



FEATURES

FUEL ECONOMY

Consistent performance . . . variable-timed fuel injection . . . broad rpm turbocharger match . . . excellent fuel economy over entire operating range.

RELIABILITY AND DIESEL DURABILITY Diesel tough components . . . precise balance and conservative speed for smooth operation and long engine life.

STANDARD EQUIPMENT

Air intake single stage, dry air cleaner Cooling lube oil, jacket water pump, thermostats Exhaust dry, flanged outlet Fuel priming and transfer pumps. filter Instruments and Gauges instrument panel, fuel pressure and lube oil pressure gauges, service meter Lubricating oil cooler, oil filter Flywheel and Flywheel Housing, SAE No.1

Industrial Engine

3306 125-325 bhp/93-243 kW 2000-2200 rpm

SPECIFICATIONS

| In-Line, 6 Cylinder, 4-Stroke-Cycle Diesel |
|---|
| Bore—in (mm) 4.75 (121) |
| Stroke—in (mm) 6.00 (152) |
| Displacement—cu in (L) 638 (10.5) |
| Combustion System Direct injection |
| Rotation (from flywheel end) Counterclockwise |
| Capacity for Liquids—U.S. Gal (L) |
| Cooling System (engine only) |
| DITA |
| DINA & DIT 4.2 (15.9) |
| Lube Oil System (refill)7.3 (27.4) |
| Engine Weight, Net Dry (approx)—Ib (kg) |
| Turbocharged (T) |
| Turbocharged-Aftercooled (TA) 2220 (1007) |
| Naturally Aspirated (NA) |

- FLEXIBLE APPLICATION RANGE High torque rise . . . big displacement . . . convenient installation . . . more performance for your money.
- WORLDWIDE PRODUCT SUPPORT AND PARTS AVAILABILITY

OPTIONAL EQUIPMENT

Alternator Cooling

raditor, fan drive, belt tightener, Vee belt

Exhaust

flexible fittings, mufflers, watercooled manifolds Instruments and Gauges

electric gauges, tachometer

Lubricating

dipstick, oil filler, oil filter

Power Takeoffs

auxiliary drive pulleys, front and rear enclosed clutches, hydraulic pump

Protection Devices

electrical and mechanical shutoffs, oil pressure and water temperature alarm switches

