

mecc alte

## Guida Tecnica: Potenze

## Technical Guide: Ratings Book

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www.meccalte.com



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|  |  | ECO & ECP Brushless Alternator with AVR 50 or 60Hz 1Phase or 3Phase<br><b>4 Pole Marine</b>   ECO & ECP | For marine Alternator Range please refer to Marine Ratings Book |
|---|---|---|---|

## Rating Definitions:

### Standby Rating

Standby Rating is selected for supplying emergency power for the duration of normal power interruption. Overload on this rating is not allowed.

From the generator point of view, if the emergency power is required continuously for more than one hour sizing is in accordance with 150°/40° or 163°/27° conditions. Also, if the overload duration is less than one hour, then the generator accepts 10% overload above Prime Ratings for 125°/40° or the 125°/27° ratings.

#### In the 'Ratings Book' you can find ratings for:

- ▶ 150°/40°: Peak continuous ratings according to ISO8528-3.
- ▶ 163°/27°: Emergency peak continuous rating, not defined in ISO specification. Suitable for stand-by sizing only.

The ratings are then suitable for supplying continuous electrical power, at variable load, for the duration of any utility power failure. These ratings allow temperature to rise above the temperature rise class H limit which can result in a shorter insulation life. The 10% overload is not available at these ratings.

### Prime Rating

Prime Rating is the maximum power available at a variable load for an unlimited number of hours: it allows the possibility of a 10% overload.

This is equivalent to Prime Power in accordance with ISO8528 and Overload Power in accordance with ISO3046, AS2789, DIN6271, and BS5514. From the generator point of view, it is sized according to the class B, F, H temperature rise requirements or 125°/27° rating.

#### In the 'Ratings Book' you can find ratings for:

- ▶ 80°/40°: this condition is equivalent to Class B temperature rise. 10% overload on 1 hour over 6 hours is allowed.
- ▶ 105°/40°: this condition is equivalent to Class F temperature rise. 10% overload on 1 hour over 6 hours is allowed.
- ▶ 125°/40°: this condition is equivalent to Class H temperature rise. 10% overload on 1 hour over 6 hours is allowed.
- ▶ 125°/27°: ratings at this condition are equivalent to those listed for the 150°/40° condition if not listed. 10% overload on 1 hour over 6 hours is allowed.

We suggest that customers contact the local Mecc Alte Sales representative for guidance on generator selection.



# 4 Pole | 50Hz | 3Phase

Voltage: 400 or 200

RPM: 1500

Insulation: Class H

| MODEL        | WEIGHT (kg) | LEADS | AVR   | kVA @ Temp. Rise / Ambient C/ 0.8 PF |        |        |        |        |       |
|--------------|-------------|-------|-------|--------------------------------------|--------|--------|--------|--------|-------|
|              |             |       |       | 163/27                               | 150/40 | 125/27 | 125/40 | 105/40 | 80/40 |
| ECP3-1S/4    | 63          | 12    | DSR   | 7                                    | 6.8    | 6.8    | 6.5    | 6      | 5.3   |
| ECP3-2S/4    | 70          | 12    | DSR   | 8.8                                  | 8.3    | 8.3    | 8      | 7.5    | 6.4   |
| ECP3-1L/4    | 82          | 12    | DSR   | 11.8                                 | 11.4   | 11.4   | 11     | 10     | 8.8   |
| ECP3-2L/4    | 91.5        | 12    | DSR   | 14.5                                 | 14     | 14     | 13.5   | 12.5   | 10.8  |
| ECP3-3L/4    | 96          | 12    | DSR   | 16                                   | 15.5   | 15.5   | 15.0   | 14     | 12    |
| ECP28-S/4    | 107         | 12    | DSR   | 18                                   | 17.5   | 17.5   | 17     | 16     | 13.6  |
| ECP28-M/4    | 122         | 12    | DSR   | 21.5                                 | 20.5   | 20.5   | 20     | 18.5   | 16    |
| ECP28-2L/4   | 139         | 12    | DSR   | 26.5                                 | 25.5   | 25.5   | 25     | 23     | 20    |
| ECP28-VL/4   | 165         | 12    | DSR   | 32.5                                 | 30.5   | 30.5   | 30     | 26     | 24    |
| ECO32-2S/4   | 199         | 12    | SR7/2 | 39                                   | 36.7   | 36.7   | 35     | 33     | 28    |
| ECO32-3S/4   | 214         | 12    | SR7/2 | 48                                   | 46     | 46     | 42.5   | 39     | 34    |
| ECO32-1L/4   | 248         | 12    | SR7/2 | 56                                   | 52.5   | 52.5   | 50     | 48     | 40    |
| ECO32-2L/4   | 282         | 12    | SR7/2 | 68                                   | 62.5   | 62.5   | 60     | 57     | 49    |
| ECO32-3L/4   | 298         | 12    | SR7/2 | 83                                   | 78     | 78     | 75     | 67     | 60    |
| ECP34-1S/4   | 341         | 12    | DSR   | 95                                   | 90     | 90     | 85     | 77     | 68    |
| ECP34-2S/4   | 419         | 12    | DSR   | 116                                  | 110    | 110    | 105    | 95     | 84    |
| ECP34-1L/4   | 445         | 12    | DSR   | 143                                  | 137    | 138    | 130    | 118    | 104   |
| ECP34-2L/4   | 491         | 12    | DSR   | 164                                  | 158    | 158    | 150    | 136    | 120   |
| ECP34-3L/4   | 495         | 12    | DSR   | 175                                  | 169    | 169    | 160    | 145    | 128   |
| ECO38-1SN/4  | 510         | 12    | DSR   | 196                                  | 188    | 188    | 180    | 170    | 144   |
| ECO38-2SN/4  | 560         | 12    | DSR   | 220                                  | 211    | 211    | 200    | 185    | 160   |
| ECO38-3SN/4  | 590         | 12    | DSR   | 250                                  | 237    | 237    | 225    | 207    | 180   |
| ECO38-1LN/4  | 680         | 12    | DSR   | 275                                  | 264    | 264    | 250    | 230    | 200   |
| ECO38-2LN/4  | 765         | 12    | DSR   | 330                                  | 315    | 315    | 300    | 275    | 240   |
| ECO38-3LN/4  | 905         | 12    | DSR   | 370                                  | 360    | 360    | 350    | 320    | 280   |
| ECO40-1S/4   | 1040        | 12    | DER1  | 437                                  | 417    | 417    | 400    | 370    | 320   |
| ECO40-2S/4   | 1118        | 12    | DER1  | 491                                  | 468    | 468    | 450    | 410    | 360   |
| ECO40-3S/4   | 1171        | 12    | DER1  | 546                                  | 521    | 521    | 500    | 450    | 400   |
| ECO40-1L/4   | 1324        | 12    | DER1  | 601                                  | 576    | 567    | 550    | 500    | 440   |
| ECO40-1.5L/4 | 1380        | 12    | DER1  | 670                                  | 640    | 640    | 620    | 560    | 496   |
| ECO40-2L/4   | 1586        | 12    | DER1  | 735                                  | 700    | 700    | 680    | 630    | 544   |
| ECO40-VL/4   | 1693        | 12    | DER1  | 779                                  | 740    | 740    | 720    | 660    | 576   |
| ECO43-1SN/4  | 1870        | 12    | DER1  | 874                                  | 840    | 840    | 800    | 730    | 640   |
| ECO43-2SN/4  | 2090        | 12    | DER1  | 1016                                 | 975    | 975    | 930    | 850    | 744   |
| ECO43-1LN/4  | 2395        | 12    | DER1  | 1201                                 | 1150   | 1150   | 1100   | 1000   | 880   |
| ECO43-2LN/4  | 2660        | 12    | DER1  | 1420                                 | 1358   | 1358   | 1300   | 1200   | 1040  |
| ECO43-VLN/4  | 2950        | 12    | DER1  | 1520                                 | 1470   | 1470   | 1400   | 1280   | 1120  |
| ECO46-1S/4   | 2770        | 12    | DER1  | 1620                                 | 1552   | 1552   | 1500   | 1350   | 1200  |
| ECO46-1.5S/4 | 3380        | 12    | DER1  | 1780                                 | 1700   | 1700   | 1650   | 1480   | 1320  |
| ECO46-2S/4   | 3440        | 12    | DER1  | 1944                                 | 1863   | 1863   | 1800   | 1600   | 1440  |
| ECO46-1L/4   | 3870        | 12    | DER1  | 2268                                 | 2173   | 2173   | 2100   | 1900   | 1680  |
| ECO46-1.5L/4 | 4260        | 12    | DER1  | 2480                                 | 2380   | 2380   | 2300   | 2050   | 1840  |
| ECO46-2L/4   | 4250        | 12    | DER1  | 2700                                 | 2588   | 2588   | 2500   | 2250   | 2000  |

