

Technical Data D2-75

Rating

General

4-stroke indirect injected, turbocharged and aftercooled diesel engine

| | | |
|--|-----------------|-----------|
| Number of cylinders | | 4 |
| No of valves | | 8 |
| Displacement, total | litres | 2,22 |
| | in ³ | 135,3 |
| Firing order | | 1-3-42 |
| Rotational direction, viewed from the front | | Clockwise |
| Bore | mm | 84 |
| | in | 3,31 |
| Stroke | mm | 100 |
| | in | 3,94 |
| Compression ratio | | 23,3:1 |
| Compression pressure at 240 rpm | MPa | 2,95 |
| | psi | 428 |
| Maximum forward inclination: | ° | |
| Max. intermittent backward tilt while running: | ° | |
| Max. intermittent side tilt while running: | ° | |
| Idling speed | rpm | 850 ± 25 |
| Rated speed | rpm | 3000 |
| Propeller selection range | rpm | 2700-3000 |
| Dry weight | kg | 233 |
| | lb | 514 |

| Performance | Rating | r/min | 1200 | 1400 | 1600 | 1800 | 2000 | 2200 | 2400 | 2600 | 2800 | 3000 |
|--|--------|-------|-------|-------|------|-------|-------|-------|-------|-------|-------|-------|
| Crankshaft power 1), 5) | | kW | 24 | 29 | 35 | 40 | 44 | 48 | 51 | 54 | 55 | 55 |
| | | hp | 32,64 | 39,44 | 47,6 | 54,4 | 59,84 | 65,28 | 69,36 | 73,44 | 74,8 | 74,8 |
| Propellershaft power 1) (At full load) | | kW | 23,04 | 27,84 | 33,6 | 38,4 | 42,24 | 46,08 | 48,96 | 51,84 | 52,8 | 52,8 |
| | | hp | 31,33 | 37,86 | 45,7 | 52,22 | 57,45 | 62,67 | 66,59 | 70,5 | 71,81 | 71,81 |
| Propellershaft power at prop.load x ³ | | kW | | 5,8 | 7,7 | 11,5 | 15,4 | 21,1 | 26,9 | 34,5 | 43,5 | 52,8 |
| | | hp | | 7,9 | 10,5 | 15,6 | 20,9 | 28,7 | 36,6 | 46,9 | 59,2 | 71,8 |

| Performance | Rating | r/min | 1200 | 1400 | 1600 | 1800 | 2000 | 2200 | 2400 | 2600 | 2800 | 3000 |
|----------------------------|--------|--------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Torque at crankshaft 2) | | Nm | 191 | 197,8 | 208,9 | 212,2 | 210,1 | 208,3 | 202,9 | 198,3 | 187,6 | 175,1 |
| | | lbf ft | 141 | 146 | 154 | 157 | 155 | 154 | 150 | 146 | 138 | 129 |
| Mean piston speed | | m/s | 4,0 | 4,7 | 5,3 | 6,0 | 6,7 | 7,3 | 8,0 | 8,7 | 9,3 | 10,0 |
| | | ft/s | 13,1 | 15,3 | 17,5 | 19,7 | 21,9 | 24,1 | 26,2 | 28,4 | 30,6 | 32,8 |
| Effective mean pressure 2) | | MPa | 1,08 | 1,12 | 1,18 | 1,20 | 1,19 | 1,18 | 1,15 | 1,12 | 1,06 | 0,99 |
| | | psi | 157,0 | 162,6 | 171,8 | 174,5 | 172,7 | 171,3 | 166,8 | 163,1 | 154,2 | 143,9 |

1) ISO 3046, fuel temp 40°C.

ISO 8665 (=SAE J 1228=ICOMIA 28-83)

2) At power according to 1).

3) If reverse gear is used, 4% in heat rejection will be added for its oil cooler.