Starting

air, electric

PERFORMANCE DATA

| — · · | |
|--------------|----------------|
| lurbocharo | ed-Aftercooled |

g/kW-hr

L/hr

247

232

37.3 32.2 29.4

| Turbocharged-Afterc | ooled | | | | | | | | | | | | | | |
|---|---|---|---|---|--|---|---|---|--|---|--|--|---|--|---|
| Rating Level | E | | | D | | | С | | | В | | | Α | | |
| Rated rpm | 2200 2200 | | | 2200 | | | 2000 | | | 2000 | | | | | |
| Engine Power@rpm | 335 I | ohp (25 | 50 kW) |) 330 bhp (249 kW) | | 325 bhp (242 kW) | | | 295 bhp (220 kW) | | | 275 bhp (194 kW) | | | |
| | 1 | - | | | - | | | | | | - | | | - | |
| rpm | 2200 | 1800 | 1500 | 2200 | 1800 | 1500 | 2200 | 1800 | 1500 | 2000 | 1700 | 1500 | 2000 | 1700 | 1500 |
| bhp | 335 | 331 | 317 | 330 | 318 | 300 | 325 | 302 | 281 | 295 | 280 | 261 | 275 | 259 | 244 |
| lb/hp-hr | .380 | .358 | .339 | .381 | .357 | .349 | .380 | .353 | .340 | .357 | .350 | .340 | .357 | .345 | .340 |
| gal/hr | 18.2 | 16.9 | 15.3 | 18.0 | 16.2 | 14.9 | 17.6 | 15.2 | 13.7 | 15.0 | 14.0 | 12.7 | 14.0 | 12.8 | 11.9 |
| | 1 | 1 | 1 | 1 | | 1 | 1 | | | | | | | | |
| kW | 250 | 247 | 236 | 249 | 240 | 226 | 242 | 225 | 210 | 220 | 209 | 195 | 205 | 193 | 182 |
| g/kW-hr | 231 | 218 | 206 | 232 | 217 | 212 | 231 | 215 | 207 | 217 | 213 | 207 | 217 | 210 | 207 |
| L/hr | 68.8 | 64.1 | 58.0 | 68.1 | 61.3 | 56.5 | 66.7 | 57.7 | 51.7 | 56.9 | 53.0 | 48.0 | 53.0 | 48.3 | 44.9 |
| Turbocharged-Afterc | ooled | | | | | | | | | | | | | | |
| Rating Level | | Е | | | D | | | С | | | В | | | Α | |
| Rated rpm | | 2200 | | | 2200 | | | 2200 | | | 2000 | | 2000 | | |
| Engine Power@rpm | 325 I | ohp (24 | 13 kW) | 310 b | hp (23 | 1 kW) | 300 b | hp (22 | 4 kW) | 275 b | hp (20 | 5 kW) | 260 b | hp (19 | 4 kW) |
| | 1 | | | 1 | - | - | I | - | | I. | - | | 1 | - | - |
| rpm | 2200 | 1800 | 1500 | 2200 | 1800 | 1500 | 2200 | 1800 | 1500 | 2000 | 1700 | 1500 | 2000 | 1700 | 1500 |
| bhp | 325 | 323 | 310 | 310 | 307 | 281 | 300 | 285 | 250 | 275 | 261 | 213 | 260 | 230 | 180 |
| lb/hp-hr | .385 | .362 | .362 | .381 | .360 | .358 | .380 | .358 | .357 | .363 | .355 | .357 | .363 | .355 | .360 |
| gal/hr | 17.9 | 16.7 | 16.0 | 16.9 | 15.8 | 14.4 | 16.3 | 14.6 | 12.7 | 14.3 | 13.2 | 10.9 | 13.5 | 11.7 | 9.3 |
| | 1 | 1 | 1 | 1 | | 1 | | | | | | | | | |
| kW | 243 | 241 | 231 | 231 | 229 | 210 | 224 | 213 | 187 | 205 | 195 | 159 | 194 | 172 | 134 |
| g/kW-hr | 234 | 220 | 220 | 232 | 219 | 218 | 231 | 218 | 217 | 221 | 216 | 217 | 221 | 216 | 219 |
| L/hr | 67.6 | 63.2 | 60.6 | 63.9 | 59.8 | 54.5 | 61.6 | 55.2 | 48.2 | 54.0 | 50.1 | 41.1 | 51.1 | 44.2 | 35.0 |
| Turbocharged | | | | | | | | | | | | | | | |
| Rating Level | | Е | | | D | | | С | | | В | | | Α | |
| Rated rpm | | 2200 | | | 2200 | | | 2200 | | | 2000 | | | 2000 | |
| | | | | | | | | | | | | | | | |
| Engine Power@rpm | 275 l | ohp (20 |)5 kW) | 268 b | hp (20 | 0 kW) | 249 b | hp (18 | 6 kW) | 225 b | hp (16 | 8 kW) | 190 b | hp (14 | 2 kW) |
| Engine Power@rpm | 275 l | ohp (20 | 05 kW) | 268 b | hp (20 | 0 kW) | 249 b | | 6 kW) | 225 b | hp (16 | 8 kW) | 190 b | hp (14: | 2 kW) |
