# TECHNICAL DATA ENGINE MODEL N4.115

# nannidiesel

# energy in blue

#### **ENGINE SPECIFICATION**

Number of cylinders: 4 Displacement: 3769 cm3 Bore - Stroke: 100 x 120 mm Compression ratio: 20/1

Max. pressure difference between cyl. :

10%

Compression pressure: 40 bars

Minimum compression pressure: 29.6 bars Maximum speed without load: 2600rpm Maximum RPM in load: 2820 rpm

Idle RPM in forward gear: 780 - 800 rpm

Max. torque:

Firing order: 1-3-4-2

Rotation: counter clockwise (Flywheel)

#### INJECTION

Direct injection type: E-CDIS Injectors : BOSCH type P

Fuel injection pressure:1st phase: 190 bars

2<sup>nd</sup> phase: 240 bars

Injection pump manufacturer:

**BOSCH MINI** 

Injection timing: 12 to 14° before TDC

#### TIGHTENING TORQUE

Arm head cover cap nuts: 6.9 to 11.3 Nm

Cylinder head bolts M12:

98.1 to 107.9 Nm

Flywheel bolts M12: 98.1 to 107.9 Nm Connecting rod bolts M10: 78 to 83.4 nm

Rocker arm bracket nuts M10:

49 to 55.9 Nm

Main bearing caps bolts M14:

137.3 to 147.1 Nm

Crankshaft end bolts M16: 255 to 274 Nm Nozzle holder bolt M8: 17.7 to 20.6 Nm

Injection pump shaft bolts M14:

73.6 to 83.4 Nm

B+ starter nut M8: 9.8 to 11.8 Nm

## LUBRIFICATION

Oil pressure at idle RPM: 0.5 bar

Oil pressure at maximum load: 2 to 4 bars Recommended oil: MOTUL MARINE 4T

SAE 15W40 API mini CD

Oil pan capacity: 13.2 liters horizontal

engine

Gearbox model:

Oil capacity:

depending type

Recommended oil:

### **COOLING CIRCUIT**

Capacity: 12 liters

Liquid: 50% antifreeze + 50% water

#### DIAGRAMS

Valves clearance (cold):

0.23 to 0.27 mm Valve recessing: Inlet: 0.6 to 0.8 mm

Exhaust: 0.85 to 01.05 mm

#### **PISTON RINGS**

Piston ring gap:

Piston compression: 0.30 to 0.45 mm

Limit: 1.25mm

Oil control: 0.25 to 0.45 mm

Limit: 1.25 mm

#### CYLINDER HEAD

Cylinder head surface flatness: < 0.05mm

#### SEA WATER PUMP

Water flow: 130 liters per minutes

#### ELECTRICITY

Intake air resistance (cold): 0.3 ohms Recommended battery: 12v 136 AH