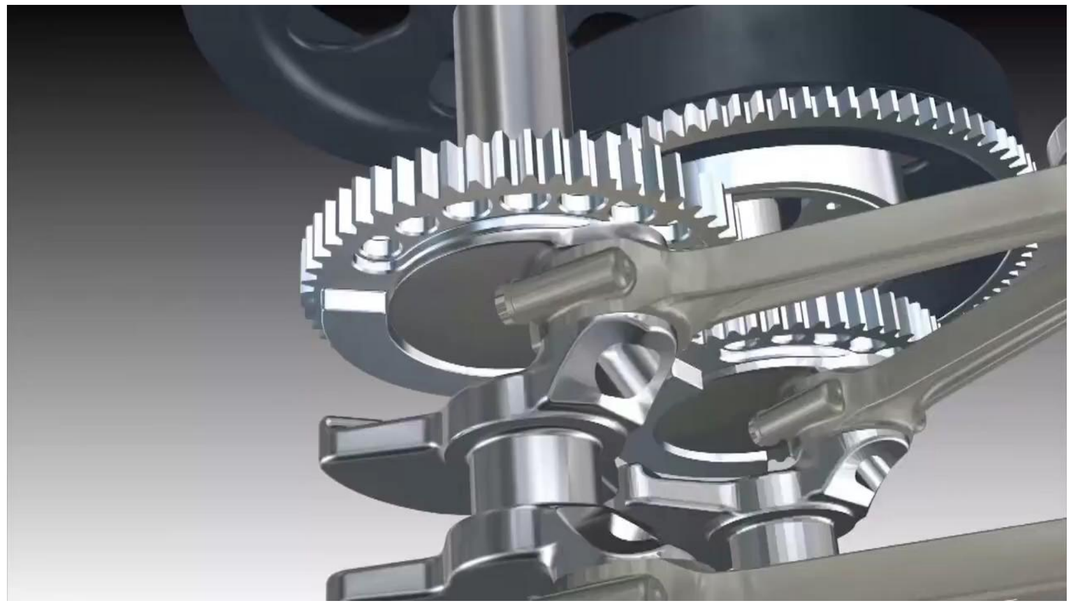
ISO Heavy User calculation based on ISO 8178(ES) rule: Diesel marine commercial user profile
Fuel prices based on an updated sample taken from 100 marinas

DTORQUE

SPECIFICATIONS



Engine designation	DTorque 50
Application	Diesel Marine Commercial
Engine type	4-Stroke turbo diesel twin cylinder
Number of cylinders	2
Displacement	804 cm3
Compression ratio	16,5
Valve train	4 Valves per Cylinder
Rated power	36,8 kW at 3500-4000rpm
Rated torque	111 Nm at 2750rpm
Rated speed	4000 rpm
Air intake	Exhaust turbocharged engine
Fuel injection	Bosch Common Rail
Exhaust	Water-cooled exhaust system
Aftertreatment	None