| Engine Power@rpm rpm | 275 l 2200 | ohp (20 1800 | 05 kW) 1500 | 268 b 2200 | hp (20 1800 | 0 kW) 1500 | 249 b 2200 | | 6 kW) 1500 | 225 b 2000 | 0hp (16 | 8 kW) 1500 | 190 b 2000 | hp (14) | 2 kW) 1500 |
| | | | | | | 1 | 1 | hp (18 | | | | 1500 169 | | | |
| rpm | 2200 | 1800 | 1500 219 .373 | 2200 | 1800 | 1500 | 2200 | hp (18 1800 | 1500 | 2000 225 .368 | 1700 | 1500 | 2000 | 1700 | 1500 |
| rpm bhp | 2200 275 | 1800 255 | 1500 219 | 2200 268 | 1800 244 | 1500 205 | 2200 249 | hp (18 1800 214 | 1500 178 | 2000 225 | 1700 191 | 1500 169 | 2000 190 | 1700 165 | 1500 145 |
| rpm bhp lb/hp-hr gal/hr | 2200 275 .385 15.1 | 1800 255 .372 13.5 | 1500 219 .373 11.7 | 2200 268 .383 14.7 | 1800 244 .368 12.8 | 1500 205 .372 10.9 | 2200 249 .378 13.4 | hp (18 1800 214 .365 11.2 | 1500 178 .368 9.4 | 2000 225 .368 11.8 | 1700 191 .365 10.0 | 1500 169 .367 8.8 | 2000 190 .373 10.1 | 1700 165 .363 8.6 | 1500 145 .365 7.6 |
| rpm bhp lb/hp-hr gal/hr kW | 2200 275 .385 15.1 | 1800 255 .372 13.5 | 1500 219 .373 11.7 163 | 2200 268 .383 14.7 200 | 1800 244 .368 12.8 182 | 1500 205 .372 10.9 | 2200 249 .378 13.4 | hp (18 1800 214 .365 11.2 160 | 1500 178 .368 9.4 133 | 2000 225 .368 11.8 168 | 1700 191 .365 10.0 | 1500 169 .367 8.8 126 | 2000 190 .373 10.1 | 1700 165 .363 8.6 123 | 1500 145 .365 7.6 108 |
| rpm bhp lb/hp-hr gal/hr kW g/kW-hr | 2200 275 .385 15.1 205 234 | 1800 255 .372 13.5 190 226 | 1500 219 .373 11.7 163 227 | 2200 268 .383 14.7 200 233 | 1800 244 .368 12.8 182 224 | 1500 205 .372 10.9 153 226 | 2200 249 .378 13.4 186 230 | hp (18 1800 214 .365 11.2 160 222 | 1500 178 .368 9.4 133 224 | 2000 225 .368 11.8 168 224 | 1700 191 .365 10.0 143 222 | 1500 169 .367 8.8 126 223 | 2000 190 .373 10.1 142 227 | 1700 165 .363 8.6 123 221 | 1500 145 .365 7.6 108 222 |
| rpm bhp lb/hp-hr gal/hr kW | 2200 275 .385 15.1 | 1800 255 .372 13.5 | 1500 219 .373 11.7 163 | 2200 268 .383 14.7 200 | 1800 244 .368 12.8 182 | 1500 205 .372 10.9 | 2200 249 .378 13.4 | hp (18 1800 214 .365 11.2 160 | 1500 178 .368 9.4 133 | 2000 225 .368 11.8 168 | 1700 191 .365 10.0 | 1500 169 .367 8.8 126 | 2000 190 .373 10.1 | 1700 165 .363 8.6 123 | 1500 145 .365 7.6 108 |
| rpm bhp lb/hp-hr gal/hr kW g/kW-hr L/hr NA | 2200 275 .385 15.1 205 234 | 1800 255 .372 13.5 190 226 51.2 | 1500 219 .373 11.7 163 227 | 2200 268 .383 14.7 200 233 | 1800 244 .368 12.8 182 224 48.6 | 1500 205 .372 10.9 153 226 | 2200 249 .378 13.4 186 230 | hp (18 1800 214 .365 11.2 160 222 42.2 | 1500 178 .368 9.4 133 224 | 2000 225 .368 11.8 168 224 | 1700 191 .365 10.0 143 222 37.7 | 1500 169 .367 8.8 126 223 | 2000 190 .373 10.1 142 227 | 1700 165 .363 8.6 123 221 32.4 | 1500 145 .365 7.6 108 222 |
| rpm bhp lb/hp-hr gal/hr kW g/kW-hr L/hr NA Rating Level | 2200 275 .385 15.1 205 234 | 1800 255 .372 13.5 190 226 51.2 E | 1500 219 .373 11.7 163 227 | 2200 268 .383 14.7 200 233 | 1800 244 .368 12.8 182 224 48.6 D | 1500 205 .372 10.9 153 226 | 2200 249 .378 13.4 186 230 | hp (18 1800 214 .365 11.2 160 222 42.2 C | 1500 178 .368 9.4 133 224 | 2000 225 .368 11.8 168 224 | 1700 191 .365 10.0 143 222 37.7 B | 1500 169 .367 8.8 126 223 | 2000 190 .373 10.1 142 227 | 1700 165 .363 8.6 123 221 32.4 A | 1500 145 .365 7.6 108 222 |
