



ECO Design: Energy Efficiency Indicator – CDM Compliance to IEC 61800-9-2: 2017

| Rated Supply Voltage: | 3x 380 – 480Vac +/-10% | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|-------------------------|------------------------|------------------|-------------------|-------------------------|-------------------------|--------------------------|--------------------------|-------------------------|-------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------|------------|------------------|-------------------|-------------------------|-------------------------|--------------------------|--------------------------|-------------------------|-------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------|------------------------------|
| Rated Supply Frequency: | 50 – 60Hz +/-10% | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Duty: | Heavy Duty | | | | | | | | | | | | | | | Normal Duty | | | | | | | | | | | | | | | | | | | | | | | | | |
| Temperature Rating: | 0 – 45°C | | | | | | | | | | | | | | | 0 – 40°C | | | | | | | | | | | | | | | | | | | | | | | | | |
| Product Code | P_r (kW) | $I_{r, out}$ (A) | $S_{r, equ}$ (VA) | $P_{L, CDM (0,25)}$ (W) | $P_{L, CDM (0,25)}$ (%) | $P_{L, CDM (50,25)}$ (W) | $P_{L, CDM (50,25)}$ (%) | $P_{L, CDM (0,50)}$ (W) | $P_{L, CDM (0,50)}$ (%) | $P_{L, CDM (50,50)}$ (W) | $P_{L, CDM (50,50)}$ (%) | $P_{L, CDM (90,50)}$ (W) | $P_{L, CDM (90,50)}$ (%) | $P_{L, CDM (0,100)}$ (W) | $P_{L, CDM (0,100)}$ (%) | $P_{L, CDM (50,100)}$ (W) | $P_{L, CDM (50,100)}$ (%) | $P_{L, CDM (90,100)}$ (W) | $P_{L, CDM (90,100)}$ (%) | IE2 Compliant | P_r (kW) | $I_{r, out}$ (A) | $S_{r, equ}$ (VA) | $P_{L, CDM (0,25)}$ (W) | $P_{L, CDM (0,25)}$ (%) | $P_{L, CDM (50,25)}$ (W) | $P_{L, CDM (50,25)}$ (%) | $P_{L, CDM (0,50)}$ (W) | $P_{L, CDM (0,50)}$ (%) | $P_{L, CDM (50,50)}$ (W) | $P_{L, CDM (50,50)}$ (%) | $P_{L, CDM (90,50)}$ (W) | $P_{L, CDM (90,50)}$ (%) | $P_{L, CDM (0,100)}$ (W) | $P_{L, CDM (0,100)}$ (%) | $P_{L, CDM (50,100)}$ (W) | $P_{L, CDM (50,100)}$ (%) | $P_{L, CDM (90,100)}$ (W) | $P_{L, CDM (90,100)}$ (%) | IE2 Compliant | $P_{L, control standby}$ (W) |
| 31x-4D0004-Bx-xS-0000 | 0.75 | 2.5 | 1732 | 67.7 | 3.91 | 68.2 | 3.94 | 70.4 | 4.07 | 71.5 | 4.13 | 72.6 | 4.19 | 77.2 | 4.46 | 79.4 | 4.59 | 81.8 | 4.72 | ✓ | 1.1 | 3.5 | 2425 | 72.4 | 2.98 | 73.2 | 3.02 | 76.6 | 3.16 | 78.2 | 3.22 | 79.8 | 3.29 | 87.1 | 3.59 | 90.4 | 3.73 | 94.2 | 3.89 | ✓ | 7.5 |
| 31x-4D0006-Bx-xS-0000 | 1.5 | 4.5 | 3118 | 79.2 | 2.54 | 80.2 | 2.57 | 85.0 | 2.73 | 87.2 | 2.80 | 89.5 | 2.87 | 99.8 | 3.20 | 104.4 | 3.35 | 110.0 | 3.53 | ✓ | 2.2 | 5.5 | 3811 | 88.2 | 2.31 | 89.5 | 2.35 | 95.8 | 2.51 | 98.6 | 2.59 | 101.8 | 2.67 | 115.5 | 3.03 | 121.7 | 3.19 | 129.6 | 3.40 | ✓ | 7.5 |
