

MARINE ENGINE PERFORMANCE DATA [RXB02740]**DECEMBER 08, 2020**For Help Desk Phone Numbers [Click here](#)

Performance Number: DM7294

Change Level: 01

Sales Model: C32 DITA

Combustion: DI

Aspr: TA

Engine Power: 1,045.0 KW

Speed: 2,300 RPM

After Cooler: SCAC

Manifold Type: W/C

Governor Type:

After Cooler Temp(C): --

Turbo Quantity: 2

Engine App: MP

Turbo Arrangement:

Application Type: M PROP ENG

Engine Rating: MP

Strategy:

Rating Type: C RATING (MAXIMUM CONTINUOUS) Certification: IMO - 2000 - 2006

General Performance Data : Curve 1: Zone 1

| ENGINE SPEED RPM | ENGINE POWER BKW | ENGINE TORQUE N.M | ENGINE BMEP KPA | FUEL BSFC G/BKW-HR | FUEL RATE LPH | INTAKE MFLD TEMP DEG C | INTAKE MFLD P KPA | INTAKE AIR FLOW M3/MIN | EXH MFLD TEMP DEG C | EXH STACK TEMP DEG C | EXH GAS FLOW M3/MIN |
|------------------|------------------|-------------------|-----------------|--------------------|---------------|------------------------|-------------------|------------------------|---------------------|----------------------|---------------------|
| 1800 | 833.5 | 4,422 | 1,731 | 202.500 | 201.2 | 45.3 | 147.5 | 59.9 | 540.0 | 391.1 | 141.3 |
| 1700 | 772.9 | 4,341 | 1,699 | 199.300 | 183.6 | 44.7 | 122.2 | 51.1 | 540.0 | 403.1 | 122.7 |
| 1600 | 679.5 | 4,055 | 1,587 | 198.700 | 161.0 | 44.5 | 98.5 | 43.1 | 540.0 | 413.5 | 105.5 |
| 1500 | 588.2 | 3,745 | 1,466 | 200.200 | 140.4 | 44.4 | 77.1 | 36.2 | 539.8 | 424.2 | 89.6 |
| 1400 | 510.8 | 3,484 | 1,364 | 202.100 | 123.0 | 44.6 | 61.4 | 30.8 | 540.1 | 432.9 | 77.5 |
| 1300 | 452.1 | 3,321 | 1,300 | 204.100 | 110.0 | 44.9 | 50.8 | 26.7 | 540.3 | 439.4 | 68.2 |
| 1000 | 327.7 | 3,130 | 1,225 | 211.200 | 82.5 | 45.7 | 31.9 | 17.8 | 540.1 | 457.4 | 46.7 |
| 700 | 226.8 | 3,094 | 1,211 | 223.500 | 60.4 | 47.2 | 23.5 | 11.6 | 540.2 | 439.0 | 29.7 |

General Performance Data :Curve 2: Zone 1-2

| ENGINE SPEED RPM | ENGINE POWER BKW | ENGINE TORQUE N.M | ENGINE BMEP KPA | FUEL BSFC G/BKW-HR | FUEL RATE LPH | INTAKE MFLD TEMP DEG C | INTAKE MFLD P KPA | INTAKE AIR FLOW M3/MIN | EXH MFLD TEMP DEG C | EXH STACK TEMP DEG C | EXH GAS FLOW M3/MIN |
|------------------|------------------|-------------------|-----------------|--------------------|---------------|------------------------|-------------------|------------------------|---------------------|----------------------|---------------------|
| 1800 | 902.7 | 4,789 | 1,875 | 206.600 | 222.3 | 45.9 | 175.2 | 66.7 | 565.0 | 402.0 | 159.7 |
| 1700 | 845.8 | 4,751 | 1,860 | 202.000 | 203.7 | 45.0 | 149.7 | 57.6 | 565.0 | 414.3 | 140.5 |
| 1600 | 761.9 | 4,547 | 1,780 | 199.700 | 181.4 | 44.7 | 123.1 | 48.6 | 565.0 | 425.9 | 120.8 |
| 1500 | 657.0 | 4,182 | 1,637 | 199.900 | 156.5 | 44.5 | 94.2 | 39.8 | 564.9 | 438.8 | 100.6 |
| 1400 | 559.3 | 3,815 | 1,493 | 201.700 | 134.5 | 44.6 | 72.0 | 32.9 | 565.0 | 450.5 | 84.9 |
| 1300 | 487.0 | 3,578 | 1,400 | 204.000 | 118.4 | 44.8 | 58.0 | 28.0 | 564.7 | 458.1 | 73.5 |
| 1000 | 345.5 | 3,299 | 1,291 | 212.300 | 87.4 | 45.6 | 35.1 | 18.3 | 565.1 | 477.1 | 49.2 |
| 700 | 231.0 | 3,151 | 1,234 | 225.100 | 62.0 | 47.2 | 24.3 | 11.7 | 550.3 | 443.9 | 30.2 |