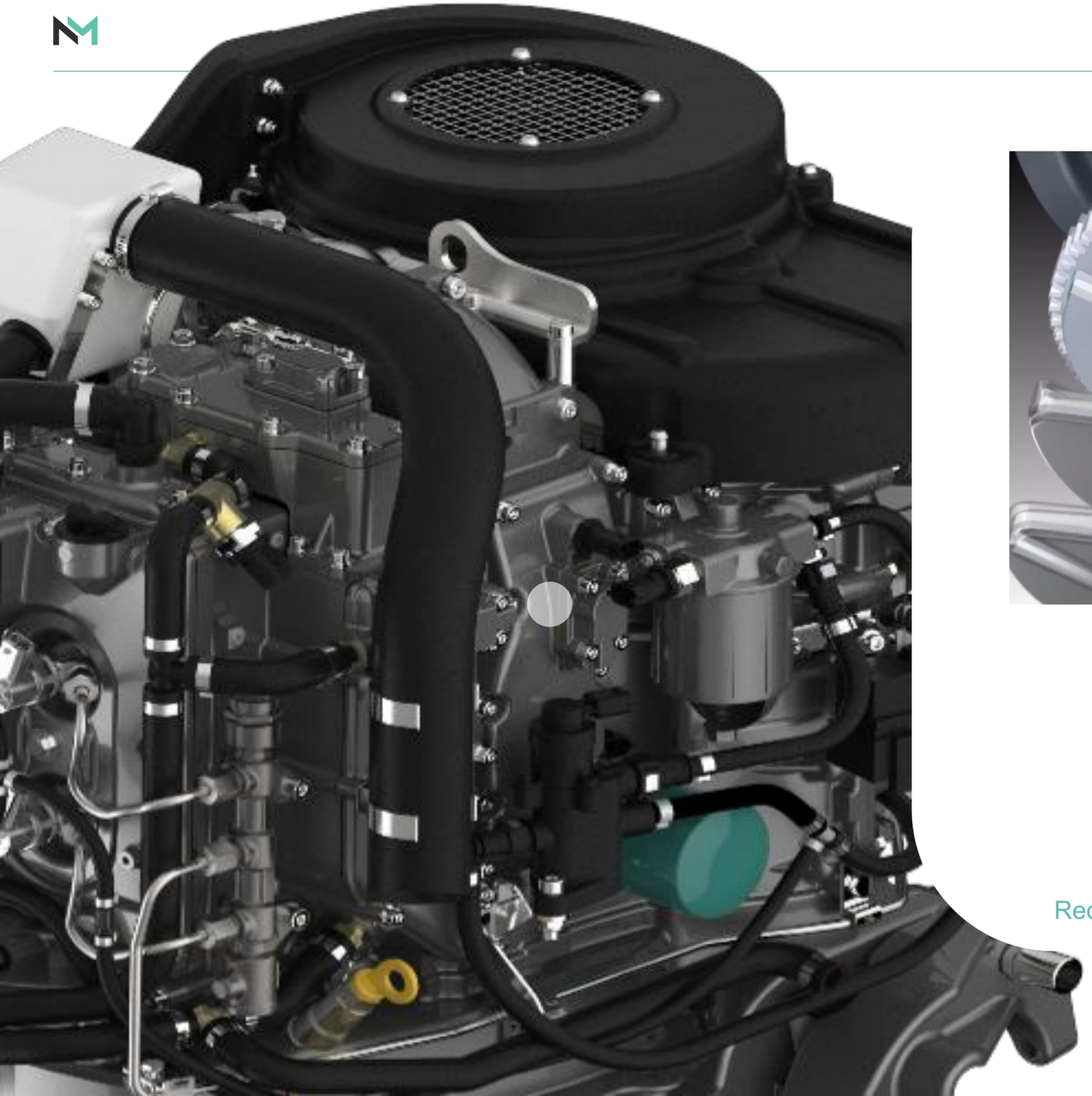


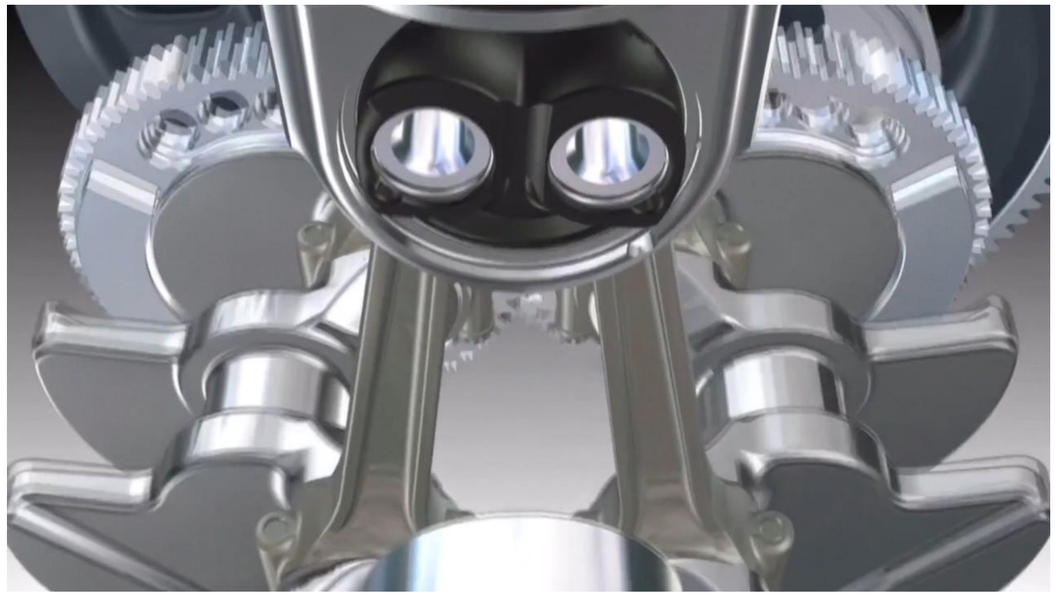
DUAL CRANKSHAFT

Secondary out of balance forces cancelled

Very little torque reaction when using the tiller handle

Creates smooth, quiet and stable engine in all operating conditions





SPACEBALL DESIGN

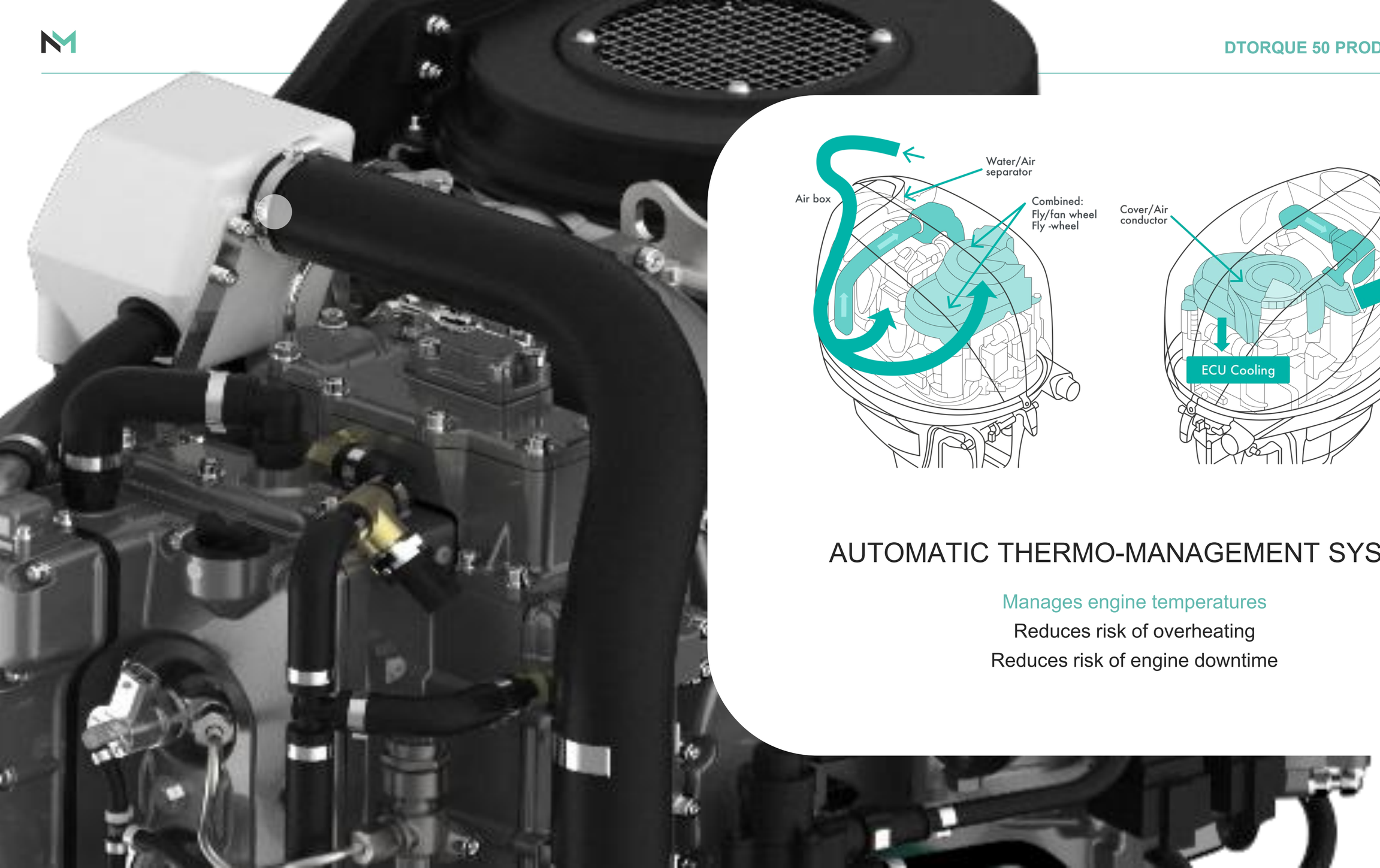
Force is equally divided over two connecting rods