| rpm bhp lb/hp-hr gal/hr kW g/kW-hr L/hr NA Rating Level Rated rpm | 2200 275 .385 15.1 205 234 57.2 | 1800 255 .372 13.5 190 226 51.2 E 2200 | 1500 219 .373 11.7 163 227 44.2 | 2200 268 .383 14.7 200 233 55.5 | 1800 244 .368 12.8 182 224 48.6 D 2200 | 1500 205 .372 10.9 153 226 41.2 | 2200 249 .378 13.4 186 230 50.9 | hp (18 1800 214 .365 11.2 160 222 42.2 C 2200 | 1500 178 .368 9.4 133 224 35.4 | 2000 225 .368 11.8 168 224 44.8 | 1700 191 .365 10.0 143 222 37.7 B 2000 | 1500 169 .367 8.8 126 223 33.5 | 2000 190 .373 10.1 142 227 38.3 | 1700 165 .363 8.6 123 221 32.4 32.4 A 2000 | 1500 145 .365 7.6 108 222 28.6 |
| rpm bhp lb/hp-hr gal/hr kW g/kW-hr L/hr NA Rating Level | 2200 275 .385 15.1 205 234 57.2 | 1800 255 .372 13.5 190 226 51.2 E | 1500 219 .373 11.7 163 227 44.2 | 2200 268 .383 14.7 200 233 55.5 | 1800 244 .368 12.8 182 224 48.6 D | 1500 205 .372 10.9 153 226 41.2 | 2200 249 .378 13.4 186 230 50.9 | hp (18 1800 214 .365 11.2 160 222 42.2 C | 1500 178 .368 9.4 133 224 35.4 | 2000 225 .368 11.8 168 224 44.8 | 1700 191 .365 10.0 143 222 37.7 B | 1500 169 .367 8.8 126 223 33.5 | 2000 190 .373 10.1 142 227 38.3 | 1700 165 .363 8.6 123 221 32.4 A | 1500 145 .365 7.6 108 222 28.6 |
| rpm bhp lb/hp-hr gal/hr kW g/kW-hr L/hr NA Rating Level Rated rpm Engine Power@rpm | 2200 275 .385 15.1 205 234 57.2 | 1800 255 .372 13.5 190 226 51.2 E 2200 bhp (12 | 1500 219 .373 11.7 163 227 44.2 7 kW) | 2200 268 .383 14.7 200 233 55.5 | 1800 244 .368 12.8 182 224 48.6 D 2200 hp (12 | 1500 205 .372 10.9 153 226 41.2 0 kW) | 2200 249 .378 13.4 186 230 50.9 | hp (18 1800 214 .365 11.2 160 222 42.2 C 2200 hp (11 | 1500 178 .368 9.4 133 224 35.4 2 kW) | 2000 225 .368 11.8 168 224 44.8 | 1700 191 .365 10.0 143 222 37.7 B 2000 chp (10 | 1500 169 .367 8.8 126 223 33.5 1 kW) | 2000 190 .373 10.1 142 227 38.3 | 1700 165 .363 8.6 123 221 32.4 A 2000 ohp (93 | 1500 145 .365 7.6 108 222 28.6 |
| rpm bhp lb/hp-hr gal/hr kW g/kW-hr L/hr NA Rating Level Rated rpm Engine Power@rpm | 2200 275 .385 15.1 205 234 57.2 170 t | 1800 255 .372 13.5 190 226 51.2 E 2200 php (12 1800 | 1500 219 .373 11.7 163 227 44.2 7 kW) | 2200 268 .383 14.7 200 233 55.5 160 b 2200 | 1800 244 .368 12.8 182 224 48.6 D 2200 hp (12 1800 | 1500 205 .372 10.9 153 226 41.2 0 kW) | 2200 249 .378 13.4 186 230 50.9 150 b 2200 | hp (18 1800 214 .365 11.2 160 222 42.2 C 2200 hp (11 1800 | 1500 178 .368 9.4 133 224 35.4 2 kW) | 2000 225 .368 11.8 168 224 44.8 135 b 2000 | 1700 191 .365 10.0 143 222 37.7 B 2000 ohp (10 | 1500 169 .367 8.8 126 223 33.5 33.5 1 kW) | 2000 190 .373 10.1 142 227 38.3 38.3 | 1700 165 .363 8.6 123 221 32.4 A 2000 ohp (93 1700 | 1500 145 .365 7.6 108 222 28.6 28.6 |
| rpm bhp lb/hp-hr gal/hr kW g/kW-hr L/hr NA Rating Level Rated rpm Engine Power@rpm Frpm bhp | 2200 275 .385 15.1 205 234 57.2 170 k 2200 170 | 1800 255 .372 13.5 190 226 51.2 E 2200 0hp (12 1800 156 | 1500 219 .373 11.7 163 227 44.2 7 kW) 1500 140 | 2200 268 .383 14.7 200 233 55.5 160 b 2200 160 | 1800 244 .368 12.8 182 224 48.6 D 2200 hp (12 1800 149 | 1500 205 .372 10.9 153 226 41.2 0 kW) 1500 135 | 2200 249 .378 13.4 186 230 50.9 50.9 150 b 2200 150 | hp (18 1800 214 .365 11.2 160 222 42.2 C 2200 hp (11 1800 129 | 1500 178 .368 9.4 133 224 35.4 2 kW) 1500 107 | 2000 225 .368 11.8 168 224 44.8 135 b 2000 135 | 1700 191 .365 10.0 143 222 37.7 B 2000 hp (10 1700 115 | 1500 169 .367 8.8 126 223 33.5 33.5 1 kW) 1 kW) | 2000 190 .373 10.1 142 227 38.3 38.3 125 t 2000 125 | 1700 165 .363 8.6 123 221 32.4 A 2000 php (93 1700 106 | 1500 145 .365 7.6 108 222 28.6 28.6 8 kW) 1500 94 |
