

4031 M30

FOR MARINE APPLICATIONS
3 CYLINDERS IN LINE - DIESEL CYCLE
22.1 kW (30 CV) @ 3600 rpm (A1)



T E C H N O L O G I C A L E X C E L L E N C E

IVECO
MOTORS

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| | | |
|--|------------------|------------------------|
| Thermodynamic cycle | | Diesel 4 stroke - D.I. |
| Air intake | | NA |
| Arrangement | | 3L |
| Bore x Stroke | mm | 75 X 77.6 |
| Total displacement | l | 1.028 |
| Valves per cylinder | | 2 |
| Cooling | | liquid |
| Direction of rotation (viewed facing flywheel) | | CCW |
| Compression ratio | | 22.8 : 1 |
| Rotation mass moment of inertia (without flywheel) | kgm ² | - |
| Standard flywheel inertia | kgm ² | 0.064 |

Air induction

| | | |
|---|--------------------------|-------------|
| Max suggested intake restriction with clean air filter | kPa(bar) | 3.5 (0.035) |
| Max allowable restriction with dirty air filter | kPa(bar) | - |
| Air requirement for combustion at 100% load/rated speed (comb. + ventilation) | kg/h (m ³ /h) | 130 (111) |
| Turbocharging pressure at full load/rated speed | kPa(bar) | - |
| Turbocharging air max temperature (engine inlet) | °C | - |

Exhaust system

| | | |
|--|----------|-------------|
| Max allowable backpressure | kPa(bar) | 14.6 (0.14) |
| Max exhaust temperature at maximum power | °C | 580 |
| Exhaust flow at max output | kg/h | 139 |

Lubrication system

| | | |
|--|----------|----------|
| Minimum oil pressure at idle (at 100°C) | kPa(bar) | 70 (0.7) |
| Max oil temperature at full load/rated speed | °C | 130 |
| Engine angularity limits continuous operation: max front up and front down | 0/360 | 25 |
| max left hand and right hand | 0/360 | 25 |
| Total system capacity including pipes, filters etc. | liters | 3 |

Sea water cooling system (open circuit)

| | | |
|------------------------------------|-------------------|---------------|
| Max intake restriction | kPa(bar) | 50 (0.5) |
| Sea water pump flow | m ³ /h | 1.5 |
| Heat rejected (total) at max power | kJ/s(kcal/h) | 18.9 (16,200) |
| Sacrificial zinc anodes | n° | 1 |

Cooling system (closed circuit)

| | | |
|--|-------------------|---------|
| Coolant capacity (engine only) | liters | 3 |
| Water pump flow at rated speed | m ³ /h | 2.7 |
| Thermostat (modulating range) | °C | 80 ÷ 95 |
| Cooling liquid max temperature | °C | 88 |
| Min/max inner pressure in the cooling circuit (for keel cooling) | kPa(bar) | - |
| External cooling system max pressure drop (for keel cooling) | kPa(bar) | - |

Fuel system

| | | |
|--------------------------------|----------|----------------|
| Injection system | | Unit Injection |
| Gas oil max intake restriction | kPa(bar) | - |
| Gas oil max intake temperature | °C | 60 |
| Max fuel backpressure to tank | kPa(bar) | 20 (0.2) |

Electrical system

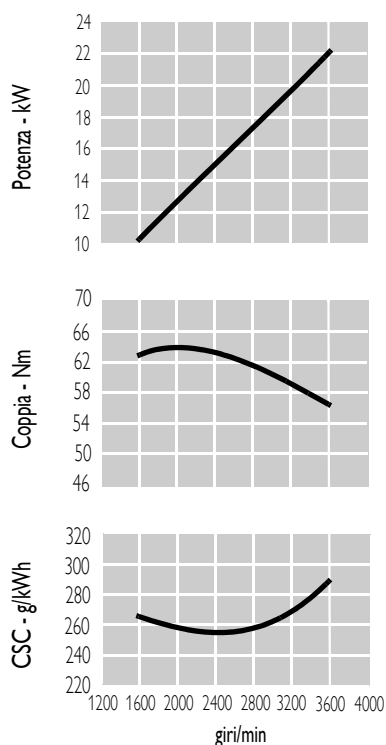
| | | |
|---------|---|----|
| Voltage | V | 12 |
|---------|---|----|