Prevents forced tilt of piston in the cylinder

Space-ball can rotate in piston bore

Piston pins can also rotate in space ball bores

Reduces unwanted mechanical effects: friction, sticking, scuffing

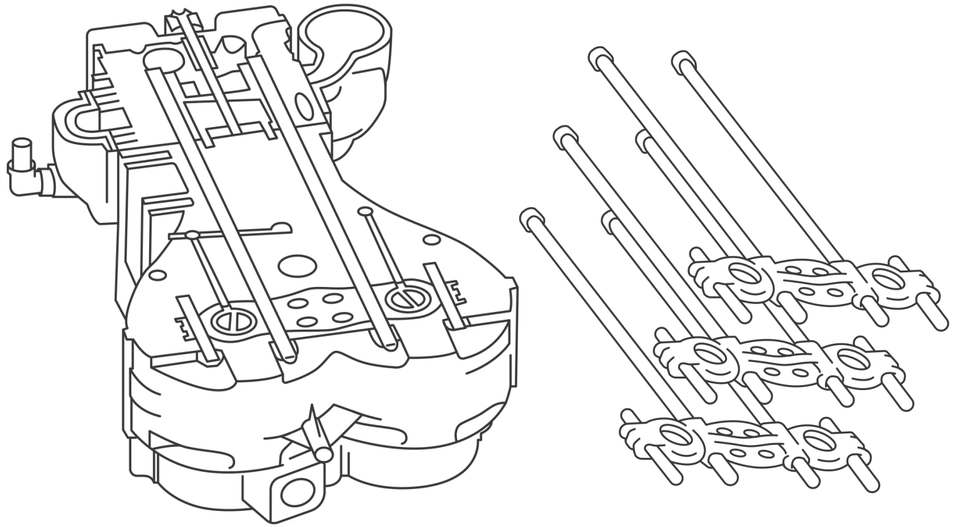


AUTOMATIC THERMO-MANAGEMENT SYSTEM

Manages engine temperatures

Reduces risk of overheating

Reduces risk of engine downtime



ALUMINIUM CYLINDER BLOCK

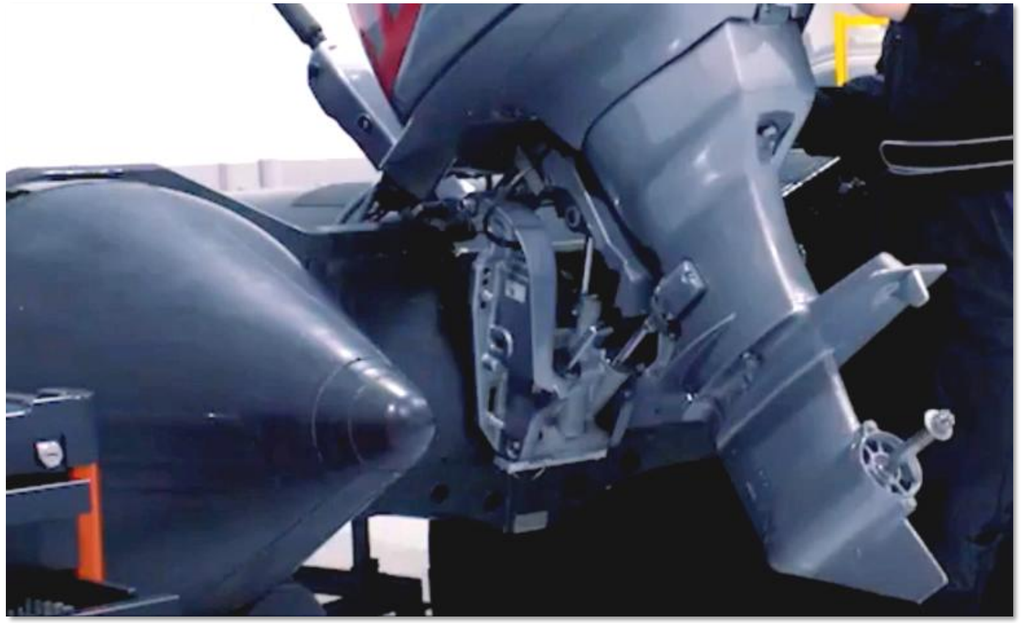
Aluminium design

Cylinder head, block and bedplate joined by long bolts

Optimises durability of structural components

Pressed in cast liners allow rework

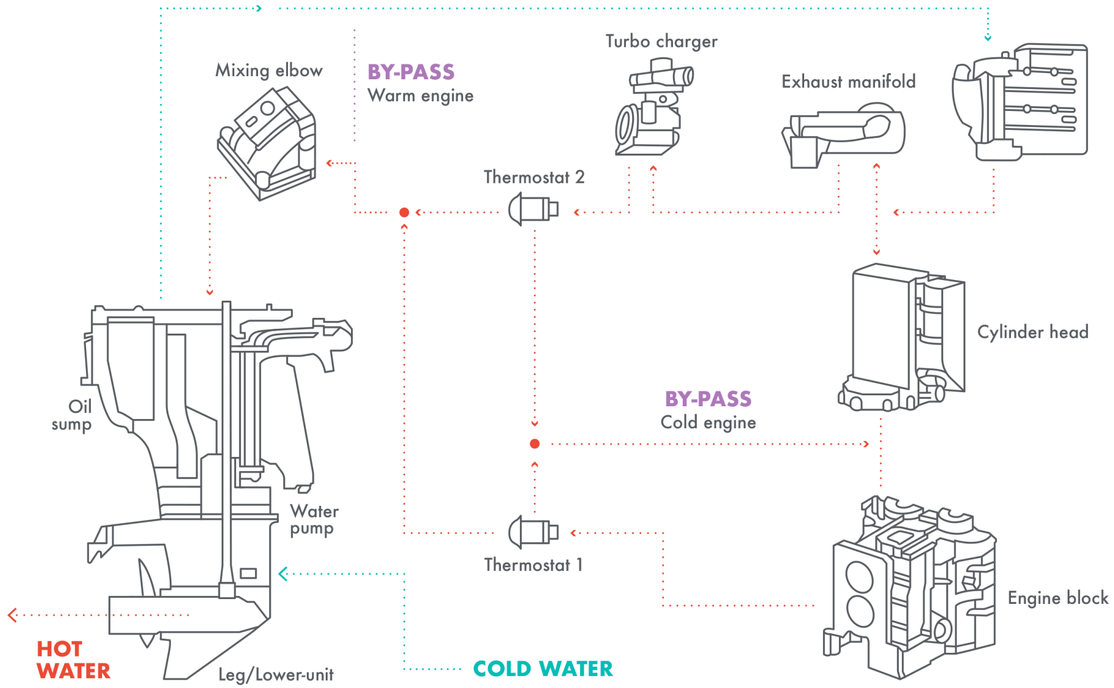
Lightweight and strong



POWER TRIM AND TILT

Universal bolting pattern

Ideal for fleets with high running hours (e.g. service boards for offshore oil rigs).



OUTBOARD COOLING SYSTEM

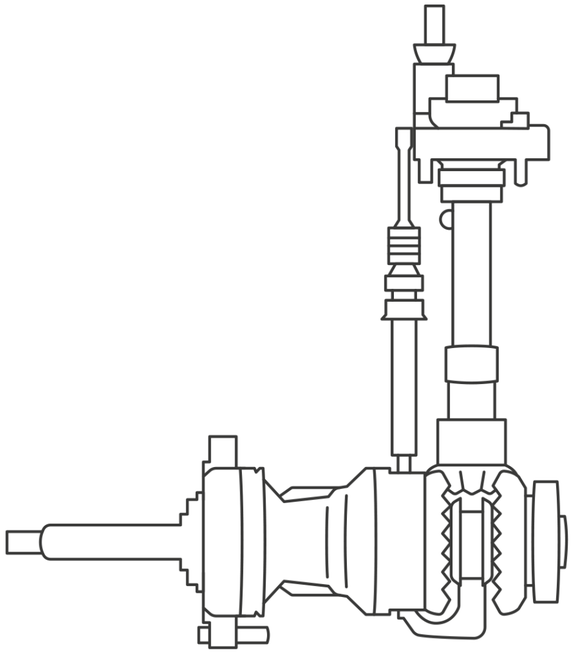
Raw – water cooling system

ECU controlled fuelling

Optimised oil cooling process

Oil pan internal fins

Oil pan acts as large heat sink



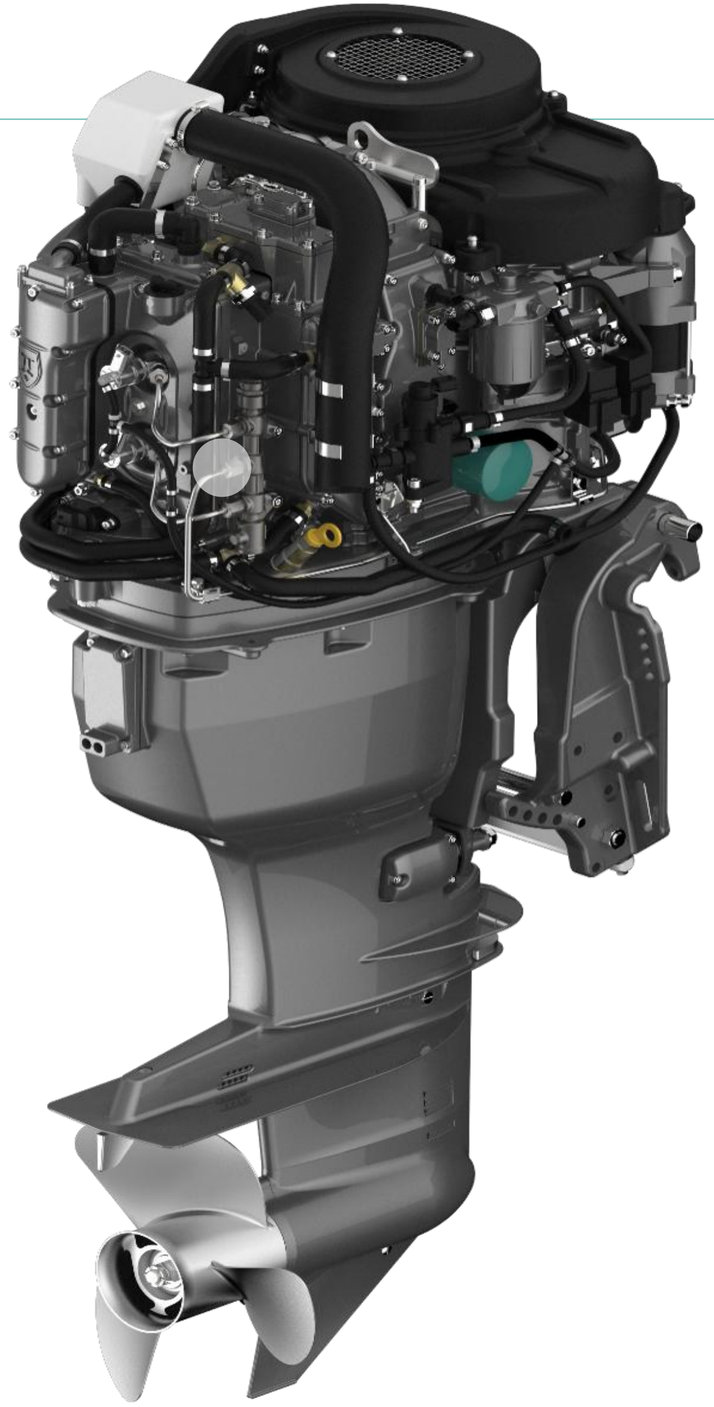
DEEP GEAR RATIO

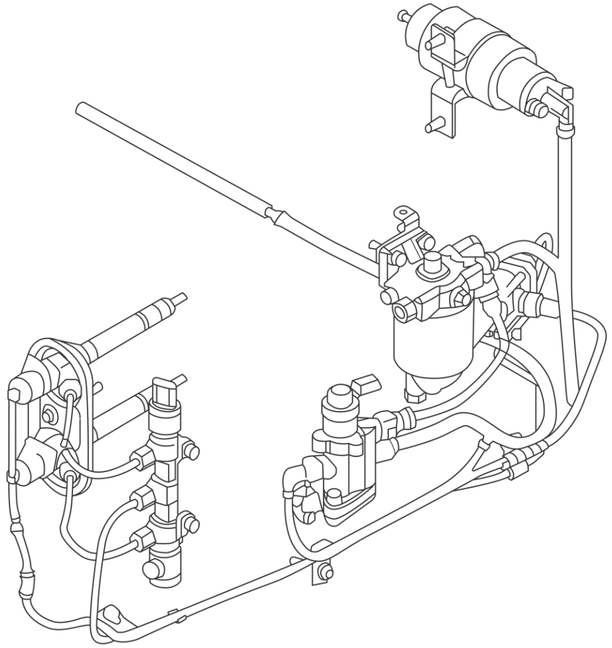
Lower gear ratio of 2.07:1

Greater torque at low revs

Reduced loss of power

Economical operation





BOSCH COMMON RAIL FUEL SYSTEM

Accurate and repeatable fuel quantity injection

Delivers greater power and efficiency

Minimises noise, vibration and smoke

MAINTENANCE
SCHEDULE

ONCE AFTER 50H OPERATION	EVERY 250HR OR 12 MONTHS	EVERY 1000HR OR 4 YEARS
Replacing the fuel filter in the fuel feed line	✓	Lubricating the propeller axis and renew propeller cotter pin
Replacing the fuel filter element in the engine	✓	Replacing the water pump impeller
Changing the engine oil and the oil filter	✓	Replacing the sacrificial anodes
Changing the transmission oil	✓	Clean and check the idle relief cover
Check the tightening torques on the exhaust elbow	✓	Clean cooling ducts and check thermostats
Check warning labels		Clean cooling ducts and replace thermostats
Check electrical supply and connection		Clean and check the exhaust cover and water cover
Check tiller or remote control box		Clean and check exhaust manifold
Check engine dampers		Replacing fuel supply lines
Lubricating the transom		Check all water, air and fuel lines ✓
Lubricating the shift lever		

Universal service kit and separate anodes for use in salt water or fresh water

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Check tiller or remote control box	✓	Clean and check exhaust manifold
Check engine dampers	✓	Replacing fuel supply lines
Lubricating the transom	✓	Check all water, air and fuel lines ✓
Lubricating the shift lever	✓	