General Performance Data :Curve 3: Zone 2-3

| ENGINE SPEED RPM | ENGINE POWER BKW | ENGINE TORQUE N.M | ENGINE BMEP KPA | FUEL BSFC G/BKW-HR | FUEL RATE LPH | INTAKE MFLD TEMP DEG C | INTAKE MFLD P KPA | INTAKE AIR FLOW M3/MIN | EXH MFLD TEMP DEG C | EXH STACK TEMP DEG C | EXH GAS FLOW M3/MIN |
|------------------|------------------|-------------------|-----------------|--------------------|---------------|------------------------|-------------------|------------------------|---------------------|----------------------|---------------------|
| 2300 | 1,045.0 | 4,339 | 1,698 | 222.100 | 276.7 | 48.8 | 212.9 | 90.0 | 572.1 | 378.4 | 206.8 |
| 2200 | 1,045.0 | 4,536 | 1,776 | 219.600 | 273.5 | 48.3 | 215.6 | 88.3 | 572.3 | 379.9 | 203.5 |
| 2100 | 1,045.0 | 4,752 | 1,860 | 217.600 | 271.1 | 48.0 | 218.8 | 86.5 | 575.9 | 384.4 | 200.8 |
| 2000 | 1,045.0 | 4,990 | 1,953 | 216.000 | 269.1 | 47.9 | 224.3 | 85.1 | 585.0 | 392.6 | 200.0 |
| 1900 | 1,035.0 | 5,202 | 2,036 | 214.300 | 264.4 | 47.7 | 228.0 | 82.9 | 595.3 | 403.2 | 198.0 |
| 1800 | 977.0 | 5,183 | 2,029 | 212.000 | 246.9 | 46.5 | 209.8 | 75.1 | 595.0 | 414.6 | 182.6 |
| 1700 | 919.9 | 5,167 | 2,023 | 208.300 | 228.4 | 45.3 | 185.7 | 66.0 | 595.1 | 426.6 | 164.3 |
| 1600 | 845.2 | 5,044 | 1,975 | 204.300 | 205.8 | 45.0 | 157.7 | 56.6 | 595.0 | 438.1 | 142.9 |
| 1550 | 804.9 | 4,959 | 1,941 | 202.500 | 194.3 | 44.9 | 142.6 | 51.7 | 595.0 | 444.8 | 131.8 |
| 1400 | 636.2 | 4,340 | 1,699 | 201.900 | 153.1 | 44.5 | 91.4 | 36.8 | 595.2 | 468.8 | 97.4 |
| 1300 | 534.1 | 3,923 | 1,536 | 204.200 | 130.0 | 44.8 | 68.4 | 30.0 | 595.1 | 480.9 | 80.7 |
| 1200 | 466.3 | 3,711 | 1,453 | 207.100 | 115.1 | 45.0 | 55.5 | 25.4 | 595.0 | 488.4 | 69.7 |
| 1000 | 366.4 | 3,499 | 1,370 | 213.400 | 93.2 | 45.5 | 39.3 | 18.8 | 595.1 | 500.1 | 52.3 |
| 700 | 231.0 | 3,151 | 1,234 | 225.100 | 62.0 | 47.2 | 24.3 | 11.7 | 550.3 | 443.9 | 30.2 |