All machines have an auxiliary winding 'standard' with 300% short circuit capability

Indicated voltage references to series or parallel star connection. Consult factory on voltages available for ECO40, ECO43 and ECO46 as for some machines the series/parallel connection may result in a different voltage output.

# 4 Pole | 50Hz | 3Phase

Voltage: 380 or 190

RPM: 1500

Insulation: Class H

| MODEL        | WEIGHT (kg) | LEADS | AVR   | kVA @ Temp. Rise / Ambient C/ 0.8 PF |        |        |        |       |
|--------------|-------------|-------|-------|--------------------------------------|--------|--------|--------|-------|
|              |             |       |       | 163/27                               | 150/40 | 125/27 | 105/40 | 80/40 |
| ECP3-1S/4    | 63          | 12    | DSR   | 7                                    | 6.8    | 6.5    | 6.3    | 5.3   |
| ECP3-2S/4    | 70          | 12    | DSR   | 8.8                                  | 8.3    | 8      | 7.5    | 6.4   |
| ECP3-1L/4    | 82          | 12    | DSR   | 11.8                                 | 11.4   | 11     | 10     | 8.8   |
| ECP3-2L/4    | 91.5        | 12    | DSR   | 14.5                                 | 14     | 13.5   | 12.5   | 10.8  |
| ECP3-3L/4    | 96          | 12    | DSR   | 16                                   | 15.5   | 15     | 14     | 12    |
| ECP28-S/4    | 107         | 12    | DSR   | 18                                   | 17.5   | 17     | 16     | 13.6  |
| ECP28-M/4    | 122         | 12    | DSR   | 21.5                                 | 20.5   | 20     | 18.5   | 16    |
| ECP28-2L/4   | 139         | 12    | DSR   | 26.5                                 | 25.5   | 25     | 23     | 20    |
| ECP28-VL/4   | 165         | 12    | DSR   | 32.5                                 | 30.5   | 30     | 26     | 24    |
| ECO32-2S/4   | 199         | 12    | SR7/2 | 39                                   | 36.7   | 35     | 33     | 28    |
| ECO32-3S/4   | 214         | 12    | SR7/2 | 48                                   | 46     | 42.5   | 37     | 34    |
| ECO32-1L/4   | 248         | 12    | SR7/2 | 56                                   | 52.5   | 50     | 39     | 40    |
| ECO32-2L/4   | 282         | 12    | SR7/2 | 68                                   | 62.5   | 60     | 57     | 49    |
| ECO32-3L/4   | 298         | 12    | SR7/2 | 83                                   | 78     | 75     | 67     | 60    |
| ECP34-1S/4   | 341         | 12    | DSR   | 95                                   | 90     | 85     | 78     | 68    |
| ECP34-2S/4   | 419         | 12    | DSR   | 116                                  | 111    | 105    | 95     | 84    |
| ECP34-1L/4   | 445         | 12    | DSR   | 143                                  | 138    | 130    | 118    | 104   |
| ECP34-2L/4   | 491         | 12    | DSR   | 164                                  | 158    | 150    | 136    | 120   |
| ECP34-3L/4   | 495         | 12    | DSR   | 175                                  | 169    | 160    | 145    | 128   |
| ECO38-1SN/4  | 510         | 12    | DSR   | 196                                  | 188    | 180    | 170    | 144   |
| ECO38-2SN/4  | 560         | 12    | DSR   | 220                                  | 211    | 200    | 185    | 160   |
| ECO38-3SN/4  | 590         | 12    | DSR   | 250                                  | 238    | 225    | 208    | 180   |
| ECO38-1LN/4  | 680         | 12    | DSR   | 278                                  | 264    | 250    | 230    | 200   |
| ECO38-2LN/4  | 765         | 12    | DSR   | 330                                  | 315    | 300    | 275    | 240   |
| ECO38-3LN/4  | 905         | 12    | DSR   | 370                                  | 360    | 350    | 320    | 280   |
| ECO40-1S/4   | 1040        | 12    | DER1  | 438                                  | 417    | 400    | 370    | 320   |
| ECO40-2S/4   | 1118        | 12    | DER1  | 491                                  | 468    | 450    | 410    | 360   |
| ECO40-3S/4   | 1171        | 12    | DER1  | 546                                  | 521    | 500    | 450    | 400   |
| ECO40-1L/4   | 1324        | 12    | DER1  | 601                                  | 567    | 550    | 500    | 440   |
| ECO40-1.5L/4 | 1380        | 12    | DER1  | 670                                  | 640    | 620    | 560    | 496   |
| ECO40-2L/4   | 1586        | 12    | DER1  | 735                                  | 700    | 680    | 630    | 544   |
| ECO40-VL/4   | 1693        | 12    | DER1  | 779                                  | 740    | 720    | 660    | 576   |
| ECO43-1SN/4  | 1870        | 12    | DER1  | 874                                  | 840    | 800    | 730    | 640   |
| ECO43-2SN/4  | 2090        | 12    | DER1  | 1016                                 | 975    | 930    | 850    | 744   |
| ECO43-1LN/4  | 2395        | 12    | DER1  | 1201                                 | 1150   | 1100   | 1000   | 880   |
| ECO43-2LN/4  | 2660        | 12    | DER1  | 1420                                 | 1358   | 1300   | 1200   | 1040  |
| ECO43-VLN/4  | 2950        | 12    | DER1  | 1520                                 | 1470   | 1400   | 1280   | 1120  |
| ECO46-1S/4   | 2770        | 12    | DER1  | 1620                                 | 1552   | 1500   | 1350   | 1200  |
| ECO46-1.5S/4 | 3380        | 12    | DER1  | 1780                                 | 1700   | 1650   | 1480   | 1320  |
| ECO46-2S/4   | 3440        | 12    | DER1  | 1944                                 | 1863   | 1800   | 1600   | 1440  |
| ECO46-1L/4   | 3870        | 12    | DER1  | 2268                                 | 2173   | 2100   | 1900   | 1680  |
| ECO46-1.5L/4 | 4260        | 12    | DER1  | 2480                                 | 2380   | 2300   | 2050   | 1840  |
| ECO46-2L/4   | 4250        | 12    | DER1  | 2700                                 | 2588   | 2500   | 2250   | 2000  |

All machines have an auxiliary winding 'standard' with 300% short circuit capability.