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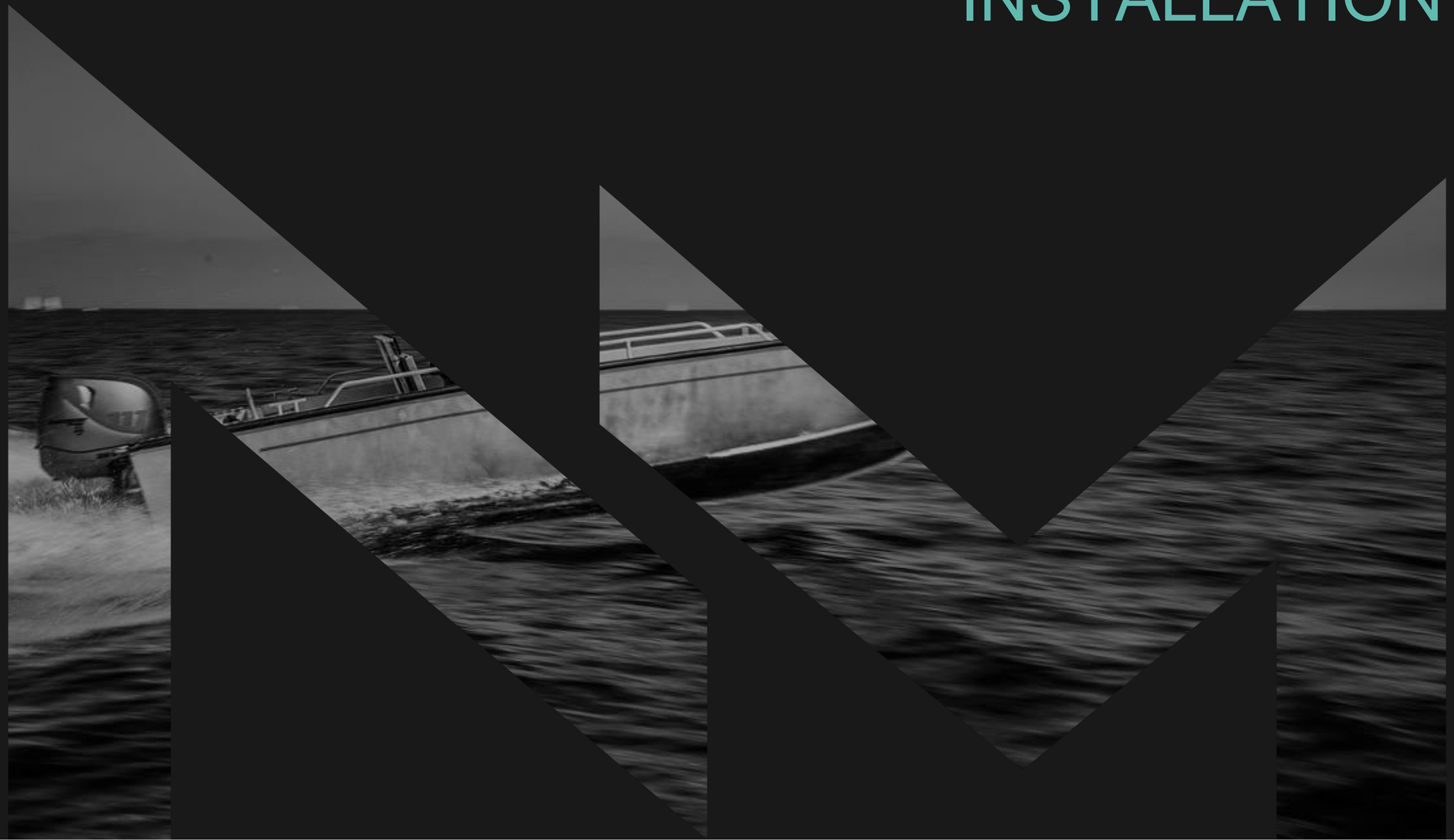
Universal service kit and separate anodes for use in salt water or fresh water