General Performance Data :Maximum Limit

| ENGINE SPEED RPM | ENGINE POWER BKW | ENGINE TORQUE N.M | ENGINE BMEP KPA | FUEL BSFC G/BKW-HR | FUEL RATE LPH | INTAKE MFLD TEMP DEG C | INTAKE MFLD P KPA | INTAKE AIR FLOW M3/MIN | EXH MFLD TEMP DEG C | EXH STACK TEMP DEG C | EXH GAS FLOW M3/MIN |
|------------------|------------------|-------------------|-----------------|--------------------|---------------|------------------------|-------------------|------------------------|---------------------|----------------------|---------------------|
| 2300 | 1,045.0 | 4,339 | 1,698 | 222.100 | 276.7 | 48.8 | 212.9 | 90.0 | 572.1 | 378.4 | 206.8 |
| 2200 | 1,045.0 | 4,536 | 1,776 | 219.600 | 273.5 | 48.3 | 215.6 | 88.3 | 572.3 | 379.9 | 203.5 |
| 2100 | 1,045.0 | 4,752 | 1,860 | 217.600 | 271.1 | 48.0 | 218.8 | 86.5 | 575.9 | 384.4 | 200.8 |
| 2000 | 1,045.0 | 4,990 | 1,953 | 216.000 | 269.1 | 47.9 | 224.3 | 85.1 | 585.0 | 392.6 | 200.0 |
| 1900 | 1,035.0 | 5,202 | 2,036 | 214.300 | 264.4 | 47.7 | 228.0 | 82.9 | 595.3 | 403.2 | 198.0 |
| 1800 | 977.0 | 5,183 | 2,029 | 212.000 | 246.9 | 46.5 | 209.8 | 75.1 | 595.0 | 414.6 | 182.6 |
| 1700 | 919.9 | 5,167 | 2,023 | 208.300 | 228.4 | 45.3 | 185.7 | 66.0 | 595.1 | 426.6 | 164.3 |
| 1600 | 845.2 | 5,044 | 1,975 | 204.300 | 205.8 | 45.0 | 157.7 | 56.6 | 595.0 | 438.1 | 142.9 |
| 1550 | 804.9 | 4,959 | 1,941 | 202.500 | 194.3 | 44.9 | 142.6 | 51.7 | 595.0 | 444.8 | 131.8 |
| 1400 | 636.2 | 4,340 | 1,699 | 201.900 | 153.1 | 44.5 | 91.4 | 36.8 | 595.2 | 468.8 | 97.4 |
| 1300 | 534.1 | 3,923 | 1,536 | 204.200 | 130.0 | 44.8 | 68.4 | 30.0 | 595.1 | 480.9 | 80.7 |
| 1200 | 466.3 | 3,711 | 1,453 | 207.100 | 115.1 | 45.0 | 55.5 | 25.4 | 595.0 | 488.4 | 69.7 |
| 1000 | 366.4 | 3,499 | 1,370 | 213.400 | 93.2 | 45.5 | 39.3 | 18.8 | 595.1 | 500.1 | 52.3 |
| 700 | 231.0 | 3,151 | 1,234 | 225.100 | 62.0 | 47.2 | 24.3 | 11.7 | 550.3 | 443.9 | 30.2 |

General Performance Data :Prop Demand Curve P

| ENGINE SPEED RPM | ENGINE POWER BKW | ENGINE TORQUE N.M | ENGINE BMEP KPA | FUEL BSFC G/BKW-HR | FUEL RATE LPH | INTAKE MFLD TEMP DEG C | INTAKE MFLD P KPA | INTAKE AIR FLOW M3/MIN | EXH MFLD TEMP DEG C | EXH STACK TEMP DEG C | EXH GAS FLOW M3/MIN |
|------------------|------------------|-------------------|-----------------|--------------------|---------------|------------------------|-------------------|------------------------|---------------------|----------------------|---------------------|
| 2300 | 1,045.0 | 4,339 | 1,698 | 222.100 | 276.7 | 48.8 | 212.9 | 90.0 | 572.1 | 378.4 | 206.8 |
| 2200 | 914.5 | 3,970 | 1,554 | 212.100 | 231.2 | 47.0 | 178.3 | 78.1 | 524.7 | 356.4 | 173.9 |
| 2100 | 795.4 | 3,617 | 1,416 | 206.100 | 195.4 | 45.5 | 143.3 | 66.3 | 490.4 | 344.8 | 144.4 |
| 2000 | 687.1 | 3,281 | 1,284 | 203.900 | 167.0 | 44.8 | 114.4 | 56.4 | 474.9 | 345.2 | 123.6 |
| 1900 | 589.1 | 2,961 | 1,159 | 203.900 | 143.2 | 44.5 | 89.1 | 47.7 | 462.2 | 347.2 | 104.7 |
| 1800 | 500.9 | 2,657 | 1,040 | 205.000 | 122.4 | 44.4 | 67.5 | 40.2 | 449.2 | 347.5 | 88.1 |
| 1700 | 422.0 | 2,370 | 928 | 206.600 | 103.9 | 44.4 | 49.8 | 34.0 | 431.2 | 341.5 | 73.8 |
| 1600 | 351.8 | 2,100 | 822 | 208.300 | 87.4 | 44.5 | 36.8 | 29.3 | 408.2 | 328.9 | 62.2 |
| 1500 | 289.9 | 1,845 | 722 | 210.400 | 72.7 | 44.6 | 27.1 | 25.5 | 381.3 | 311.5 | 52.6 |
| 1400 | 235.7 | 1,608 | 629 | 213.400 | 60.0 | 44.7 | 19.7 | 22.5 | 349.7 | 288.7 | 44.4 |
| 1300 | 188.7 | 1,386 | 543 | 217.300 | 48.9 | 44.7 | 14.0 | 19.9 | 315.6 | 263.2 | 37.5 |
| 1200 | 148.4 | 1,181 | 462 | 222.000 | 39.3 | 45.1 | 9.9 | 17.8 | 282.1 | 237.9 | 31.6 |
| 1000 | 85.9 | 820 | 321 | 237.900 | 24.4 | 45.9 | 4.8 | 14.1 | 220.4 | 194.0 | 22.9 |
| 700 | 29.5 | 402 | 157 | 285.600 | 10.0 | 47.3 | 1.4 | 9.6 | 145.4 | 146.5 | 14.0 |