Indicated voltage references to series or parallel star connection. Consult factory on voltages available for ECO40, ECO43 and ECO46 as for some machines the series/parallel connection may result in a different voltage output.

# 4 Pole | 50Hz | 3Phase

Voltage: 440 or 220

RPM: 1500

Insulation: Class H

| MODEL        | WEIGHT (kg) | LEADS | AVR   | kVA @ Temp. Rise / Ambient C/ 0.8 PF |        |        |        |       |
|--------------|-------------|-------|-------|--------------------------------------|--------|--------|--------|-------|
|              |             |       |       | 163/27                               | 150/40 | 125/40 | 105/40 | 80/40 |
| ECP3-1S/4    | 63          | 12    | DSR   | 5.9                                  | 5.6    | 5.5    | 5      | 4.4   |
| ECP3-2S/4    | 70          | 12    | DSR   | 7.4                                  | 7      | 6.8    | 6.4    | 5.4   |
| ECP3-1L/4    | 82          | 12    | DSR   | 9.6                                  | 9.4    | 9      | 8      | 7.3   |
| ECP3-2L/4    | 91.5        | 12    | DSR   | 11.9                                 | 11.4   | 11     | 10     | 8.8   |
| ECP3-3L/4    | 96          | 12    | DSR   | 12.8                                 | 12.4   | 12     | 10.5   | 9.6   |
| ECP28-S/4    | 107         | 12    | DSR   | 16.4                                 | 16     | 15.5   | 14.5   | 12.4  |
| ECP28-M/4    | 122         | 12    | DSR   | 19.4                                 | 18.5   | 18     | 17     | 14.4  |
| ECP28-2L/4   | 139         | 12    | DSR   | NA                                   | NA     | NA     | NA     | NA    |
| ECP28-VL/4   | 165         | 12    | DSR   | NA                                   | NA     | NA     | NA     | NA    |
| ECO32-2S/4   | 199         | 12    | SR7/2 | 31                                   | 30     | 28     | 26     | 23    |
| ECO32-3S/4   | 214         | 12    | SR7/2 | 38                                   | 36     | 34     | 32     | 28    |
| ECO32-1L/4   | 248         | 12    | SR7/2 | 45                                   | 43     | 40     | 38     | 33    |
| ECO32-2L/4   | 282         | 12    | SR7/2 | 55                                   | 53     | 50     | 45     | 40    |
| ECO32-3L/4   | 298         | 12    | SR7/2 | 78                                   | 74     | 70     | 56     | 56    |
| ECP34-1S/4   | 341         | 12    | DSR   | 78                                   | 75     | 70     | 63     | 56    |
| ECP34-2S/4   | 419         | 12    | DSR   | 94                                   | 90     | 85     | 78     | 68    |
| ECP34-1L/4   | 445         | 12    | DSR   | 120                                  | 116    | 110    | 99     | 88    |
| ECP34-2L/4   | 491         | 12    | DSR   | 136                                  | 131    | 125    | 113    | 100   |
| ECP34-3L/4   | 495         | 12    | DSR   | 175                                  | 140    | 150    | 135    | 120   |
| ECO38-1SN/4  | 510         | 12    | DSR   | 180                                  | 173    | 165    | 155    | 133   |
| ECO38-2SN/4  | 560         | 12    | DSR   | 209                                  | 200    | 190    | 175    | 153   |
| ECO38-3SN/4  | 590         | 12    | DSR   | 234                                  | 221    | 210    | 190    | 168   |
| ECO38-1LN/4  | 680         | 12    | DSR   | 253                                  | 243    | 230    | 215    | 184   |
| ECO38-2LN/4  | 765         | 12    | DSR   | 319                                  | 305    | 290    | 265    | 233   |
| ECO38-3LN/4  | 905         | 12    | DSR   | 360                                  | 350    | 340    | 310    | 273   |
| ECO40-1S/4   | 1040        | 12    | DER1  | 404                                  | 389    | 370    | 343    | 296   |
| ECO40-2S/4   | 1118        | 12    | DER1  | 459                                  | 441    | 420    | 385    | 336   |
| ECO40-3S/4   | 1171        | 12    | DER1  | 503                                  | 483    | 460    | 414    | 368   |
| ECO40-1L/4   | 1324        | 12    | DER1  | 546                                  | 525    | 500    | 454    | 400   |
| ECO40-1.5L/4 | 1380        | 12    | DER1  | 616                                  | 598    | 570    | 515    | 456   |
| ECO40-2L/4   | 1586        | 12    | DER1  | 681                                  | 661    | 630    | 585    | 504   |
| ECO40-VL/4   | 1693        | 12    | DER1  | NA                                   | NA     | NA     | NA     | NA    |
| ECO43-1SN/4  | 1870        | 12    | DER1  | 754                                  | 725    | 690    | 610    | 553   |
| ECO43-2SN/4  | 2090        | 12    | DER1  | 918                                  | 883    | 840    | 770    | 673   |
| ECO43-1LN/4  | 2395        | 12    | DER1  | 1093                                 | 1050   | 1000   | 910    | 800   |
| ECO43-2LN/4  | 2660        | 12    | DER1  | 1349                                 | 1296   | 1235   | 1140   | 988   |
| ECO43-VLN/4  | 2950        | 12    | DER1  | NA                                   | NA     | NA     | NA     | NA    |
| ECO46-1S/4   | 2770        | 12    | DER1  | NA                                   | NA     | NA     | NA     | NA    |
| ECO46-1.5S/4 | 3380        | 12    | DER1  | NA                                   | NA     | NA     | NA     | NA    |
| ECO46-2S/4   | 3440        | 12    | DER1  | NA                                   | NA     | NA     | NA     | NA    |
| ECO46-1L/4   | 3870        | 12    | DER1  | NA                                   | NA     | NA     | NA     | NA    |
| ECO46-1.5L/4 | 4260        | 12    | DER1  | NA                                   | NA     | NA     | NA     | NA    |
| ECO46-2L/4   | 4250        | 12    | DER1  | NA                                   | NA     | NA     | NA     | NA    |

All machines have an auxiliary winding 'standard' with 300% short circuit capability.

Indicated voltage references to series or parallel star connection. Consult factory on voltages available for ECO40, ECO43 and ECO46 as for some machines the series/parallel connection may result in a different voltage output.