4) Acc. to ISO 3744

5) At installed back pressure

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Rating

| Fuel system | Rating | r/min | 1200 | 1400 | 1600 | 1800 | 2000 | 2200 | 2400 | 2600 | 2800 | 3000 |
|---|--------|----------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Specific fuel consumption 2) | | g/kWh | 250 | 239 | 234 | 235 | 237 | 242 | 250 | 257 | 267 | 280 |
| | | lb/hph | 0,405 | 0,387 | 0,379 | 0,381 | 0,384 | 0,392 | 0,405 | 0,416 | 0,433 | 0,454 |
| Fuel consumption at prop. load x ³ | | l/h | | 2,107 | 2,655 | 3,737 | 4,795 | 6,492 | 8,077 | 10,57 | 13,55 | 18,27 |
| | | US gal/h | | 0,6 | 0,7 | 1,0 | 1,3 | 1,7 | 2,1 | 2,8 | 3,6 | 4,8 |
| Fuel consumption at full load | | l/h | 7,117 | 8,222 | 9,715 | 11,15 | 12,37 | 13,78 | 15,12 | 16,46 | 17,42 | 18,27 |
| | | US gal/h | 1,9 | 2,2 | 2,6 | 2,9 | 3,3 | 3,6 | 4,0 | 4,3 | 4,6 | 4,8 |

| Intake and exhaust system | Rating | r/min | 1200 | 1400 | 1600 | 1800 | 2000 | 2200 | 2400 | 2600 | 2800 | 3000 | |
|---|--------|-------|------|------|------|------|------|------|------|------|------|------|--|
| Exhaust temperature at the exhaust pipe | | °C | 422 | 414 | 410 | 422 | 436 | 460 | 490 | 518 | 541 | 563 | |
| | | °F | 792 | 777 | 770 | 792 | 817 | 860 | 914 | 964 | 1006 | 1045 | |
| Permitted back pressure in the exhaust line at rated speed. (Installed back pressure) | | kPa | | | | | | | Max | 15 | | | |
| | | psi | | | | | | | | 2,2 | | | |
| Turbo charge pressure. | | kPa | 30 | 41 | 51 | 58 | 60 | 60 | 60 | 60 | 60 | 61 | |
| | | psi | 4,4 | 5,9 | 7,4 | 8,4 | 8,7 | 8,7 | 8,7 | 8,7 | 8,7 | 8,8 | |

| Cooling system | Rating | r/min | 1200 | 1400 | 1600 | 1800 | 2000 | 2200 | 2400 | 2600 | 2800 | 3000 |
|-------------------------------------|--------|----------------------|------|------|------|------|------|------|------|------|------|------|
| Sea water pump flow. | | m ³ /h | 1,6 | 1,8 | 2,1 | 2,3 | 2,6 | 2,9 | 3,1 | 3,3 | 3,6 | 3,8 |
| | | foot ³ /h | 56 | 65 | 74 | 83 | 92 | 101 | 109 | 117 | 126 | 133 |
| Cooling water circulation pump flow | | m ³ /h | 2,9 | 3,4 | 3,9 | 4,4 | 4,9 | 5,4 | 5,9 | 6,5 | 7,0 | 7,5 |
| | | foot ³ /h | 102 | 120 | 137 | 154 | 173 | 192 | 210 | 228 | 248 | 266 |
| Thermostat, start open at | | °C | 83° | | | | | | | | | |
| | | °F | | | | | | | | | | |
| Thermostat, fully open at | | °C | 95° | | | | | | | | | |
| | | °F | | | | | | | | | | |

| Emissions | Rating | r/min | 1200 | 1400 | 1600 | 1800 | 2000 | 2200 | 2400 | 2600 | 2800 | 3000 |
|------------------------------------|--------|-------|------|------|------|------|------|------|------|------|------|------|
| Smoke at prop. load x ³ | | BSU | | 0,2 | 0,2 | 0,2 | 0,2 | 0,2 | 0,1 | 0,1 | 0,1 | 1,7 |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |

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