General Performance Data :Max Power Curve M

| ENGINE SPEED RPM | ENGINE POWER BKW | ENGINE TORQUE N.M | ENGINE BMEP KPA | FUEL BSFC G/BKW-HR | FUEL RATE LPH | INTAKE MFLD TEMP DEG C | INTAKE MFLD P KPA | INTAKE AIR FLOW M3/MIN | EXH MFLD TEMP DEG C | EXH STACK TEMP DEG C | EXH GAS FLOW M3/MIN |
|------------------|------------------|-------------------|-----------------|--------------------|---------------|------------------------|-------------------|------------------------|---------------------|----------------------|---------------------|
| 2300 | 1,045.0 | 4,339 | 1,698 | 222.100 | 276.7 | 48.8 | 212.9 | 90.0 | 572.1 | 378.4 | 206.8 |
| 2200 | 1,045.0 | 4,536 | 1,776 | 219.600 | 273.5 | 48.3 | 215.6 | 88.3 | 572.3 | 379.9 | 203.5 |
| 2100 | 1,045.0 | 4,752 | 1,860 | 217.400 | 270.9 | 48.0 | 218.8 | 86.5 | 575.9 | 384.4 | 200.8 |
| 2000 | 1,045.0 | 4,990 | 1,953 | 216.000 | 269.0 | 47.9 | 224.3 | 85.1 | 585.0 | 392.6 | 200.0 |
| 1900 | 1,045.0 | 5,252 | 2,056 | 216.000 | 269.1 | 47.8 | 232.6 | 84.1 | 599.4 | 404.8 | 201.2 |
| 1800 | 1,045.0 | 5,544 | 2,170 | 217.600 | 271.1 | 47.1 | 243.6 | 83.3 | 623.7 | 426.2 | 205.0 |
| 1700 | 1,031.0 | 5,791 | 2,267 | 218.400 | 268.4 | 46.0 | 251.8 | 81.6 | 646.8 | 446.4 | 208.0 |
| 1600 | 996.0 | 5,944 | 2,327 | 213.700 | 253.8 | 45.9 | 233.6 | 74.0 | 650.6 | 456.9 | 191.0 |
| 1550 | 971.0 | 5,982 | 2,342 | 210.800 | 244.0 | 45.8 | 218.8 | 68.9 | 647.6 | 460.0 | 178.5 |
| 1400 | 820.0 | 5,593 | 2,189 | 203.000 | 198.5 | 44.8 | 148.8 | 48.5 | 646.5 | 489.7 | 131.6 |
| 1300 | 706.0 | 5,186 | 2,030 | 203.700 | 171.5 | 44.3 | 111.7 | 38.0 | 665.2 | 523.6 | 108.3 |
| 1200 | 535.0 | 4,257 | 1,667 | 207.400 | 132.3 | 44.8 | 71.0 | 28.1 | 647.9 | 525.5 | 80.3 |
| 1000 | 376.0 | 3,591 | 1,406 | 214.800 | 96.3 | 45.4 | 41.3 | 19.1 | 608.9 | 510.5 | 53.8 |
| 700 | 231.0 | 3,151 | 1,234 | 225.100 | 62.0 | 47.2 | 24.3 | 11.7 | 550.3 | 443.9 | 30.2 |