| 31x-4D0010-Bx-xS-0000 | 3 | 7.5 | 5196 | 94.1 | 1.81 | 96.0 | 1.85 | 102.7 | 1.98 | 107.1 | 2.06 | 112.4 | 2.16 | 124.7 | 2.40 | 134.9 | 2.60 | 149.6 | 2.88 | ✓ | 4 | 10 | 6928 | 113.5 | 1.64 | 116.1 | 1.68 | 126.3 | 1.82 | 132.3 | 1.91 | 140.1 | 2.02 | 159.5 | 2.30 | 173.9 | 2.51 | 195.4 | 2.82 | ✓ | 7.5 |
| 31x-4D0012-Bx-xS-0000 | 4 | 10 | 6928 | 113.5 | 1.64 | 116.1 | 1.68 | 126.3 | 1.82 | 132.3 | 1.91 | 140.1 | 2.02 | 159.5 | 2.30 | 173.9 | 2.51 | 195.4 | 2.82 | ✓ | 5.5 | 12 | 8314 | 109.5 | 1.32 | 112.8 | 1.36 | 126.8 | 1.52 | 134.7 | 1.62 | 145.5 | 1.75 | 184.6 | 2.22 | 206.6 | 2.49 | 241.9 | 2.91 | ✓ | 7.5 |
| 31x-4E0016-Bx-xS-0000 | 5.5 | 12 | 8314 | 104.9 | 1.26 | 108.1 | 1.30 | 119.1 | 1.43 | 126.3 | 1.52 | 135.5 | 1.63 | 164.6 | 1.98 | 183.6 | 2.21 | 212.4 | 2.55 | ✓ | 7.5 | 16 | 11085 | 118.4 | 1.07 | 122.8 | 1.11 | 139.1 | 1.26 | 149.8 | 1.35 | 164.4 | 1.48 | 207.5 | 1.87 | 237.1 | 2.14 | 284.7 | 2.57 | ✓ | 7.5 |
| 31x-4E0023-Bx-xS-0000 | 7.5 | 16 | 11085 | 117.7 | 1.06 | 121.9 | 1.10 | 136.4 | 1.23 | 146.1 | 1.32 | 158.3 | 1.43 | 195.9 | 1.77 | 221.5 | 2.00 | 259.5 | 2.34 | ✓ | 11 | 23 | 15935 | 141.2 | 0.89 | 147.8 | 0.93 | 171.4 | 1.08 | 187.0 | 1.17 | 208.2 | 1.31 | 269.9 | 1.69 | 313.6 | 1.97 | 382.8 | 2.40 | ✓ | 7.5 |
| 31x-4F0032-Bx-xS-0000 | 11 | 23 | 15935 | 163.8 | 1.03 | 169.8 | 1.07 | 193.7 | 1.22 | 207.2 | 1.30 | 223.3 | 1.40 | 287.2 | 1.80 | 322.0 | 2.02 | 370.8 | 2.33 | ✓ | 15 | 32 | 22170 | 197.5 | 0.89 | 206.3 | 0.93 | 243.0 | 1.10 | 263.6 | 1.19 | 289.4 | 1.31 | 388.7 | 1.75 | 444.0 | 2.00 | 525.7 | 2.37 | ✓ | 7.5 |
| 31x-4F0038-Bx-xS-0000 | 15 | 32 | 22170 | 191.7 | 0.86 | 200.4 | 0.90 | 232.5 | 1.05 | 252.4 | 1.14 | 276.7 | 1.25 | 358.8 | 1.62 | 411.5 | 1.86 | 487.4 | 2.20 | ✓ | 18.5 | 38 | 26327 | 213.3 | 0.81 | 224.0 | 0.85 | 263.8 | 1.00 | 288.8 | 1.10 | 320.6 | 1.22 | 422.0 | 1.60 | 490.0 | 1.86 | 591.4 | 2.25 | ✓ | 7.5 |
| 31x-4G0045-Bx-xS-0000 | 18.5 | 38 | 26327 | 204.8 | 0.78 | 218.0 | 0.83 | 245.1 | 0.93 | 273.3 | 1.04 | 304.1 | 1.16 | 371.7 | 1.41 | 440.1 | 1.67 | 527.5 | 2.00 | ✓ | 22 | 45 | 31177 | 225.4 | 0.72 | 241.3 | 0.77 | 275.2 | 0.88 | 309.8 | 0.99 | 348.7 | 1.12 | 433.6 | 1.39 | 519.1 | 1.67 | 632.2 | 2.03 | ✓ | 7.5 |
| 31x-4G0060-Bx-xS-0000 | 22 | 45 | 31177 | 225.4 | 0.72 | 241.0 | 0.77 | 275.2 | 0.88 | 308.6 | 0.99 | 344.7 | 1.11 | 433.6 | 1.39 | 514.2 | 1.65 | 616.2 | 1.98 | ✓ | 30 | 60 | 41569 | 272.4 | 0.66 | 293.8 | 0.71 | 344.7 | 0.83 | 391.7 | 0.94 | 445.0 | 1.07 | 580.1 | 1.40 | 697.4 | 1.68 | 853.8 | 2.05 | ✓ | 7.5 |
| 31x-4G0073-Bx-xS-0000 | 30 | 60 | 41569 | 261.2 | 0.63 | 278.3 | 0.67 | 324.9 | 0.78 | 362.1 | 0.87 | 403.2 | 0.97 | 525.0 | 1.26 | 616.9 | 1.48 | 735.6 | 1.77 | ✓ | 37 | 73 | 50576 | 299.6 | 0.59 | 306.5 | 0.61 | 369.7 | 0.73 | 415.1 | 0.82 | 466.8 | 0.92 | 640.8 | 1.27 | 761.1 | 1.50 | 922.5 | 1.82 | ✓ | 7.5 |