| rpm bhp lb/hp-hr gal/hr kW g/kW-hr L/hr NA Rating Level Rated rpm Engine Power@rpm bhp lb/hp-hr | 2200 275 .385 15.1 205 234 57.2 170 k 2200 170 .406 | 1800 255 .372 13.5 190 226 51.2 E 2200 0hp (12 1800 156 .381 | 1500 219 .373 11.7 163 227 44.2 7 kW) 1500 140 .388 | 2200 268 .383 14.7 200 233 55.5 160 b 2200 160 .401 | 1800 244 .368 12.8 182 224 48.6 D 2200 hp (12 1800 149 .376 | 1500 205 .372 10.9 153 226 41.2 0 kW) 1500 135 .380 | 2200 249 .378 13.4 186 230 50.9 150 b 2200 150 .399 | hp (18 1800 214 .365 11.2 160 222 42.2 C 2200 hp (11 1800 129 .378 | 1500 178 .368 9.4 133 224 35.4 35.4 2 kW) 1500 107 .367 | 2000 225 .368 11.8 168 224 44.8 135 b 2000 135 .386 | 1700 191 .365 10.0 143 222 37.7 B 2000 hp (10 1700 115 .376 | 1500 169 .367 8.8 126 223 33.5 126 23 33.5 126 126 102 .368 | 2000 190 .373 10.1 142 227 38.3 38.3 125 I 2000 125 .386 | 1700 165 .363 8.6 123 221 32.4 A 2000 ohp (93 1700 106 .375 | 1500 145 .365 7.6 108 222 28.6 28.6 8 kW) 1500 94 .368 |
| rpm bhp lb/hp-hr gal/hr kW g/kW-hr L/hr NA Rating Level Rated rpm Engine Power@rpm Frpm bhp | 2200 275 .385 15.1 205 234 57.2 170 k 2200 170 | 1800 255 .372 13.5 190 226 51.2 E 2200 0hp (12 1800 156 | 1500 219 .373 11.7 163 227 44.2 7 kW) 1500 140 | 2200 268 .383 14.7 200 233 55.5 160 b 2200 160 | 1800 244 .368 12.8 182 224 48.6 D 2200 hp (12 1800 149 | 1500 205 .372 10.9 153 226 41.2 0 kW) 1500 135 | 2200 249 .378 13.4 186 230 50.9 50.9 150 b 2200 150 | hp (18 1800 214 .365 11.2 160 222 42.2 C 2200 hp (11 1800 129 | 1500 178 .368 9.4 133 224 35.4 2 kW) 1500 107 | 2000 225 .368 11.8 168 224 44.8 135 b 2000 135 | 1700 191 .365 10.0 143 222 37.7 B 2000 hp (10 1700 115 | 1500 169 .367 8.8 126 223 33.5 33.5 1 kW) 1 kW) | 2000 190 .373 10.1 142 227 38.3 38.3 125 t 2000 125 | 1700 165 .363 8.6 123 221 32.4 A 2000 php (93 1700 106 | 1500 145 .365 7.6 108 222 28.6 28.6 8 kW) 1500 94 |
| rpm bhp lb/hp-hr gal/hr kW g/kW-hr L/hr NA Rating Level Rated rpm Engine Power@rpm bhp lb/hp-hr | 2200 275 .385 15.1 205 234 57.2 170 k 2200 170 .406 | 1800 255 .372 13.5 190 226 51.2 E 2200 0hp (12 1800 156 .381 | 1500 219 .373 11.7 163 227 44.2 7 kW) 1500 140 .388 | 2200 268 .383 14.7 200 233 55.5 160 b 2200 160 .401 | 1800 244 .368 12.8 182 224 48.6 D 2200 hp (12 1800 149 .376 | 1500 205 .372 10.9 153 226 41.2 0 kW) 1500 135 .380 | 2200 249 .378 13.4 186 230 50.9 150 b 2200 150 .399 | hp (18 1800 214 .365 11.2 160 222 42.2 C 2200 hp (11 1800 129 .378 | 1500 178 .368 9.4 133 224 35.4 35.4 2 kW) 1500 107 .367 | 2000 225 .368 11.8 168 224 44.8 135 b 2000 135 .386 | 1700 191 .365 10.0 143 222 37.7 B 2000 hp (10 1700 115 .376 | 1500 169 .367 8.8 126 223 33.5 126 23 33.5 126 126 102 .368 | 2000 190 .373 10.1 142 227 38.3 38.3 125 I 2000 125 .386 | 1700 165 .363 8.6 123 221 32.4 A 2000 ohp (93 1700 106 .375 | 1500 145 .365 7.6 108 222 28.6 28.6 8 kW) 1500 94 .368 |