Engine Heat Rejection Data :Maximum Limit

| ENGINE SPEED RPM | ENGINE POWER BKW | REJ TO JW KW | REJ TO ATMOS KW | REJ TO EXHAUST KW | EXH RCOV TO 177C KW | FROM OIL CLR KW | FROM AFT CLR KW | WORK ENERGY KW | LHV ENERGY KW | HHV ENERGY KW |
|------------------|------------------|--------------|-----------------|-------------------|---------------------|-----------------|-----------------|----------------|---------------|---------------|
| 2300 | 1,045.0 | 684.0 | 86.0 | 881.0 | 405.0 | 148.0 | 261.0 | 1,045.0 | 2,776.0 | 2,957.0 |
| 2200 | 1,045.0 | 667.0 | 84.0 | 876.0 | 404.0 | 146.0 | 254.0 | 1,045.0 | 2,746.0 | 2,925.0 |
| 2100 | 1,045.0 | 649.0 | 82.0 | 872.0 | 406.0 | 145.0 | 248.0 | 1,045.0 | 2,718.0 | 2,895.0 |
| 2000 | 1,045.0 | 627.0 | 81.0 | 863.0 | 409.0 | 143.0 | 246.0 | 1,045.0 | 2,687.0 | 2,862.0 |
| 1900 | 1,035.0 | 602.0 | 78.0 | 836.0 | 403.0 | 140.0 | 241.0 | 1,035.0 | 2,621.0 | 2,792.0 |
| 1800 | 977.0 | 569.0 | 74.0 | 827.0 | 410.0 | 132.0 | 203.0 | 977.0 | 2,486.0 | 2,649.0 |
| 1700 | 919.9 | 535.0 | 65.0 | 763.0 | 386.0 | 122.0 | 162.0 | 920.0 | 2,295.0 | 2,445.0 |
| 1600 | 845.2 | 500.0 | 57.0 | 677.0 | 347.0 | 110.0 | 120.0 | 845.0 | 2,065.0 | 2,200.0 |
| 1550 | 804.9 | 482.0 | 54.0 | 625.0 | 322.0 | 103.0 | 101.0 | 805.0 | 1,940.0 | 2,066.0 |
| 1400 | 636.2 | 417.0 | 44.0 | 519.0 | 277.0 | 83.0 | 48.0 | 636.0 | 1,562.0 | 1,664.0 |
| 1300 | 534.1 | 363.0 | 37.0 | 461.0 | 252.0 | 71.0 | 30.0 | 534.0 | 1,338.0 | 1,425.0 |
| 1200 | 466.3 | 320.0 | 32.0 | 408.0 | 225.0 | 62.0 | 20.0 | 466.0 | 1,170.0 | 1,247.0 |
| 1000 | 366.4 | 248.0 | 24.0 | 320.0 | 179.0 | 48.0 | 10.0 | 366.0 | 909.0 | 968.0 |
| 700 | 231.0 | 161.0 | 14.0 | 264.0 | 144.0 | 34.0 | 2.0 | 231.0 | 631.0 | 672.0 |

EMISSIONS DATA

IMO - 2000 - 2006 ***** M1

Gaseous emissions data measurements are consistent with those described in REGULATION 13 of ANNEX VI of MARPOL 73/78 and ISO 8178 for measuring HC, CO, PM, and NOx.

This engine's exhaust emissions are in compliance with the INTERNATIONAL MARINE ORGANIZATION'S "IMO" regulations.

| | |
|--|---------------|
| REFERENCE EXHAUST STACK DIAMETER | -- |
| WET EXHAUST MASS | 6,612.0 KG/HR |
| WET EXHAUST FLOW (378.00 C STACK TEMP) | 206.90 M3/MIN |
| WET EXHAUST FLOW RATE (0 DEG C AND 101.2 KPA) | 86.72 M3/MIN |
| DRY EXHAUST FLOW RATE (0 DEG C AND 101.2 KPA) | 78.32 M3/MIN |
| FUEL FLOW RATE | 276 L/HR |

RATED SPEED "Potential site variation"

| ENGINE SPEED RPM | PERCENT LOAD | ENGINE POWER BKW | TOTAL NOX (AS NO2) G/HR | TOTAL CO G/HR | TOTAL HC G/HR | PART MATTER G/HR | OXYGEN IN EXHAUST PERCENT |
|------------------|--------------|------------------|-------------------------|---------------|---------------|------------------|---------------------------|
| 2300 | 100 | 1,045.0 | 7,385.00 | 1,539.00 | 70.00 | 223.90 | 10.2000 |
| 2300 | 75 | 783.8 | 9,280.00 | 892.00 | 54.00 | 107.10 | 11.5000 |
| 2300 | 50 | 522.5 | 6,257.00 | 808.00 | 60.00 | 89.50 | 12.6000 |
| 2300 | 25 | 261.3 | 3,633.00 | 1,022.00 | 92.00 | 88.10 | 14.4000 |
| 2300 | 10 | 104.5 | 2,171.00 | 1,236.00 | 118.00 | 92.00 | 15.7000 |