INSTALLATION



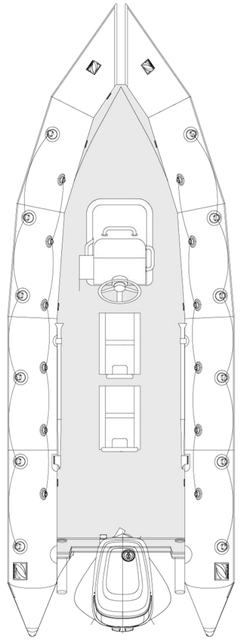
DIFFERENT TYPES OF INSTALLATIONS

INSTALLATION KITS

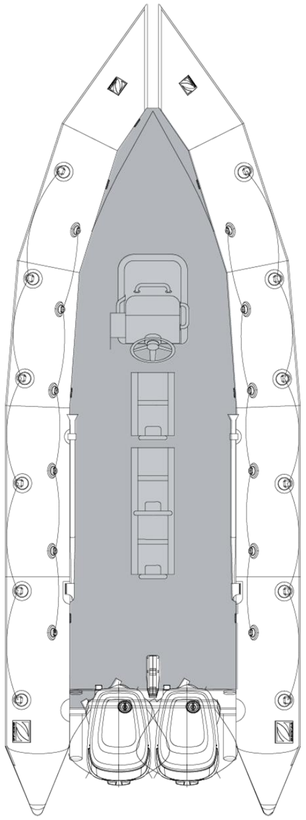
ADDITIONAL REQUIREMENTS

OPTIONAL EXTRAS

SINGLE INSTALLATION



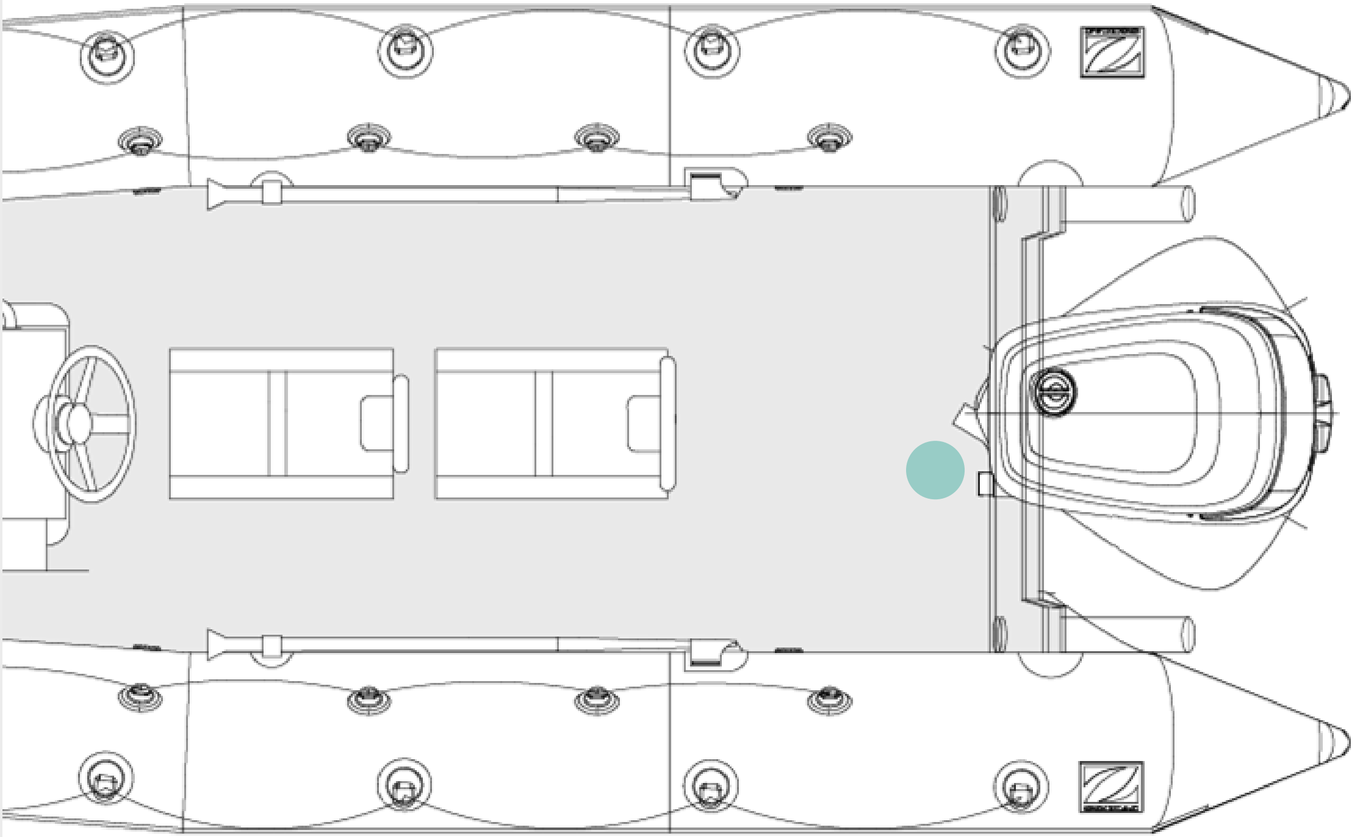
TWIN INSTALLATION



SINGLE INSTALLATION

TWIN INSTALLATION

TILLER INSTALLATION KIT | SIDE MOUNT REMOTE CONTROL | TOP MOUNT REMOTE CONTROL



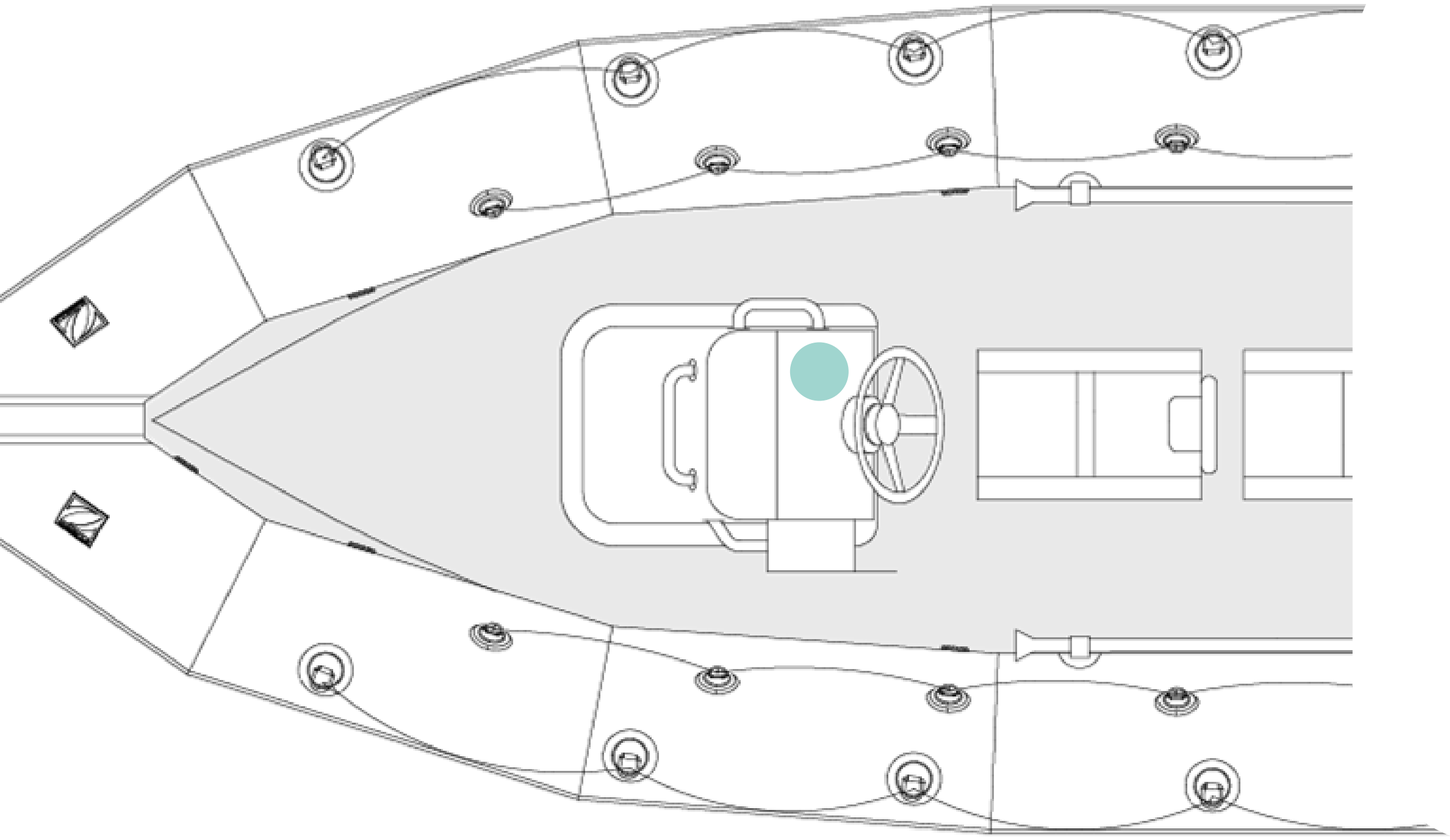
TILLER SET

FUEL FILTER
(provided in all installation kits)