# 4 Pole | 50Hz | 3Phase

Voltage: 380-415/190-208 | Broad Voltage

RPM: 1500

Insulation: Class H

| MODEL        | WEIGHT (kg) | LEADS | AVR   | kVA @ Temp. Rise / Ambient C/ 0.8 PF |        |        |        |       |
|--------------|-------------|-------|-------|--------------------------------------|--------|--------|--------|-------|
|              |             |       |       | 163/27                               | 150/40 | 125/40 | 105/40 | 80/40 |
| ECP3-1S/4    | 63          | 12    | DSR   | 7                                    | 6.8    | 6.5    | 6.3    | 5.3   |
| ECP3-2S/4    | 70          | 12    | DSR   | 8.8                                  | 8.3    | 8      | 7.5    | 6.4   |
| ECP3-1L/4    | 82          | 12    | DSR   | 11.8                                 | 11.4   | 11     | 10     | 8.8   |
| ECP3-2L/4    | 91.5        | 12    | DSR   | 14.5                                 | 14     | 13.5   | 12.5   | 10.8  |
| ECP3-3L/4    | 96          | 12    | DSR   | 16                                   | 15.5   | 15     | 14     | 12    |
| ECP28-S/4    | 107         | 12    | DSR   | 18                                   | 17.5   | 17     | 16     | 13.6  |
| ECP28-M/4    | 122         | 12    | DSR   | 21.5                                 | 20.5   | 20     | 18.5   | 16    |
| ECP28-2L/4   | 139         | 12    | DSR   | 26.5                                 | 25.5   | 25     | 23     | 20    |
| ECP28-VL/4   | 165         | 12    | DSR   | 29.9                                 | 28.9   | 28     | 25     | 22.4  |
| ECO32-2S/4   | 199         | 12    | SR7/2 | 39                                   | 36.7   | 35     | 33     | 28    |
| ECO32-3S/4   | 214         | 12    | SR7/2 | 48                                   | 46     | 42.5   | 37     | 34    |
| ECO32-1L/4   | 248         | 12    | SR7/2 | 56                                   | 52.5   | 50     | 48     | 40    |
| ECO32-2L/4   | 282         | 12    | SR7/2 | 68                                   | 62.5   | 60     | 58     | 48    |
| ECO32-3L/4   | 298         | 12    | SR7/2 | 83                                   | 78     | 75     | 67     | 60    |
| ECP34-1S/4   | 341         | 12    | DSR   | 95                                   | 90     | 85     | 78     | 68    |
| ECP34-2S/4   | 419         | 12    | DSR   | 116                                  | 111    | 105    | 95     | 84    |
| ECP34-1L/4   | 445         | 12    | DSR   | 143                                  | 138    | 130    | 118    | 104   |
| ECP34-2L/4   | 491         | 12    | DSR   | 164                                  | 158    | 150    | 136    | 120   |
| ECP34-3L/4   | 495         | 12    | DSR   | 175                                  | 168    | 160    | 145    | 128   |
| ECO38-1SN/4  | 510         | 12    | DSR   | 196                                  | 188    | 180    | 170    | 144   |
| ECO38-2SN/4  | 560         | 12    | DSR   | 220                                  | 210    | 200    | 185    | 160   |
| ECO38-3SN/4  | 590         | 12    | DSR   | 250                                  | 238    | 225    | 208    | 180   |
| ECO38-1LN/4  | 680         | 12    | DSR   | 275                                  | 264    | 250    | 230    | 200   |
| ECO38-2LN/4  | 765         | 12    | DSR   | 330                                  | 315    | 300    | 275    | 240   |
| ECO38-3LN/4  | 905         | 12    | DSR   | 370                                  | 360    | 350    | 320    | 280   |
| ECO40-1S/4   | 1040        | 12    | DER1  | 438                                  | 417    | 400    | 370    | 320   |
| ECO40-2S/4   | 1118        | 12    | DER1  | 490                                  | 468    | 450    | 410    | 360   |
| ECO40-3S/4   | 1171        | 12    | DER1  | 546                                  | 521    | 500    | 450    | 400   |
| ECO40-1L/4   | 1324        | 12    | DER1  | 590                                  | 567    | 540    | 490    | 433   |
| ECO40-1.5L/4 | 1380        | 12    | DER1  | 670                                  | 640    | 620    | 560    | 496   |
| ECO40-2L/4   | 1586        | 12    | DER1  | 735                                  | 700    | 680    | 630    | 544   |
| ECO40-VL/4   | 1693        | 12    | DER1  | 768                                  | 740    | 710    | 650    | 568   |
| ECO43-1SN/4  | 1870        | 12    | DER1  | 874                                  | 840    | 800    | 730    | 640   |
| ECO43-2SN/4  | 2090        | 12    | DER1  | 1016                                 | 975    | 930    | 850    | 744   |
| ECO43-1LN/4  | 2395        | 12    | DER1  | 1201                                 | 1150   | 1100   | 1000   | 880   |
| ECO43-2LN/4  | 2660        | 12    | DER1  | 1420                                 | 1358   | 1300   | 1200   | 1040  |
| ECO43-VLN/4  | 2950        | 12    | DER1  | 1450                                 | 1400   | 1330   | 1210   | 1064  |
| ECO46-1S/4   | 2770        | 12    | DER1  | 1620                                 | 1552   | 1500   | 1350   | 1200  |
| ECO46-1.5S/4 | 3380        | 12    | DER1  | 1780                                 | 1700   | 1650   | 1480   | 1320  |
| ECO46-2S/4   | 3440        | 12    | DER1  | 1944                                 | 1863   | 1800   | 1600   | 1440  |
| ECO46-1L/4   | 3870        | 12    | DER1  | 2268                                 | 2173   | 2100   | 1900   | 1680  |
| ECO46-1.5L/4 | 4260        | 12    | DER1  | 2480                                 | 2380   | 2300   | 2050   | 1840  |
| ECO46-2L/4   | 4250        | 12    | DER1  | 2700                                 | 2588   | 2500   | 2250   | 2000  |

All machines have an auxiliary winding 'standard' with 300% short circuit capability.

Indicated voltage references to series or parallel star connection. Consult factory on voltages available for ECO40, ECO43 and ECO46 as for some machines the series/parallel connection may result in a different voltage output.