RATED SPEED "Potential site variation"

| ENGINE SPEED RPM | PERCENT LOAD | ENGINE POWER BKW | TOTAL NOX (AS NO2) mg/norm cu M @ %5 O2 | TOTAL CO mg/norm cu M @ %5 O2 | TOTAL HC mg/norm cu M @ %5 O2 | PART MATTER mg/norm cu M @ %5 O2 | OXYGEN IN EXHAUST PERCENT |
|------------------|--------------|------------------|---|-------------------------------|-------------------------------|----------------------------------|---------------------------|
| 2300 | 100 | 1,045.0 | 2,371.4 | 486.0 | 20.1 | 59.000 | 10.2000 |
| 2300 | 75 | 783.8 | 4,120.5 | 395.7 | 22.1 | 40.200 | 11.5000 |
| 2300 | 50 | 522.5 | 3,982.5 | 516.7 | 35.4 | 49.200 | 12.6000 |
| 2300 | 25 | 261.3 | 3,975.5 | 1,115.0 | 93.8 | 84.900 | 14.4000 |
| 2300 | 10 | 104.5 | 4,013.9 | 1,608.6 | 141.5 | 113.900 | 15.7000 |

RATED SPEED "Potential site variation"

| ENGINE SPEED RPM | PERCENT LOAD | ENGINE POWER BKW | TOTAL NOX (AS NO2) PPM @ %5 O2 | TOTAL CO PPM @ %5 O2 | TOTAL HC PPM @ %5 O2 | OXYGEN IN EXHAUST PERCENT |
|------------------|--------------|------------------|--------------------------------|----------------------|----------------------|---------------------------|
| 2300 | 100 | 1,045.0 | 1,148 | 386 | 35 | 10.2000 |
| 2300 | 75 | 783.8 | 2,003 | 314 | 38 | 11.5000 |
| 2300 | 50 | 522.5 | 1,930 | 408 | 61 | 12.6000 |
| 2300 | 25 | 261.3 | 1,929 | 884 | 160 | 14.4000 |
| 2300 | 10 | 104.5 | 1,983 | 1,475 | 283 | 15.7000 |

RATED SPEED "Potential site variation"

| ENGINE SPEED RPM | PERCENT LOAD | ENGINE POWER BKW | TOTAL NOX (AS NO2) G/HP-HR | TOTAL CO G/HP-HR | TOTAL HC G/HP-HR | PART MATTER G/HP-HR | OXYGEN IN EXHAUST PERCENT |
|------------------|--------------|------------------|----------------------------|------------------|------------------|---------------------|---------------------------|
| 2300 | 100 | 1,045.0 | 5.27 | 1.10 | 0.05 | 0.160 | 10.2000 |
| 2300 | 75 | 783.8 | 8.83 | 0.85 | 0.05 | 0.102 | 11.5000 |
| 2300 | 50 | 522.5 | 8.93 | 1.15 | 0.09 | 0.128 | 12.6000 |
| 2300 | 25 | 261.3 | 10.37 | 2.92 | 0.26 | 0.251 | 14.4000 |
| 2300 | 10 | 104.5 | 15.49 | 8.82 | 0.84 | 0.656 | 15.7000 |

RATED SPEED "Nominal Data"

| ENGINE SPEED RPM | PERCENT LOAD | ENGINE POWER BKW | TOTAL NOX (AS NO2) G/HR | TOTAL CO G/HR | TOTAL HC G/HR | TOTAL CO2 KG/HR | PART MATTER G/HR | OXYGEN IN EXHAUST PERCENT |
|------------------|--------------|------------------|-------------------------|---------------|---------------|-----------------|------------------|---------------------------|
| 2300 | 100 | 1,045.0 | 6,104.00 | 823.00 | 37.00 | 748.8 | 114.80 | 10.2000 |
| 2300 | 75 | 783.8 | 7,669.00 | 477.00 | 29.00 | 532.8 | 54.90 | 11.5000 |
| 2300 | 50 | 522.5 | 5,171.00 | 432.00 | 31.00 | 370.4 | 45.90 | 12.6000 |
| 2300 | 25 | 261.3 | 3,002.00 | 547.00 | 48.00 | 213.8 | 45.20 | 14.4000 |
| 2300 | 10 | 104.5 | 1,794.00 | 661.00 | 63.00 | 121.8 | 47.20 | 15.7000 |