SINGLE INSTALLATION

TWIN INSTALLATION

TILLER INSTALLATION KIT | **SIDE MOUNT REMOTE CONTROL** | TOP MOUNT REMOTE CONTROL



THROTTLE CONTROL SIDE MOUNT

5” TACHO GAUGE

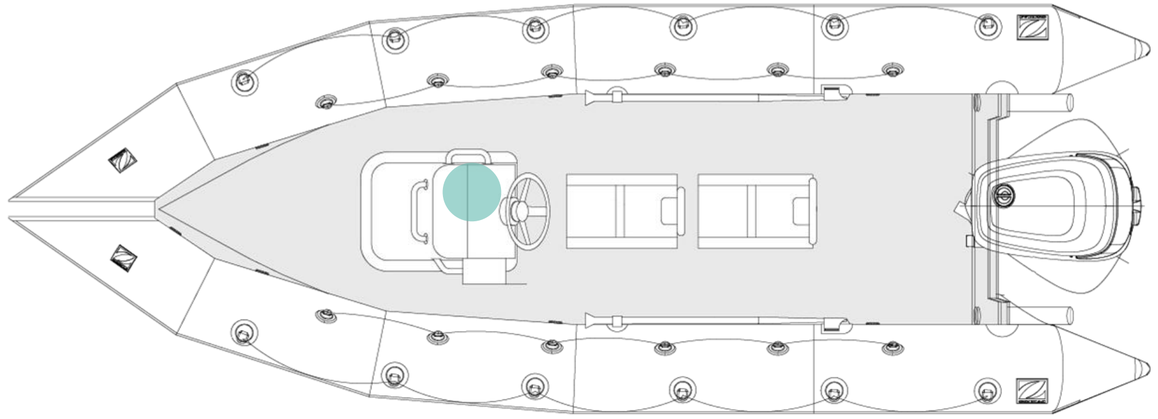
2” FUEL METER GAUGE

SINGLE INSTALLATION

TILLER INSTALLATION KIT SIDE MOUNT REMOTE CONTROL **TOP MOUNT REMOTE CONTROL**

TWIN INSTALLATION

TOP MOUNT REMOTE CONTROL



THROTTLE CONTROL
single top mount

SWITCH PANEL

5” TACHO GAUGE

2” FUEL METER GAUGE

SINGLE INSTALLATION

TWIN INSTALLATION

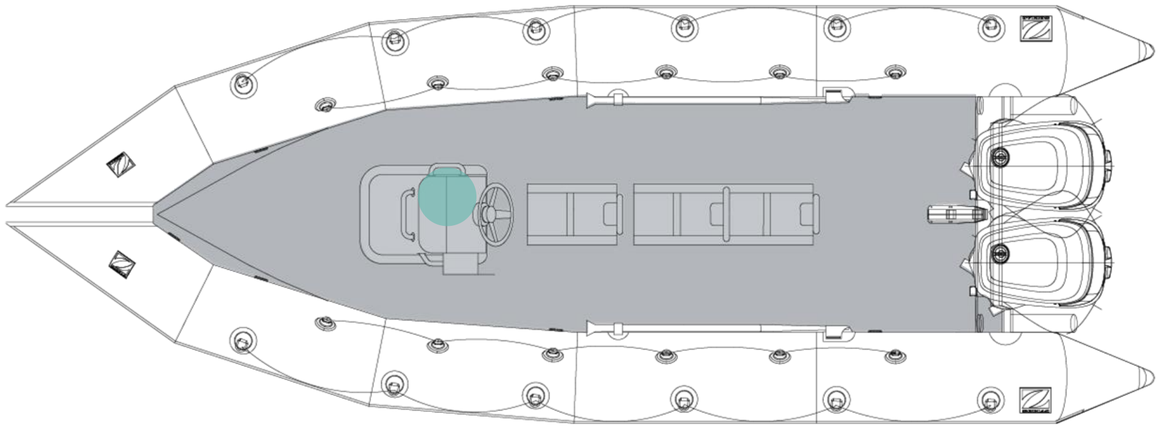
TOP MOUNT REMOTE CONTROL

THROTTLE CONTROL
double top mount

SWITCH PANEL X 2
double assembly

5” TACHO GAUGE X 2

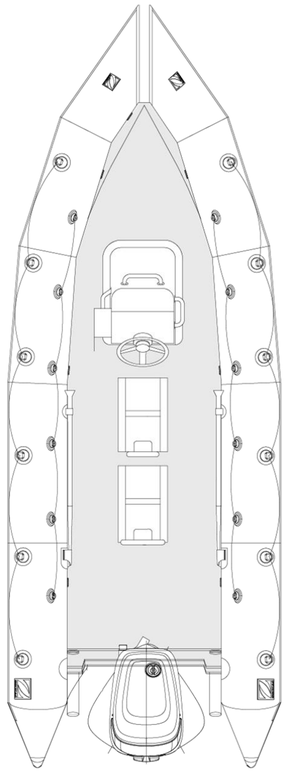
2” FUEL METER GAUGE X 2



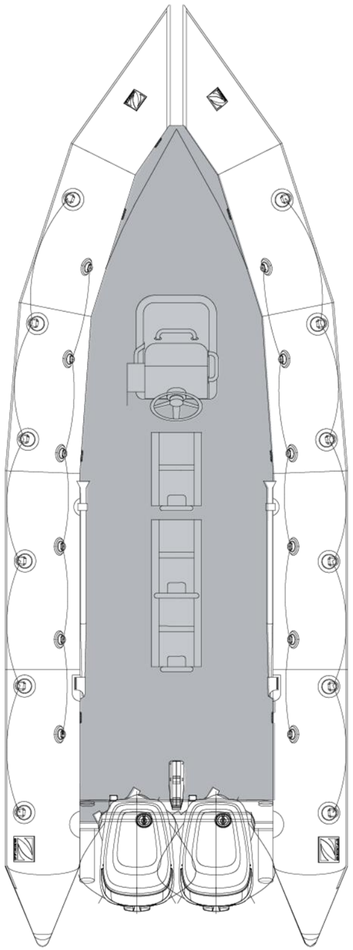
ALSO SUPPLIED IN EACH INSTALLATION KIT

Fuel hose
Kit pre fuel filter
Throttle and shift cable hardware
Transom bolts kit
Kit rigging grommet
Flush coupler kit
Prop shaft kit
Steering arm link hardware
Battery cables

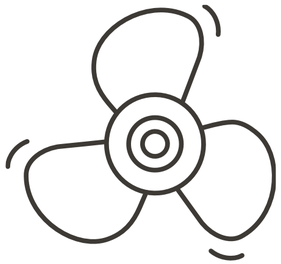
SINGLE INSTALLATION



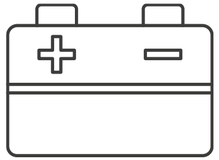
TWIN INSTALLATION



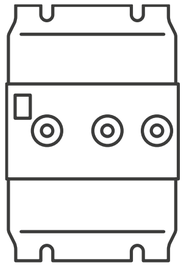
ADDITIONAL INSTALLATION REQUIREMENTS



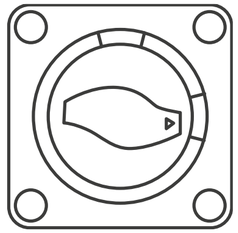
PROPELLERS



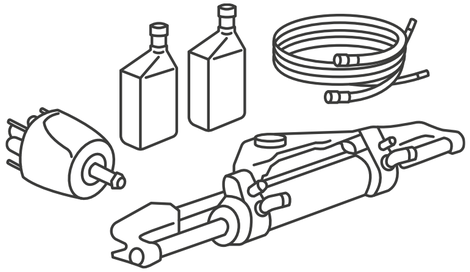
BATTERY
SPEC: 12 V, MIN. 75 AH



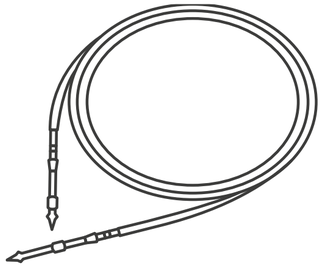
SUITABLE CHARGING DIODE



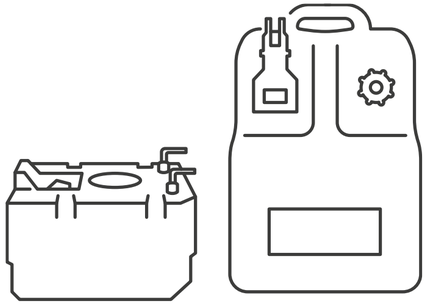
BATTERY SWITCH
CORRECT IP 65 RATED



HYDRAULIC STEERING SYSTEM
COMPATIBLE WITH WEIGHT AND TORQUE
OF DTORQUE 50



CONTROL CABLES
AVAILABLE TO BUY FROM NEANDER SOON



FUEL TANK
WITH RETURN LINE SUITABLE FOR
DIESEL FUEL (AVAILABLE FROM NEANDER)

OPTIONAL EXTRAS

FUEL METER GAUGE
EXTENSION (0,5M)

EXTENSION CABLES
7M, 9M, 11M AVAILABLE

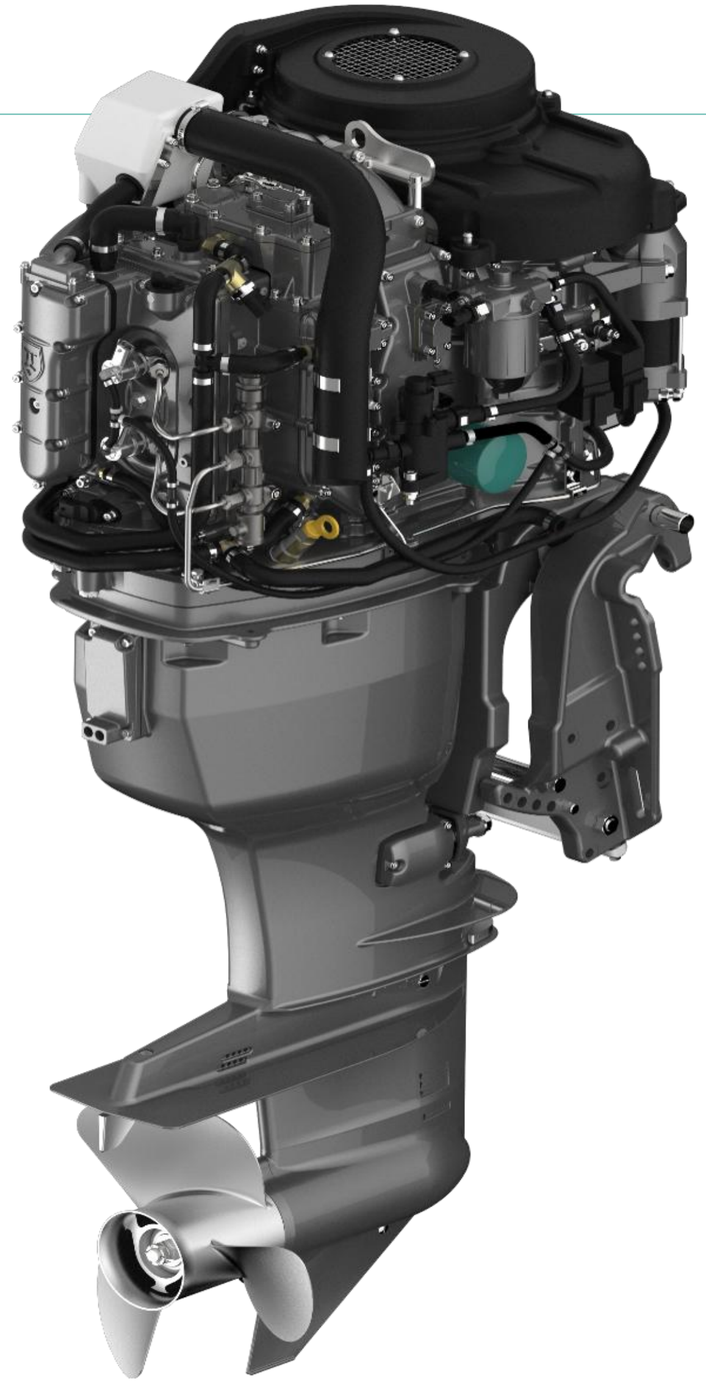
PORTABLE FUEL TANK
25 LITRES, INCLUDING QUICK CONNECTORS AVALIABLE

FIXED FUEL TANK
40 LITRES AND 60 LITRES AVAILABLE

PROPELLER GUARD WITH DRILL TEMPLATE
ALUMINIUM, VARIOUS AVAILABLE

FUEL HOSE
ID-7.9, OD=15.5 PER RUNNING METER (MOQ=6)