# 4 Pole | 50Hz | 1Phase

Voltage: 220/230/240 - 110/115/120 | Reconnected

RPM: 1500

Insulation: Class H

| MODEL         | WEIGHT (kg) | LEADS | AVR   | 220/230/240 Volts kW @ 1.0 PF |        |        | 230V 1.0 PF Eff% | 220/230/240 Volts kVA @ 0.8 PF |        |        | 230v 0.8 PF Eff% |
|---------------|-------------|-------|-------|-------------------------------|--------|--------|------------------|--------------------------------|--------|--------|------------------|
|               |             |       |       | 150/40                        | 125/40 | 105/40 |                  | 150/40                         | 125/40 | 105/40 |                  |
| ECP3-1S/4     | 63          | 12    | DSR   | 4.5                           | 4.4    | 4.1    | 75.4             | 4.1                            | 4      | 3.7    | 73.4             |
| ECP3-2S/4     | 70          | 12    | DSR   | 5.7                           | 5.5    | 5.1    | 77.4             | 5.2                            | 5      | 4.7    | 75.4             |
| ECP3-1L/4     | 82          | 12    | DSR   | 7.7                           | 7.5    | 6.8    | 78.9             | 6.9                            | 6.5    | 6.1    | 76.9             |
| ECP3-2L/4     | 91.5        | 12    | DSR   | 9.3                           | 9      | 8.3    | 79.4             | 8.3                            | 8      | 7.4    | 77.4             |
| ECP3-3L/4     | 96          | 12    | DSR   | 10.3                          | 10     | 9.1    | 79.6             | 9.3                            | 9      | 8.2    | 77.6             |
| ECP28-S/4     | 107         | 12    | DSR   | 11.8                          | 11.5   | 10.7   | 81.1             | 10.8                           | 10.5   | 9.8    | 79.1             |
| ECP28-M/4     | 122         | 12    | DSR   | 13.8                          | 13.5   | 12.3   | 81.4             | 12.2                           | 12     | 11     | 79.4             |
| ECP28-2L/4    | 139         | 12    | DSR   | 16.7                          | 16.5   | 15.1   | 82.1             | 15.2                           | 15     | 13.7   | 80.1             |
| ECP28-VL/4    | 165         | 12    | DSR   | 19.5                          | 19     | 17     | 82.6             | 17.5                           | 17     | 15     | 80.6             |
| ECO32-2S/4    | 199         | 12    | SR7/2 | 25                            | 24     | 22     | 82.7             | 22                             | 21     | 20     | 80.7             |
| ECO32-3S/4    | 214         | 12    | SR7/2 | 29                            | 27     | 25     | 83.4             | 25                             | 24     | 23     | 81.4             |
| ECO32-1L/4    | 248         | 12    | SR7/2 | 35                            | 33     | 32     | 84.0             | 32                             | 30     | 29     | 82.0             |
| ECO32-2L/4    | 282         | 12    | SR7/2 | 42                            | 40     | 38     | 84.7             | 38                             | 36     | 34     | 82.7             |
| ECO32-3L/4    | 298         | 12    | SR7/2 | 51                            | 48     | 45     | 84.8             | 46                             | 44     | 41     | 82.8             |
| ECP34-1S/4    | 341         | 12    | DSR   | 57                            | 54     | 49     | 84.8             | 51                             | 48     | 43     | 82.8             |
| ECP34-2S/4    | 419         | 12    | DSR   | 68                            | 65     | 59     | 86.2             | 61                             | 58     | 52     | 84.2             |
| ECP34-1L/4    | 445         | 12    | DSR   | 79                            | 75     | 68     | 87.2             | 70                             | 67     | 60     | 85.2             |
| ECP34-2L/4    | 491         | 12    | DSR   | 85                            | 82     | 74     | 88.1             | 77                             | 74     | 67     | 86.1             |
| ECP34-3L/4    | 495         | 12    | DSR   | 91                            | 87     | 79     | 88.1             | 82                             | 79     | 71     | 86.1             |
| ECO38-1SN/4   | 510         | 12    | DSR   | 114                           | 110    | 102    | 86.0             | 108                            | 104    | 97     | 84.0             |
| ECO38-2SN/4   | 560         | 12    | DSR   | 125                           | 120    | 110    | 86.6             | 120                            | 115    | 105    | 84.6             |
| ECO38-3SN/4   | 590         | 12    | DSR   | 138                           | 132    | 122    | 86.9             | 131                            | 125    | 115    | 84.9             |
| ECO38-1LN/4   | 680         | 12    | DSR   | 160                           | 153    | 142    | 87.4             | 153                            | 146    | 136    | 85.4             |
| ECO38-2LN/4   | 765         | 12    | DSR   | 188                           | 180    | 165    | 87.8             | 173                            | 166    | 152    | 85.8             |
| ECO38-3LN/4   | 905         | 12    | DSR   | 217                           | 212    | 194    | 87.5             | 205                            | 200    | 183    | 85.5             |
| ECO40-1S/4    | 1040        | 12    | DER1  | 255                           | 245    | 227    | 87.5             | 234                            | 225    | 208    | 85.5             |
| ECO40-2S/4    | 1118        | 12    | DER1  | 285                           | 274    | 250    | 87.6             | 263                            | 253    | 230    | 85.6             |
| ECO40-3S/4*   | 1171        | 12    | DER1  | 315                           | 303    | 273    | 87.7             | 292                            | 281    | 253    | 85.7             |
| ECO40-1L/4    | 1324        | 12    | DER1  | 347                           | 333    | 303    | 87.9             | 322                            | 309    | 281    | 85.9             |
| ECO40-1.5L/4* | 1380        | 12    | DER1  | 391                           | 376    | 339    | 88.0             | 362                            | 348    | 315    | 86.0             |
| ECO46-2L/4    | 1586        | 12    | DER1  | 429                           | 412    | 382    | 88.0             | 397                            | 382    | 354    | 86.0             |
| ECO40-VL/4*   | 1693        | 12    | DER1  | 454                           | 436    | 400    | 88.1             | 421                            | 405    | 371    | 86.1             |

\*120/115/110 V not available on these three Models.

All machines have an auxiliary winding 'standard' with 300% short circuit capability.

Zigzag, Delta, and Double Delta single phase connections available.

Consult Factory to choose for your application.

Ratings achieved by fitting optional copper damper cage (ECP3, ECO28 and ECO32 ranges)

All machines have an auxiliary winding 'standard' with 300% short circuit capability

Indicated voltage references to series or parallel star connection. Consult factory on voltages available for ECO40, ECO43 and ECO46 as for some machines the series/parallel connection may result in a different voltage output.

# 4 Pole | 50Hz | 1Phase

Voltage: 220/230/240 - 110/115/120 | Dedicated

RPM: 1500

Insulation: Class H

| MODEL        | WEIGHT (kg) | LEADS | AVR   | 220/230/240 Volts kW @ 1.0 PF |        |        | 230V 1.0 PF Eff% | 220/230/240 Volts kVA @ 0.8 PF |        |        | 230v 0.8 PF Eff% |
|--------------|-------------|-------|-------|-------------------------------|--------|--------|------------------|--------------------------------|--------|--------|------------------|
|              |             |       |       | 150/40                        | 125/40 | 105/40 |                  | 150/40                         | 125/40 | 105/40 |                  |
| ECP3-1S/4    | 63          | 12    | DSR   | 5.1                           | 5      | 4.6    | 75.4             | 4.6                            | 4.5    | 4.2    | 73.4             |
| ECP3-2S/4    | 70          | 12    | DSR   | 6.2                           | 6      | 5.6    | 77.4             | 5.6                            | 5.4    | 5.0    | 75.4             |
| ECP3-1L/4    | 82          | 12    | DSR   | 8.8                           | 8.5    | 7.7    | 78.9             | 7.7                            | 7.5    | 6.9    | 76.9             |
| ECP3-2L/4    | 91.5        | 12    | DSR   | 10.3                          | 10     | 9.3    | 79.4             | 9.3                            | 9      | 8.4    | 77.4             |
| ECP3-3L/4    | 96          | 12    | DSR   | 11.3                          | 11     | 9.8    | 79.6             | 10.3                           | 10     | 9.2    | 77.6             |
| ECP28-S/4    | 107         | 12    | DSR   | 12.8                          | 12.5   | 11.7   | 81.1             | 11.6                           | 11.3   | 10.6   | 79.1             |
| ECP28-M/4    | 122         | 12    | DSR   | 14.8                          | 14.5   | 13.2   | 81.4             | 13.3                           | 13     | 12     | 79.4             |
| ECP28-2L/4   | 139         | 12    | DSR   | 18.3                          | 18     | 16.3   | 82.1             | 16.4                           | 16     | 14.8   | 80.1             |
| ECP28-VL/4   | 165         | 12    | DSR   | 21.6                          | 21     | 19     | 82.6             | 19.5                           | 19     | 17     | 80.6             |
| ECO32-2S/4   | 199         | 12    | SR7/2 | 31                            | 30     | 28     | 82.7             | 28                             | 27     | 26     | 80.7             |
| ECO32-3S/4   | 214         | 12    | SR7/2 | 35                            | 33     | 31     | 83.4             | 31                             | 30     | 29     | 81.4             |
| ECO32-1L/4   | 248         | 12    | SR7/2 | 42                            | 40     | 39     | 84.0             | 38                             | 36     | 35     | 82.0             |
| ECO32-2L/4   | 282         | 12    | SR7/2 | 52                            | 50     | 48     | 84.7             | 47                             | 45     | 43     | 82.7             |
| ECO32-3L/4   | 298         | 12    | SR7/2 | 62.5                          | 59     | 54     | 84.8             | 56                             | 54     | 50     | 82.8             |
| ECP34-1S/4   | 341         | 12    | DSR   | 68                            | 65     | 59     | 84.8             | 61                             | 58     | 51     | 82.8             |
| ECP34-2S/4   | 419         | 12    | DSR   | 79                            | 75     | 69     | 86.2             | 70                             | 67     | 60     | 84.2             |
| ECP34-1L/4   | 445         | 12    | DSR   | 84                            | 80     | 72     | 87.2             | 76                             | 72     | 65     | 85.2             |
| ECP34-2L/4   | 491         | 12    | DSR   | 87                            | 83     | 75     | 88.1             | 78                             | 75     | 68     | 86.1             |
| ECP34-3L/4   | 495         | 12    | DSR   | NA                            | NA     | NA     | -                | NA                             | NA     | NA     | -                |
| ECO38-1SN/4  | 510         | 12    | DSR   | 124                           | 119    | 110    | 86.0             | 116                            | 112    | 105    | 84.0             |
| ECO38-2SN/4  | 560         | 12    | DSR   | 136                           | 130    | 119    | 86.6             | 130                            | 124    | 113    | 84.6             |
| ECO38-3SN/4  | 590         | 12    | DSR   | 150                           | 143    | 132    | 86.9             | 142                            | 135    | 124    | 84.9             |
| ECO38-1LN/4  | 680         | 12    | DSR   | 173                           | 165    | 153    | 87.4             | 165                            | 158    | 147    | 85.4             |
| ECO38-2LN/4  | 765         | 12    | DSR   | 203                           | 194    | 178    | 87.8             | 187                            | 179    | 164    | 85.8             |
| ECO38-3LN/4  | 905         | 12    | DSR   | 234                           | 229    | 210    | 87.5             | 221                            | 216    | 198    | 85.5             |
| ECO40-1S/4   | 1040        | 12    | DER1  | 276                           | 265    | 245    | 87.5             | 253                            | 243    | 225    | 85.5             |
| ECO40-2S/4   | 1118        | 12    | DER1  | 308                           | 296    | 270    | 87.6             | 284                            | 273    | 248    | 85.6             |
| ECO40-3S/4   | 1171        | 12    | DER1  | 340                           | 327    | 295    | 87.7             | 316                            | 304    | 273    | 85.7             |
| ECO40-1L/4   | 1324        | 12    | DER1  | 375                           | 360    | 327    | 87.9             | 348                            | 334    | 304    | 85.9             |
| ECO40-1.5L/4 | 1380        | 12    | DER1  | 423                           | 406    | 366    | 88.0             | 392                            | 376    | 340    | 86.0             |
| ECO46-2L/4   | 1586        | 12    | DER1  | 464                           | 445    | 413    | 88.0             | 430                            | 413    | 382    | 86.0             |
| ECO40-VL/4   | 1693        | 12    | DER1  | 491                           | 471    | 432    | 88.1             | 455                            | 437    | 401    | 86.1             |