RATED SPEED "Nominal Data"

| ENGINE SPEED RPM | PERCENT LOAD | ENGINE POWER BKW | TOTAL NOX (AS NO2) mg/norm cu M @ %5 O2 | TOTAL CO mg/norm cu M @ %5 O2 | TOTAL HC mg/norm cu M @ %5 O2 | PART MATTER mg/norm cu M @ %5 O2 | OXYGEN IN EXHAUST PERCENT |
|------------------|--------------|------------------|---|-------------------------------|-------------------------------|----------------------------------|---------------------------|
| 2300 | 100 | 1,045.0 | 1,959.8 | 259.9 | 10.6 | 30.3 | 10.2000 |
| 2300 | 75 | 783.8 | 3,405.3 | 211.6 | 11.7 | 20.6 | 11.5000 |
| 2300 | 50 | 522.5 | 3,291.3 | 276.3 | 18.7 | 25.2 | 12.6000 |
| 2300 | 25 | 261.3 | 3,285.5 | 596.3 | 49.7 | 43.5 | 14.4000 |
| 2300 | 10 | 104.5 | 3,317.3 | 860.2 | 74.9 | 58.4 | 15.7000 |

RATED SPEED "Nominal Data"

| ENGINE SPEED RPM | PERCENT LOAD | ENGINE POWER BKW | TOTAL NOX (AS NO2) PPM @ %5 O2 | TOTAL CO PPM @ %5 O2 | TOTAL HC PPM @ %5 O2 | OXYGEN IN EXHAUST PERCENT |
|------------------|--------------|------------------|--------------------------------|----------------------|----------------------|---------------------------|
| 2300 | 100 | 1,045.0 | 949 | 206 | 19 | 10.2000 |
| 2300 | 75 | 783.8 | 1,656 | 168 | 20 | 11.5000 |
| 2300 | 50 | 522.5 | 1,595 | 218 | 32 | 12.6000 |
| 2300 | 25 | 261.3 | 1,595 | 473 | 85 | 14.4000 |
| 2300 | 10 | 104.5 | 1,639 | 789 | 150 | 15.7000 |

RATED SPEED "Nominal Data"

| ENGINE SPEED RPM | PERCENT LOAD | ENGINE POWER BKW | TOTAL NOX (AS NO2) G/HP-HR | TOTAL CO G/HP-HR | TOTAL HC G/HP-HR | PART MATTER G/HP-HR | OXYGEN IN EXHAUST PERCENT |
|------------------|--------------|------------------|----------------------------|------------------|------------------|---------------------|---------------------------|
| 2300 | 100 | 1,045.0 | 4.36 | 0.59 | 0.03 | 0.08 | 10.2000 |
| 2300 | 75 | 783.8 | 7.30 | 0.45 | 0.03 | 0.05 | 11.5000 |
| 2300 | 50 | 522.5 | 7.38 | 0.62 | 0.05 | 0.06 | 12.6000 |
| 2300 | 25 | 261.3 | 8.57 | 1.56 | 0.14 | 0.13 | 14.4000 |
| 2300 | 10 | 104.5 | 12.80 | 4.72 | 0.45 | 0.34 | 15.7000 |

The powers listed above and all the Powers displayed are Corrected Powers

Identification Reference and Notes

| | | | |
|---|----------|---|------------------|
| Engine Arrangement: | 2416965 | Lube Oil Press @ Rated Spd(KPA): | -- |
| Effective Serial No: | RXB00001 | Piston Speed @ Rated Eng SPD(M/Sec): | 12.4 |
| Primary Engine Test Spec: | 0K5329 | Max Operating Altitude(M): | -- |
| Performance Parm Ref: | TM0015 | PEEC Elect Control Module Ref | |
| Performance Data Ref: | DM7294 | PEEC Personality Cont Mod Ref | |
| Aux Coolant Pump Perf Ref: | | | |
| Cooling System Perf Ref: | | Turbocharger Model | UTW8136-1.19 VOW |
| Certification Ref: | IMO - | Fuel Injector | |
| Certification Year: | 2000 | Timing-Static (DEG): | -- |
| Compression Ratio: | 15.0 | Timing-Static Advance (DEG): | -- |
| Combustion System: | DI | Timing-Static (MM): | -- |
| Aftercooler Temperature (C): | -- | Unit Injector Timing (MM): | -- |
| Crankcase Blowby Rate(M3/H): | -- | Torque Rise (percent) | -- |
| Fuel Rate (Rated RPM) No Load(L/HR): | -- | Peak Torque Speed RPM | -- |
| Lube Oil Press @ Low Idle Spd(KPA): | -- | Peak Torque (NM): | -- |

**Reference
Number: DM7294**

THIS PERFORMANCE CURVE IS ALSO APPLICABLE TO ENGINE ARRANGEMENT
239-3006 AND 239-3007.
IMO - 20002006M1

**Parameters
Reference: TM0015**

MARINE PROP - ALL EXCEPT 3600

LIMIT DEFINITIONS FOR USE WITH A, B AND C RATED ENGINES:

ZONE 1 - FOR CONTINUOUS OPERATION, INCLUDING DREDGE ENGINES,
WITHOUT INTERRUPTION OR LOAD CYCLING ON OR UNDER CURVE 1.