| 31x-4H0087-Bx-xS-0000 | 37 | 73 | 50576 | 289.8 | 0.57 | 295.0 | 0.58 | 353.5 | 0.70 | 391.9 | 0.77 | 433.1 | 0.86 | 596.8 | 1.18 | 693.7 | 1.37 | 816.3 | 1.61 | ✓ | 45 | 87 | 60275 | 311.9 | 0.52 | 335.2 | 0.56 | 408.5 | 0.68 | 509.9 | 0.85 | 639.7 | 1.06 | 715.1 | 1.19 | 840.0 | 1.39 | 1004.3 | 1.67 | ✓ | 7.5 |
| 31x-4H0105-Bx-xS-0000 | 45 | 87 | 60275 | 311.9 | 0.52 | 334.9 | 0.56 | 408.5 | 0.68 | 506.1 | 0.84 | 627.6 | 1.04 | 715.1 | 1.19 | 835.1 | 1.39 | 988.2 | 1.64 | ✓ | 55 | 105 | 72746 | 360.3 | 0.50 | 388.8 | 0.53 | 483.1 | 0.66 | 608.2 | 0.84 | 769.8 | 1.06 | 879.1 | 1.21 | 1034.0 | 1.42 | 1239.2 | 1.70 | ✓ | 7.5 |
| 31x-4H0145-Bx-xS-0000 | 55 | 105 | 72746 | 348.9 | 0.48 | 376.5 | 0.52 | 459.7 | 0.63 | 575.4 | 0.79 | 716.5 | 0.98 | 804.4 | 1.11 | 946.6 | 1.30 | 1124.4 | 1.55 | ✓ | 75 | 145 | 100459 | 452.9 | 0.45 | 492.8 | 0.49 | 618.3 | 0.62 | 793.9 | 0.79 | 1021.0 | 1.02 | 1145.7 | 1.14 | 1364.3 | 1.36 | 1653.6 | 1.65 | ✓ | 7.5 |
| 31x-4J0180-Bx-xS-0000 | 75 | 145 | 100459 | 505.3 | 0.50 | 544.3 | 0.54 | 672.3 | 0.67 | 840.8 | 0.84 | 1055.2 | 1.05 | 1205.9 | 1.20 | 1413.8 | 1.41 | 1685.3 | 1.68 | ✓ | 90 | 180 | 124708 | 603.4 | 0.48 | 653.1 | 0.52 | 824.5 | 0.66 | 1046.3 | 0.84 | 1338.1 | 1.07 | 1544.6 | 1.24 | 1820.4 | 1.46 | 2192.3 | 1.76 | ✓ | 25 |
| 31x-4J0205-Bx-xS-0000 | 90 | 180 | 124708 | 564.5 | 0.45 | 613.4 | 0.49 | 756.4 | 0.61 | 971.4 | 0.78 | 1249.5 | 1.00 | 1360.7 | 1.09 | 1626.8 | 1.30 | 1980.0 | 1.59 | ✓ | 110 | 205 | 142028 | 628.5 | 0.44 | 685.9 | 0.48 | 854.3 | 0.60 | 1115.8 | 0.79 | 1468.4 | 1.03 | 1572.7 | 1.11 | 1898.6 | 1.34 | 2348.7 | 1.65 | ✓ | 25 |
| 31x-4J0260-Bx-xS-0000 | 110 | 205 | 142028 | 628.5 | 0.44 | 683.9 | 0.48 | 854.3 | 0.60 | 1107.8 | 0.78 | 1451.3 | 1.02 | 1572.7 | 1.11 | 1889.0 | 1.33 | 2328.1 | 1.64 | ✓ | 132 | 260 | 180133 | 776.2 | 0.43 | 849.0 | 0.47 | 1082.8 | 0.60 | 1428.2 | 0.79 | 1912.3 | 1.06 | 2077.9 | 1.15 | 2512.9 | 1.39 | 3135.5 | 1.74 | ✓ | 25 |

Table Abbreviations:

- P_r = Rated drive power (expressed in kiloWatts)
- $I_{r, out}$ = Rated drive output current (expressed in Amps)
- $S_{r, equ}$ = Rated apparent drive output power (expressed in Volt-Amperes)
- $P_{L, CDM (X,Y)}$ = absolute power losses, CDM associated, in operating condition (X, Y), where X = Motor stator frequency (%) and Y = Torque producing current (%), (expressed in Watts)
- $p_{L, CDM (X,Y)}$ = relative power losses, CDM associated, in operating condition (X, Y), where X = Motor stator frequency (%) and Y = Torque producing current (%), (expressed as a Percentage)
- $P_{L, control standby}$ = Power losses, control board associated, when CDM is in standby mode (expressed in Watts)

Notes:

- All calculations performed at nominal 400V, 50Hz supply, using the default switching frequency of the drive rating. See Product Manuals HA503711U001 & HA503711U002 for values.