All machines have an auxiliary winding 'standard' with 300% short circuit capability.

Consult Factory to choose for your application.

Ratings achieved by fitting optional copper damper cage (ECP3, ECO28 and ECO32 ranges)

All machines have an auxiliary winding 'standard' with 300% short circuit capability.

Indicated voltage references to series or parallel star connection. Consult factory on voltages available for ECO40, ECO43 and ECO46 as for some machines the series/parallel connection may result in a different voltage output.

# 4 Pole | 60Hz | 3Phase

Voltage: 480 or 240

RPM: 1800

Insulation: Class H

| MODEL        | WEIGHT (kg) | LEADS | AVR   | kVA @ Temp. Rise / Ambient C/ 0.8 PF |        |        |        |        |       |
|--------------|-------------|-------|-------|--------------------------------------|--------|--------|--------|--------|-------|
|              |             |       |       | 163/27                               | 150/40 | 125/27 | 125/40 | 105/40 | 80/40 |
| ECP3-1S/4    | 63          | 12    | DSR   | 8.4                                  | 8      | 8      | 7.8    | 7.2    | 6.1   |
| ECP3-2S/4    | 70          | 12    | DSR   | 10.5                                 | 10     | 10     | 9.6    | 9      | 7.5   |
| ECP3-1L/4    | 82          | 12    | DSR   | 14.3                                 | 13.8   | 13.8   | 13.2   | 12     | 10.6  |
| ECP3-2L/4    | 91.5        | 12    | DSR   | 17.5                                 | 16.9   | 16.9   | 16.2   | 15     | 13    |
| ECP3-3L/4    | 96          | 12    | DSR   | 19.3                                 | 18.8   | 18.8   | 18.0   | 16.5   | 14.4  |
| ECP28-S/4    | 107         | 12    | DSR   | 21.5                                 | 21     | 21     | 20.4   | 19     | 16.3  |
| ECP28-M/4    | 122         | 12    | DSR   | 25.5                                 | 24.6   | 24.6   | 24     | 22     | 19.1  |
| ECP28-2L/4   | 139         | 12    | DSR   | 31.8                                 | 30.6   | 30.6   | 30     | 27.5   | 23.8  |
| ECP28-VL/4   | 165         | 12    | DSR   | 38.4                                 | 36.6   | 36.6   | 36     | 32     | 28.8  |
| ECO32-2S/4   | 199         | 12    | SR7/2 | 47                                   | 44     | 44     | 42     | 40     | 34    |
| ECO32-3S/4   | 214         | 12    | SR7/2 | 57                                   | 54     | 54     | 51     | 49     | 40    |
| ECO32-1L/4   | 248         | 12    | SR7/2 | 67                                   | 63     | 63     | 60     | 58     | 48    |
| ECO32-2L/4   | 282         | 12    | SR7/2 | 80                                   | 75     | 75     | 72     | 69     | 58    |
| ECO32-3L/4   | 298         | 12    | SR7/2 | 100                                  | 93.7   | 93.7   | 90     | 84     | 72    |
| ECP34-1S/4   | 341         | 12    | DSR   | 114                                  | 108    | 108    | 102    | 92     | 81    |
| ECP34-2S/4   | 419         | 12    | DSR   | 139                                  | 132    | 132    | 126    | 114    | 101   |
| ECP34-1L/4   | 445         | 12    | DSR   | 171                                  | 165    | 165    | 156    | 141    | 125   |
| ECP34-2L/4   | 491         | 12    | DSR   | 196                                  | 189    | 189    | 180    | 163    | 144   |
| ECP34-3L/4   | 495         | 12    | DSR   | 209                                  | 202    | 202    | 192    | 173    | 154   |
| ECO38-1SN/4  | 510         | 12    | DSR   | 236                                  | 230    | 230    | 220    | 205    | 175   |
| ECO38-2SN/4  | 560         | 12    | DSR   | 264                                  | 253    | 253    | 240    | 220    | 193   |
| ECO38-3SN/4  | 590         | 12    | DSR   | 300                                  | 284    | 284    | 270    | 250    | 216   |
| ECO38-1LN/4  | 680         | 12    | DSR   | 330                                  | 316    | 316    | 300    | 280    | 240   |
| ECO38-2LN/4  | 765         | 12    | DSR   | 396                                  | 378    | 378    | 360    | 330    | 288   |
| ECO38-3LN/4  | 905         | 12    | DSR   | 444                                  | 432    | 432    | 420    | 385    | 336   |
| ECO40-1S/4   | 1040        | 12    | DER1  | 525                                  | 500    | 500    | 480    | 440    | 384   |
| ECO40-2S/4   | 1118        | 12    | DER1  | 590                                  | 563    | 563    | 540    | 490    | 433   |
| ECO40-3S/4   | 1171        | 12    | DER1  | 656                                  | 625    | 625    | 600    | 540    | 480   |
| ECO40-1L/4   | 1324        | 12    | DER1  | 722                                  | 680    | 680    | 660    | 600    | 528   |
| ECO40-1.5L/4 | 1380        | 12    | DER1  | 805                                  | 770    | 770    | 744    | 672    | 595   |
| ECO40-2L/4   | 1586        | 12    | DER1  | 882                                  | 840    | 840    | 816    | 756    | 653   |
| ECO40-VL/4   | 1693        | 12    | DER1  | 935                                  | 890    | 890    | 865    | 800    | 693   |
| ECO43-1SN/4  | 1870        | 12    | DER1  | 1050                                 | 1008   | 1008   | 960    | 870    | 768   |
| ECO43-2SN/4  | 2090        | 12    | DER1  | 1220                                 | 1170   | 1170   | 1116   | 1020   | 893   |
| ECO43-1LN/4  | 2395        | 12    | DER1  | 1442                                 | 1380   | 1380   | 1320   | 1200   | 1056  |
| ECO43-2LN/4  | 2660        | 12    | DER1  | 1704                                 | 1630   | 1630   | 1560   | 1440   | 1248  |
| ECO43-VLN/4  | 2950        | 12    | DER1  | 1824                                 | 1765   | 1765   | 1700   | 1540   | 1360  |
| ECO46-1S/4   | 2770        | 12    | DER1  | 1944                                 | 1870   | 1870   | 1800   | 1620   | 1440  |
| ECO46-1.5S/4 | 3380        | 12    | DER1  | 2140                                 | 2040   | 2040   | 1980   | 1780   | 1584  |
| ECO46-2S/4   | 3440        | 12    | DER1  | 2332                                 | 2236   | 2236   | 2160   | 1920   | 1728  |
| ECO46-1L/4   | 3870        | 12    | DER1  | 2722                                 | 2608   | 2608   | 2520   | 2280   | 2016  |
| ECO46-1.5L/4 | 4260        | 12    | DER1  | 2980                                 | 2860   | 2860   | 2760   | 2460   | 2208  |
| ECO46-2L/4   | 4250        | 12    | DER1  | 3240                                 | 3105   | 3105   | 3000   | 2700   | 2400  |