OPERATIONAL GUIDELINES



DUTY CYCLE

3700-4000 RPM at wide open throttle consuming 11.9 L/H

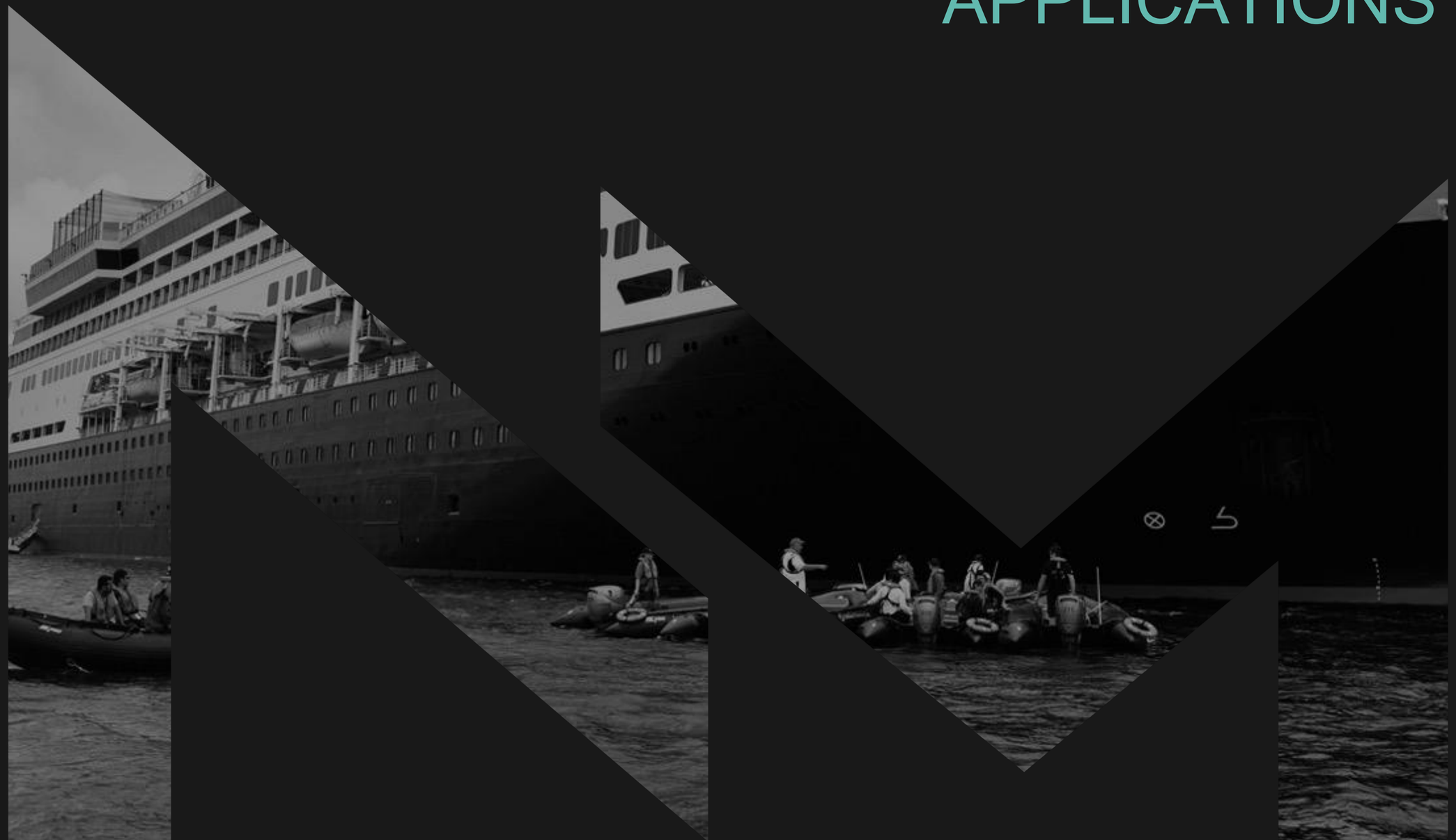
Standard operation is below **90%** of maximum engine speed – **3600 RPM**

Load factor must not exceed **35%**

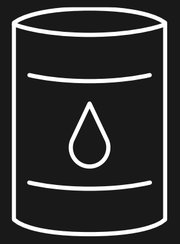

SINGLE INSTALLATION
TWIN INSTALLATION
Max.
3,000
kg
Min.
Length
4.5m
Max.
Length
7m

SINGLE INSTALLATION | **TWIN INSTALLATION**

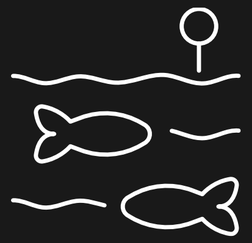
APPLICATIONS



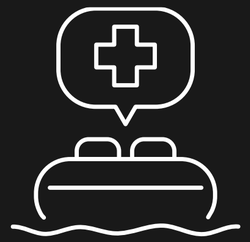
APPLICATIONS



OIL & GAS



FISH FARMS



SOLAS

EXPLORER CRUISESHIP

IN-HARBOUR

SUPERYACHT TENDERS

GOVERNMENTAL

RENEWABLE ENERGY

APPLICATION	BOAT BRAND	BOAT MODEL	BOAT TYPE	NO. OF ENGINES	BOAT LENGTH (M)
Explorer Cruiseship	Zodiac Milpro	Mk. 5	RIB	1	5.85

Top Speed (MPH)	28
Cruise Speed Fuel Consumption (GPH)	4 – 6 LPH / 1 – 1.5 GPH
Maximum Speed Fuel Consumption (GPH)	11.9 LPH / 3.14 GPH

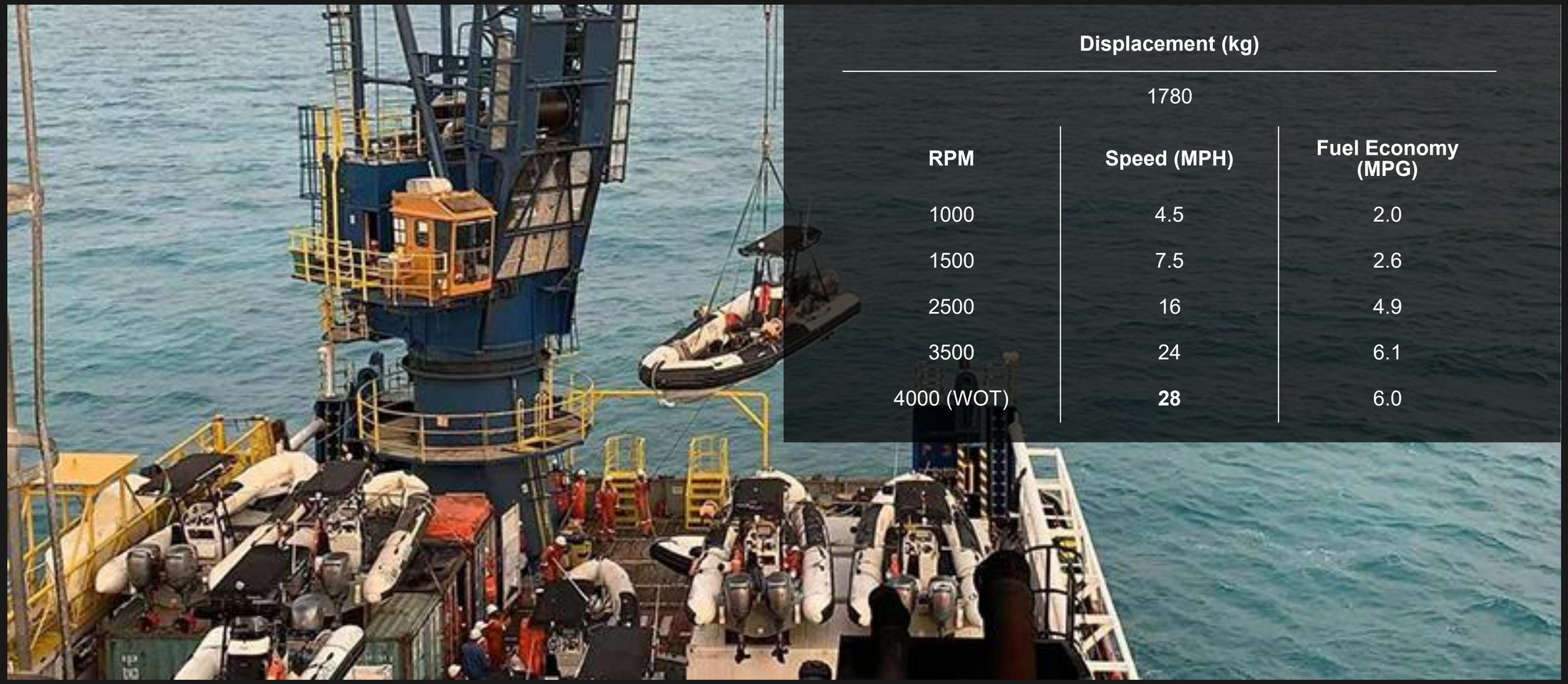
APPLICATION	BOAT BRAND	BOAT MODEL	BOAT TYPE	NO. OF ENGINES	BOAT LENGTH (M)
In-Harbour	Survitec	5.6 SR	RIB	1	5.6

Top Speed (MPH)	31
Cruise Speed Fuel Consumption (GPH)	4 – 6 LPH / 1 – 1.5 GPH
Maximum Speed Fuel Consumption (GPH)	11.8 LPH / 3.12 GPH

APPLICATION	BOAT BRAND	BOAT MODEL	BOAT TYPE	NO. OF ENGINES	BOAT LENGTH (M)
Superyacht Tender	BSC	Gommoni	RIB	2	6.65

Top Speed (MPH)	31
Cruise Speed Fuel Consumption (GPH)	4 – 6 LPH / 1 – 1.5 GPH
Maximum Speed Fuel Consumption (GPH)	11.9 LPH / 3.14 GPH