ZONE 1-2 - OPERATION LIMITED TO 4 HOUR PERIOD AT FULL POWER
FOLLOWED BY A 1 HOUR PERIOD ON OR UNDER CURVE 1.

ZONE 2-3 - OPERATION LIMITED TO 1 HOUR PERIOD AT FULL POWER
FOLLOWED BY A 1 HOUR PERIOD ON OR UNDER CURVE 1.

MAX LIMIT CURVE - OPERATION LIMITED TO 5 MINUTE PERIOD AT FULL
POWER FOLLOWED BY A 2 HOUR PERIOD ON OR UNDER CURVE 1.

CURVE P - POWER CURVE P REPRESENTS THE POWER DEMAND OF A
TYPICAL FIXED PITCH PROPELLER, SHAFT POWER MAY BE ASSUMED TO
BE 97 PERCENT OF THE BRAKE ENGINE POWER SHOWN.

MAX POWER DATA CURVE M - MAXIMUM POWER ENGINE IS CAPABLE OF
PRODUCING.

TOLERANCES:

| | |
|-------------------------------|---------|
| Power | +/- 3% |
| Exhaust stack temperature | +/- 8% |
| Inlet airflow | +/- 5% |
| Intake manifold pressure-gage | +/- 10% |
| Exhaust flow | +/- 6% |
| Specific fuel consumption | +/- 3% |
| Fuel rate | +/- 5% |
| Heat rejection | +/- 5% |

CONDITIONS:

ENGINE PERFORMANCE IS CORRECTED TO INLET AIR STANDARD CONDITIONS OF
99 KPA (29.31 IN HG) DRY BAROMETER AND 25 DEG C (77 DEG F). THESE
VALUES CORRESPOND TO THE STANDARD ATMOSPHERIC PRESSURE AND
TEMPERATURE AS SHOWN IN SAE J1228. ALSO INCLUDED IS A CORRECTION
TO STANDARD FUEL GRAVITY OF 35 DEGREES API HAVING A LOWER HEATING
VALUE OF 42,780 KJ/KG (18,390 BTU/LB) WHEN USED AT 29 DEG C
(84.2 DEG F) WHERE THE DENSITY IS 838.9 G/L (7.002 LB/GAL).

THE CORRECTED PERFORMANCE VALUES SHOWN FOR CATERPILLAR ENGINES
WILL APPROXIMATE THE VALUES OBTAINED WHEN THE OBSERVED PERFORMANCE
DATA IS CORRECTED TO SAE J1228, ISO 3046-2 & 8665 & 2288 & 9249 &
1585, EEC 80/1269 AND DIN 70020 STANDARD REFERENCE CONDITIONS.

ENGINES ARE EQUIPPED WITH STANDARD ACCESSORIES; LUBE OIL, FUEL PUMP AND JACKET WATER PUMP. THE POWER REQUIRED TO DRIVE AUXILIARIES MUST BE DEDUCTED FROM THE GROSS OUTPUT TO ARRIVE AT THE NET POWER AVAILABLE FOR THE EXTERNAL (FLYWHEEL) LOAD. TYPICAL AUXILIARIES INCLUDE COOLING FANS, AIR COMPRESSORS AND CHARGING ALTERNATORS.

RATINGS MUST BE REDUCED TO COMPENSATE FOR ALTITUDE AND/OR AMBIENT TEMPERATURE CONDITIONS ACCORDING TO THE APPLICABLE DATA SHOWN ON THE PERFORMANCE DATA SET.

ALTITUDE:

ALTITUDE CAPABILITY - THE RECOMMENDED REDUCED POWER VALUES FOR SUSTAINED ENGINE OPERATION AT SPECIFIC ALTITUDE LEVELS AND AMBIENT TEMPERATURES.

COLUMN "N" DATA - THE FLYWHEEL POWER OUTPUT AT NORMAL AMBIENT TEMPERATURE.

AMBIENT TEMPERATURE - TO BE MEASURED AT THE AIR CLEANER AIR INLET DURING NORMAL ENGINE OPERATION.

NORMAL TEMPERATURE - THE NORMAL TEMPERATURE AT VARIOUS SPECIFIC ALTITUDE LEVELS FOUND ON TM2001.

SOUND DEFINITIONS:

Sound Power : [DM8702](#)

Sound Pressure : [TM7080](#)

Date Released : 03/21/12

Caterpillar Confidential: **Green**

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