All machines have an auxiliary winding 'standard' with 300% short circuit capability.

Indicated voltage references to series or parallel star connection. Consult factory on voltages available for ECO40, ECO43 and ECO46 as for some machines the series/parallel connection may result in a different voltage output.

# 4 Pole | 60Hz | 3Phase

Voltage: 440 or 220

RPM: 1800

Insulation: Class H

| MODEL        | WEIGHT (kg) | LEADS | AVR   | kVA @ Temp. Rise / Ambient C/ 0.8 PF |        |        |        |       |  |
|--------------|-------------|-------|-------|--------------------------------------|--------|--------|--------|-------|--|
|              |             |       |       | 163/27                               | 150/40 | 125/40 | 105/40 | 80/40 |  |
| ECP3-1S/4    | 63          | 12    | DSR   | 8.4                                  | 8      | 7.8    | 6.5    | 6.3   |  |
| ECP3-2S/4    | 70          | 12    | DSR   | 10.5                                 | 10     | 9.6    | 8      | 7.8   |  |
| ECP3-1L/4    | 82          | 12    | DSR   | 14.3                                 | 13.8   | 13.3   | 11     | 10.6  |  |
| ECP3-2L/4    | 91.5        | 12    | DSR   | 17.5                                 | 16.9   | 16.3   | 13.5   | 13    |  |
| ECP3-3L/4    | 96          | 12    | DSR   | 19.3                                 | 18.8   | 18     | 15     | 14.4  |  |
| ECP28-S/4    | 107         | 12    | DSR   | 19.8                                 | 19.1   | 18.6   | 17.5   | 15    |  |
| ECP28-M/4    | 122         | 12    | DSR   | 25                                   | 23.8   | 23     | 20     | 18.4  |  |
| ECP28-2L/4   | 139         | 12    | DSR   | 29                                   | 28     | 27.5   | 25     | 22    |  |
| ECP28-VL/4   | 165         | 12    | DSR   | 38                                   | 36.6   | 36     | 32     | 28.8  |  |
| ECO32-2S/4   | 199         | 12    | SR7/2 | 47                                   | 44     | 42     | 40     | 34    |  |
| ECO32-3S/4   | 214         | 12    | SR7/2 | 57                                   | 54     | 51     | 49     | 40    |  |
| ECO32-1L/4   | 248         | 12    | SR7/2 | 67                                   | 63     | 60     | 58     | 48    |  |
| ECO32-2L/4   | 282         | 12    | SR7/2 | 75                                   | 71     | 68     | 65     | 55    |  |
| ECO32-3L/4   | 298         | 12    | SR7/2 | 95                                   | 91     | 86     | 80     | 68    |  |
| ECP34-1S/4   | 341         | 12    | DSR   | 114                                  | 108    | 102    | 92     | 81    |  |
| ECP34-2S/4   | 419         | 12    | DSR   | 139                                  | 132    | 126    | 114    | 101   |  |
| ECP34-1L/4   | 445         | 12    | DSR   | 159                                  | 153    | 145    | 130    | 116   |  |
| ECP34-2L/4   | 491         | 12    | DSR   | 186                                  | 178    | 170    | 150    | 136   |  |
| ECP34-3L/4   | 495         | 12    | DSR   | 199                                  | 189    | 185    | 160    | 148   |  |
| ECO38-1SN/4  | 510         | 12    | DSR   | 240                                  | 230    | 220    | 205    | 176   |  |
| ECO38-2SN/4  | 560         | 12    | DSR   | 264                                  | 253    | 240    | 220    | 193   |  |
| ECO38-3SN/4  | 590         | 12    | DSR   | 300                                  | 284    | 270    | 250    | 216   |  |
| ECO38-1LN/4  | 680         | 12    | DSR   | 330                                  | 316    | 300    | 280    | 240   |  |
| ECO38-2LN/4  | 765         | 12    | DSR   | 374                                  | 358    | 340    | 310    | 273   |  |
| ECO38-3LN/4  | 905         | 12    | DSR   | 444                                  | 433    | 420    | 385    | 336   |  |
| ECO40-1S/4   | 1040        | 12    | DER1  | 491                                  | 473    | 450    | 410    | 360   |  |
| ECO40-2S/4   | 1118        | 12    | DER1  | 556                                  | 536    | 510    | 460    | 408   |  |
| ECO40-3S/4   | 1171        | 12    | DER1  | 634                                  | 609    | 580    | 520    | 464   |  |
| ECO40-1L/4   | 1324        | 12    | DER1  | 689                                  | 663    | 630    | 570    | 504   |  |
| ECO40-1.5L/4 | 1380        | 12    | DER1  | 756                                  | 734    | 700    | 633    | 560   |  |
| ECO40-2L/4   | 1586        | 12    | DER1  | 844                                  | 819    | 780    | 720    | 624   |  |
| ECO40-VL/4   | 1693        | 12    | DER1  | 935                                  | 890    | 865    | 800    | 693   |  |
| ECO43-1SN/4  | 1870        | 12    | DER1  | 1049                                 | 1008   | 960    | 870    | 768   |  |
| ECO43-2SN/4  | 2090        | 12    | DER1  | 1158                                 | 1114   | 1060   | 969    | 848   |  |
| ECO43-1LN/4  | 2395        | 12    | DER1  | 1376                                 | 1323   | 1260   | 1145   | 1008  |  |
| ECO43-2LN/4  | 2660        | 12    | DER1  | 1620                                 | 1556   | 1483   | 1368   | 1186  |  |
| ECO43-VLN/4  | 2950        | 12    | DER1  | 1824                                 | 1765   | 1700   | 1540   | 1360  |  |
| ECO46-1S/4   | 2770        | 12    | DER1  | 1846                                 | 1773   | 1710   | 1530   | 1368  |  |
| ECO46-1.5S/4 | 3380        | 12    | DER1  | 2050                                 | 1975   | 1880   | 1690   | 1505  |  |
| ECO46-2S/4   | 3440        | 12    | DER1  | 2214                                 | 2125   | 2050   | 1820   | 1640  |  |
| ECO46-1L/4   | 3870        | 12    | DER1  | 2581                                 | 2479   | 2390   | 2150   | 1913  |  |
| ECO46-1.5L/4 | 4260        | 12    | DER1  | 2855                                 | 2751   | 2620   | 2330   | 2096  |  |
| ECO46-2L/4   | 4250        | 12    | DER1  | 3068                                 | 2945   | 2840   | 2550   | 2273  |  |