244

34.7

229

231

30.3 27.7 32.4

243

230

26.4

223

21.2

235

28.2

229

23.4

224

235

20.3 26.1

228

21.5

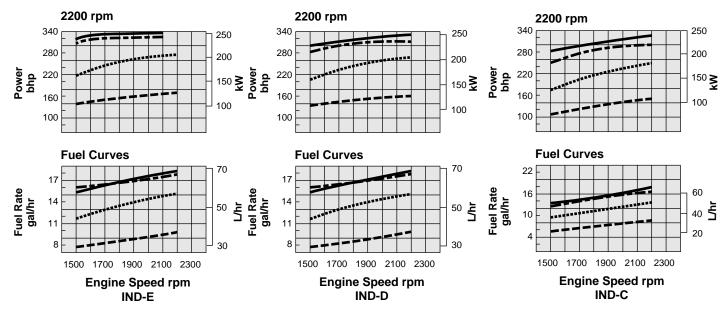
224

18.7

236

RATING CURVES

| DITA | |
|------|--|
| DITA | |
| DIT | |
| DINA | |



INDUSTRIAL RATINGS

IND-E

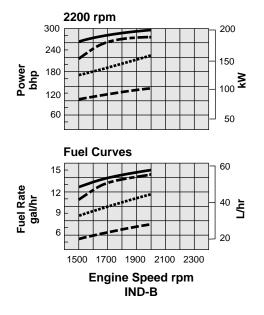
IND-E ratings are for service where speed and power are required for a short time for initial starting or sudden overload. For emergency service where standard power is unavailable. The maximum horsepower and speed capability of the engine can be utilized for a maximum of 15 uninterrupted minutes followed by one hour at intermittent or duration of the emergency. Operating limits are:

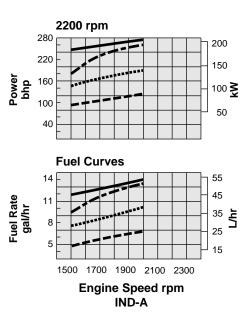
- 1. Time at full load not to exceed 5% of the duty cycle or 15 minutes max.
- 2. Load factor limited to 35%.
- 3. The maximum horsepower and speed capability of the engine can bc utilized for a maximum of 15 minutes followed by one hour at intermittent or duration of the emergency.
- 4. Typical operating hours per year is 500.

Examples of an IND-E industrial application are:

- 1. Standby centrifugal water pumps
- 2. Oil field well servicing
- 3. Crash trucks
- 4. Gas turbine starters

RATING CURVES





INDUSTRIAL RATINGS/cont'd

IND-D

IND-D ratings are for service where rated power is required by period overloads. The maximum horse-power and speed capability of the engine can be utilized for a minimum of 30 uninterrupted minutes followed by one hour at intermittent. Operating limits are:

- 1. Time at full load not to exceed 10% of the duty cycle or 30 min max
- 2. Load factor limited to 50%.
- 3. Full load operation to a maximum of 30 minutes followed by one hour at intermittent.
- 4. Typical operating hours per year is 1500.