APPLICATION	BOAT BRAND	BOAT MODEL	BOAT TYPE	NO. OF ENGINES	BOAT LENGTH (M)
Oil & Gas	Asys	6.5	RIB	2	6.7

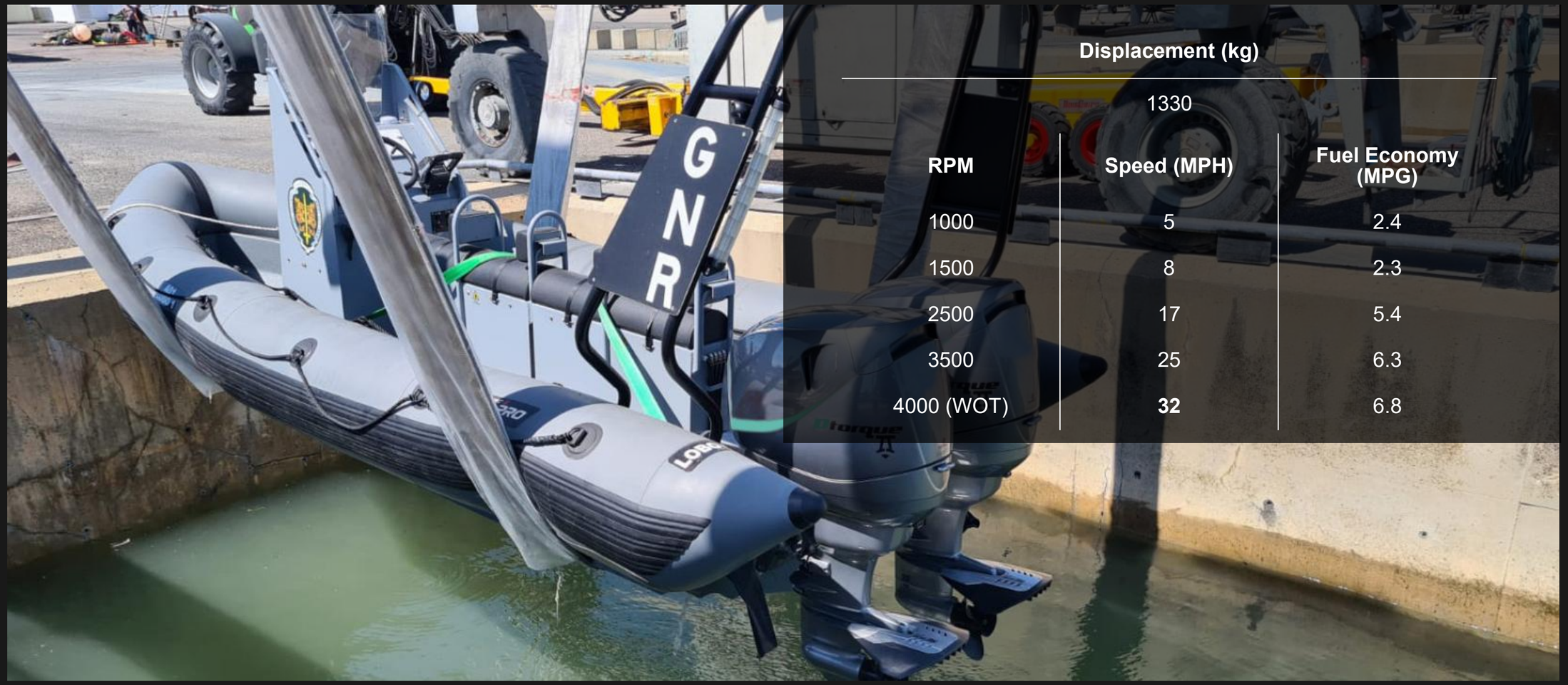


Displacement (kg)		
1780		
RPM	**Speed (MPH)**	**Fuel Economy (MPG)**
1000	4.5	2.0
1500	7.5	2.6
2500	16	4.9
3500	24	6.1
4000 (WOT)	**28**	6.0

APPLICATION	BOAT BRAND	BOAT MODEL	BOAT TYPE	NO. OF ENGINES	BOAT LENGTH (M)
Fish Farms	Aqualine	B72DF	HDPE	1	7.2

Displacement (kg)		
2200		
RPM	Speed (MPH)	Fuel Economy (MPG)
1000	3	2.8
1500	6	4.1
2500	10	6.3
3500	12	6.1
4000 (WOT)	**16**	6.8

APPLICATION	BOAT BRAND	BOAT MODEL	BOAT TYPE	NO. OF ENGINES	BOAT LENGTH (M)
Governmental	Zodiac Milpro	SRR650	RIB	2	6.5



Displacement (kg)		
1330		
RPM	**Speed (MPH)**	**Fuel Economy (MPG)**
1000	5	2.4
1500	8	2.3
2500	17	5.4
3500	25	6.3
4000 (WOT)	**32**	6.8

APPLICATION	BOAT BRAND	BOAT MODEL	BOAT TYPE	NO. OF ENGINES	BOAT LENGTH (M)
Rescue boats	Stormer	Rescue 75	Aluminium	2	7.7

TOP SPEED (MPH)	31
CRUISE SPEED FUEL CONSUMPTION (GPH)	4 – 6 LPH / 1 – 1.5 GPH
MAXIMUM SPEED FUEL CONSUMPTION (GPH)	11.9 LPH / 3.14 GPH

COMPARISONS

ADVANTAGES OF BOTH

Advantages of a Gasoline Outboard

- Lower initial cost
- Lighter and more versatile than an inboard
- Easy access for maintenance
- Allows more space onboard

Advantages of a Diesel Inboard

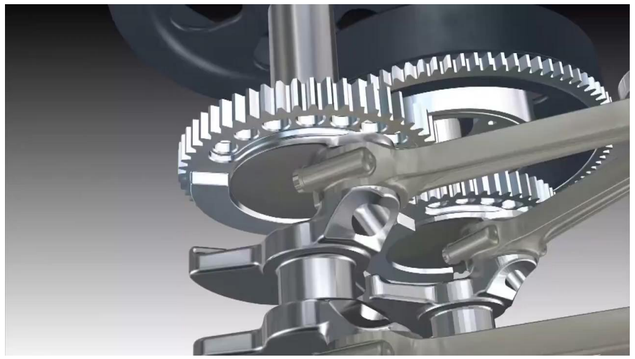
- Lower operating costs
- More durable
- Superior torque & power
- Diesel is a safer and more widely accessible fuel in marinas

DUAL CRANKSHAFT & SPACE BALL

ULTRA LOW CONSUMPTION

WATER-IN-FUEL & WATER PRESSURE SENSORS

REDUCED MAINTENANCE



Reduced noise
Reduced vibration
Greatly improved maneuverability
Lower tiller handle forces creates easier maneuverability

Dtorque 50	✓	Dual Crankshaft
Suzuki DF70A	✗	Single Crankshaft
Yanmar 4JH57	✗	Single Crankshaft
Yamaha F75	✗	Single Crankshaft
Mercury Seapro 75	✗	Single Crankshaft

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REDUCED MAINTENANCE

Consumes 40% less fuel on all ranges of speed

60% savings when compared with an equivalent in terms of torque 80/90HP

Dtorque 50	✓	Max. 12L/H WOT
Suzuki DF70A	✗	Over 20L/H WOT
Yanmar 4JH57	✓	Max. 12L/H WOT
Yamaha F75	✗	Over 20L/H WOT
Mercury Seapro 75	✗	Over 20L/H WOT

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ULTRA LOW CONSUMPTION

WATER-IN-FUEL & WATER PRESSURE SENSORS

REDUCED MAINTENANCE

WATER-IN-FUEL SENSOR

Alerts when excessive water level is present in the diesel

Corrosion prevention by early warning from sensors
Damage prevention caused by bacteria

- Bacteria and microorganisms can grow in water left in diesel
- Producing a layer of slime that can clog up filters and move through the entire system causing corrosion and damage.

WATER PRESSURE SENSOR

Constantly monitors the water flow
Avoids severe mechanical damage to the engine

Dtorque 50	✓	Water in fuel & WPS
Suzuki DF70A	✗	NA
Yanmar 4JH57	✓	Water in fuel sensor OP
Yamaha F75	✗	Water in fuel sensor OP
Mercury Seapro 75	✗	NA

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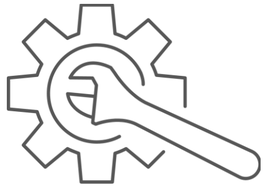

Service intervals of 250 hours, versus 100 hours with an equivalent gasoline outboard

Designed to comply with a light commercial duty usage

Allows you to focus on day-to-day operations

Significantly reduces downtime

Dtorque 50	✓	250h Maintenance
Suzuki DF70A	✗	100h Maintenance
Yanmar 4JH57	✓	250h Maintenance
Yamaha F75	✗	100h Maintenance
Mercury Seapro 75	✗	100h Maintenance

PERFORMANCE COMPARISON

ZODIAC MILPRO SRR530 + DTORQUE

RPM	Speed (MPH)	Fuel Economy (MPG)
1000	6	52
1500	9	37
2500	16	23
3500	26	17
4000 (WOT)	30,5	13

Zodiac BAYRUNNER 500 + YAM F60

RPM	Speed (MPH)	Fuel Economy (MPG)
1000	4	13,33
1500	5,5	9,17
2500	7,7	5,92
3500	18	8,98
4000	22,3	9,08
4500	26,9	8,26
5000	31	7,84
5500	34,6	6,78
5900	38,4	5,5