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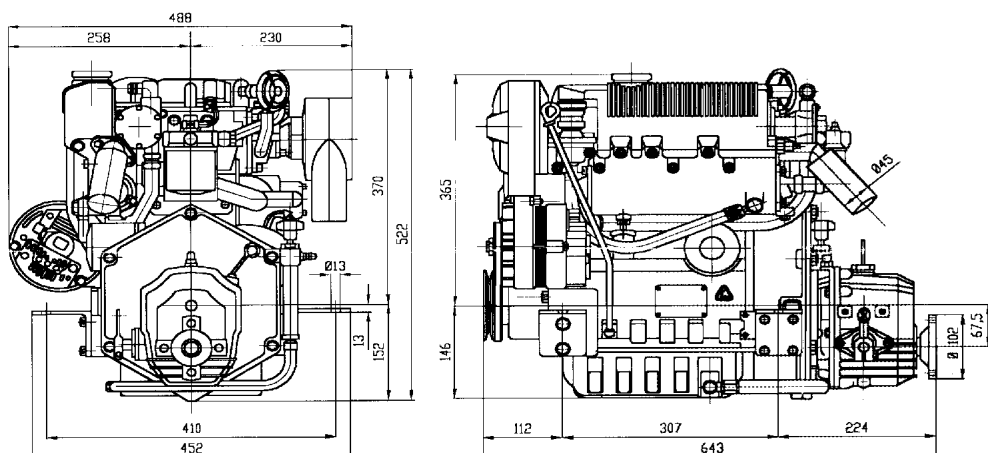
| | | |
|---|-------------------------|-----------------------|
| Rating type | | A1 |
| Maximum power * | kW(CV) | 22.1 (30) |
| At speed | rpm | 3600 |
| Maximum no load governed speed at max rating | rpm | 3850 |
| Minimum idling speed | rpm | 850 ± 50 |
| Mean piston speed at rated speed | m/s | 9.3 |
| BMEP at max torque | kg/cm ² | 7.56 |
| Available certifications | | - |
| Specific fuel consumption at full load (best value) | g/kWh @ rpm | 256 @ 2400 |
| Oil consumption at max rating | (% of fuel consumption) | ≤ 0.2 |
| Minimum starting temperature without auxiliaries | °C | - 20 |
| Oil and oil filter maintenance interval for replacement | hours | 250 oil / 125 filters |
| Dry weight (without marine gear) | kg | 115 |

* **Net Power** at flywheel according to ISO 3046/1, after 50 hours running, fuel Diesel EN 590. Power tolerance 5%
Test conditions : ISO 3046/1, 25 °C air temperature, 100 kPa atmospheric pressure, 30 % relative humidity.

A1



A1 = High performance crafts.
 Full throttle operation restricted within 10% of total use period.
 Cruising speed at engine rpm < 90% of rated speed setting - Maximum usage 300 hours per year.



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Standard configuration

| | | |
|-----------------------------|--------|---|
| Flywheel housing | SAE | B |
| Flywheel size | inch | alignment, flexible coupling Ø 121.5 mm |
| Air filter | | dry |
| Turbocharger | | - |
| Heat exchanger | | tube type |
| Exhaust cooled elbow | | stainless steel Ø 45 mm |
| Water charge tank | | included |
| Fuel filter | n° | 1 - rear side |
| Fuel prefilter | | - |
| Fuel pump | | included |
| Oil filter | n° | 1 - left side |
| Oil sump | | pressed steel with corrosion inhibiting treatment |
| Oil vapours blow-by circuit | | yes |
| Oil heat exchanger | | - |
| Oil filler | | on timing cover frontward |
| Starting motor | | 12 V - 1.1 kW |
| Alternator | | 12 V - 65 A |
| Engine stop device | | electrical excitation |
| Wiring harness | | wiring harness and electrical panel |
| Painting | colour | white "ICE" |

Not included in the standard configuration

| | | |
|--|--|-------|
| Battery - minimum capacity recommended | | 66 Ah |
| Battery - minimum cold cranking capacity recommended | | - |

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|---|-----------------------------|---|-----------------------------|
| <p>IVECO S.p.A. Iveco Motors Lungo Stura Lazio, 49 - 10156 Torino Tel. +39 (011) 0076245 - Fax +39 (011) 0076275 www.ivecomotors.com</p> | <p>Italy</p> | <p>IVECO S.p.A. Iveco Motors Viale dell'Industria, 15/17 - 20010 Pregnana Milanese - Milano Tel. +39 (02) 935101 - Fax +39 (02) 93590029</p> | <p>Italy</p> |
| <p>IVECO FRANCE S.A. Iveco Motors 50 Rue Ampère - B.P. 103 - 69685 Chassieu Cedex Tel. +33 (04) 72472222 - Fax +33 (04) 78905990</p> | <p>France</p> | <p>IVECO N.V. Iveco Motors - Liaison office-India Second Floor - 50, Okhla Industrial Estate - Phase III 110020 New Delhi Tel. +91 11 51613573 - Fax +91 11 26931271</p> | <p>India</p> |
| <p>IVECO MAGIRUS A.G. Iveco Motors Heiner Fleischmann-Strasse, 9 - 74172 Neckarsulm Tel. +49 (07132) 97690 - Fax +49 (07132) 976935</p> | <p>Germany</p> | <p>IVECO FIAT Representative Office in P.R. China 10/F Jinling Hotel World Trade Center 2 Hanzhong Road - 210005 Nanjing. Tel. +86 25 4710981 - Fax +86 25 4701105</p> | <p>China</p> |
| <p>IVECO U.K. Ltd Iveco Motors Road One - Industrial Estate CW7 3QP Winsford Tel. +44 (01606) 541027 - Fax +44 (01606) 541124</p> | <p>Great Britain</p> | <p>IVECO LATIN AMERICA Ltda. Iveco Motors Rua Alameda da Serra, 222 Vale do Sereno - 34000 - 000 Nova Lima (MG) Tel. +55 31 3286 3732/33134 - Fax +55 31 3286 3735</p> | <p>Brazil</p> |
| <p>IVECO SWEDEN A.B. Iveco Motors Lergöskgatan, 12 - 42150 Västra Frölunda Tel. +46 (31) 492450 - Fax +46 (31) 492457</p> | <p>Sweden</p> | <p>IVECO Motors of N.A. 245 E. North Avenue Carol Stream, IL 60188 - 2021 USA Tel. +1 630 260 4226 - Fax +1 630 260 4267</p> | <p>North America</p> |

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