Examples of an IND-D industrial application are:

- 1. Offshore cranes
- 2. Runway snowblowers
- 3. Water well drills
- 4. Portable air compressors
- 5. Fire pump certification power (advertised power)

IND-C (INTERMITTENT)

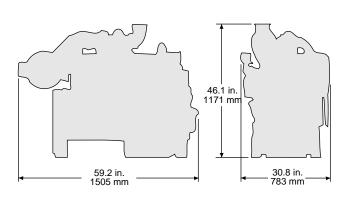
IND-C ratings are for service where power and/or speed are cyclic. The horsepower and speed of the engine which can be utilized for one uninterrupted hour followed by one hour of operation at or below the continuous rating. Operating limits are:

- 1. Time at full load not to exceed 50% of the duty cycle or one hour max.
- 2. Load factor limited to 70%.
- 3. Full load operation limited to one uninterrupted hour followed by one hour of operation at or below the continuous rating.
- 4. Typical operating hours per year is 3000 hours.

Examples of an IND-C industrial application are:

- 1. Agricultural tractors, harvesters, and combines
- 2. Truck off highway
- 3. Fire pump application power (90% of certified power)
- 4. Blast hole drills
- 5. Rock crushers and wood chippers with high torque rise
- 6. Oil field hoisting

DIMENSIONS



INDUSTRIAL RATINGS

IND-B

IND-B ratings are for moderate-duty service where power and/or speed are cyclic. Operating limits are:

- 1. Time at full load not to exceed 80% of the duty cycle.
- 2. Load factor limited to 85%.
- 3. Typical operating hours per year is 4000 hours.

Examples of an IND-B industrial application are:

- 1. Irrigation where normal pump demand is 85% of engine rating
- 2. Oil field mechanical pumping/drilling
- 3. Stationary/plant air compressors

IND-A (CONTINUOUS)

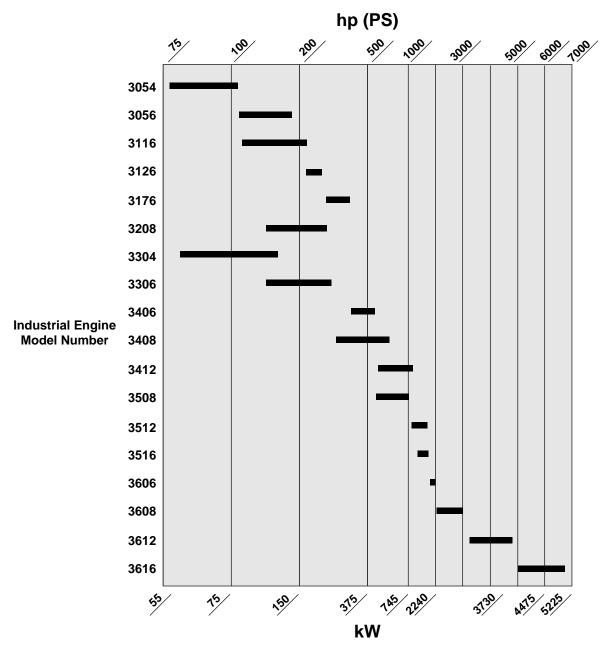
Continuous ratings are for heavy-duty service when the engine is operated at rated load and speed up to 100% of the time without interruption or load cycling. Operating limits are:

- 1. No hour or load factor limitation.
- 2. Continuous operation at full load.
- 3. Average load factor to approach 100%.
- 4. Typical operating hours per year is over 4000 hours.

Examples of an IND-A industrial application are:

- 1. Pipeline pumping
- 2. Ventilation
- 3. Customer specs

Match a Reliable Cat[®] Diesel to Your Application.



RATING DEFINITIONS & CONDITIONS

Ratings are based on SAE J1349 standard conditions. These ratings also apply at ISO3046/1, DIN6271, and BS5514 standard conditions.

Additional ratings are available for specific customer requirements. Consult your Caterpillar dealer.

Fuel rates are based on ISO3046 and on fuel oil of 35° API (60° F or 16° C) gravity having an LHV of 18 390 Btu/lb (42 780 kJ/kg) when used at 85° F (29° C) and weighing 7.001 lbs/U.S. gal. (838.9 g/L).