All machines have an auxiliary winding 'standard' with 300% short circuit capability.

Indicated voltage references to series or parallel star connection. Consult factory on voltages available for ECO40, ECO43 and ECO46 as for some machines the series/parallel connection may result in a different voltage output.

# 4 Pole | 60Hz | 3Phase

Voltage: 416-480/208-240 | Broad voltage

RPM: 1800

Insulation: Class H

| MODEL        | WEIGHT (kg) | LEADS | AVR   | kVA @ Temp. Rise / Ambient C/ 0.8 PF |        |        |        |       |
|--------------|-------------|-------|-------|--------------------------------------|--------|--------|--------|-------|
|              |             |       |       | 163/27                               | 150/40 | 125/40 | 105/40 | 80/40 |
| ECP3-1S/4    | 63          | 12    | DSR   | 7.5                                  | 7.3    | 7      | 5.5    | 5.6   |
| ECP3-2S/4    | 70          | 12    | DSR   | 9.8                                  | 9.4    | 9      | 7.5    | 7.3   |
| ECP3-1L/4    | 82          | 12    | DSR   | 12.9                                 | 12.4   | 12     | 10     | 9.6   |
| ECP3-2L/4    | 91.5        | 12    | DSR   | 15                                   | 14.5   | 14     | 11.5   | 11.3  |
| ECP3-3L/4    | 96          | 12    | DSR   | 17.1                                 | 16.5   | 16     | 13     | 12.5  |
| ECP28-S/4    | 107         | 12    | DSR   | 18.5                                 | 18     | 17.5   | 16.5   | 14    |
| ECP28-M/4    | 122         | 12    | DSR   | 22.5                                 | 21.3   | 21     | 19     | 16.8  |
| ECP28-2L/4   | 139         | 12    | DSR   | 27.5                                 | 26.3   | 26     | 23.8   | 21.3  |
| ECP28-VL/4   | 165         | 12    | DSR   | 35                                   | 33.8   | 33     | 29     | 26.3  |
| ECO32-2S/4   | 199         | 12    | SR7/2 | 45                                   | 44     | 41     | 39     | 33    |
| ECO32-3S/4   | 214         | 12    | SR7/2 | 56                                   | 53     | 50     | 45     | 38    |
| ECO32-1L/4   | 248         | 12    | SR7/2 | 65                                   | 63     | 58     | 56     | 46    |
| ECO32-2L/4   | 282         | 12    | SR7/2 | 75                                   | 71     | 60     | 63     | 54    |
| ECO32-3L/4   | 298         | 12    | SR7/2 | 90                                   | 86     | 80     | 72     | 64    |
| ECP34-1S/4   | 341         | 12    | DSR   | 106                                  | 101    | 95     | 85     | 76    |
| ECP34-2S/4   | 419         | 12    | DSR   | 128                                  | 121    | 115    | 104    | 93    |
| ECP34-1L/4   | 445         | 12    | DSR   | 148                                  | 143    | 135    | 120    | 108   |
| ECP34-2L/4   | 491         | 12    | DSR   | 164                                  | 158    | 150    | 133    | 120   |
| ECP34-3L/4   | 495         | 12    | DSR   | 175                                  | 168    | 165    | 150    | 132   |
| ECO38-1SN/4  | 510         | 12    | DSR   | 229                                  | 220    | 210    | 195    | 168   |
| ECO38-2SN/4  | 560         | 12    | DSR   | 253                                  | 241    | 230    | 210    | 184   |
| ECO38-3SN/4  | 590         | 12    | DSR   | 289                                  | 274    | 260    | 240    | 208   |
| ECO38-1LN/4  | 680         | 12    | DSR   | 319                                  | 305    | 290    | 270    | 233   |
| ECO38-2LN/4  | 765         | 12    | DSR   | 358                                  | 341    | 325    | 300    | 260   |
| ECO38-3LN/4  | 905         | 12    | DSR   | 401                                  | 391    | 380    | 350    | 304   |
| ECO40-1S/4   | 1040        | 12    | DER1  | 459                                  | 441    | 420    | 383    | 336   |
| ECO40-2S/4   | 1118        | 12    | DER1  | 524                                  | 505    | 480    | 435    | 384   |
| ECO40-3S/4   | 1171        | 12    | DER1  | 590                                  | 568    | 540    | 484    | 433   |
| ECO40-1L/4   | 1324        | 12    | DER1  | 623                                  | 599    | 570    | 515    | 456   |
| ECO40-1.5L/4 | 1380        | 12    | DER1  | 714                                  | 693    | 660    | 600    | 528   |
| ECO40-2L/4   | 1586        | 12    | DER1  | 779                                  | 756    | 720    | 665    | 576   |
| ECO40-VL/4   | 1693        | 12    | DER1  | 898                                  | 871    | 830    | 760    | 664   |
| ECO43-1SN/4  | 1870        | 12    | DER1  | 961                                  | 924    | 880    | 800    | 704   |
| ECO43-2SN/4  | 2090        | 12    | DER1  | 1115                                 | 1071   | 1020   | 935    | 816   |
| ECO43-1LN/4  | 2395        | 12    | DER1  | 1243                                 | 1195   | 1138   | 1090   | 910   |
| ECO43-2LN/4  | 2660        | 12    | DER1  | 1585                                 | 1524   | 1451   | 1339   | 1161  |
| ECO43-VLN/4  | 2950        | 12    | DER1  | 1740                                 | 1680   | 1600   | 1450   | 1280  |
| ECO46-1S/4   | 2770        | 12    | DER1  | NA                                   | NA     | NA     | NA     | NA    |
| ECO46-1.5S/4 | 3380        | 12    | DER1  | 1885                                 | 1815   | 1730   | 1570   | 1385  |
| ECO46-2S/4   | 3440        | 12    | DER1  | NA                                   | NA     | NA     | NA     | NA    |
| ECO46-1L/4   | 3870        | 12    | DER1  | NA                                   | NA     | NA     | NA     | NA    |
| ECO46-1.5L/4 | 4260        | 12    | DER1  | 2635                                 | 2540   | 2420   | 2150   | 1936  |
| ECO46-2L/4   | 4250        | 12    | DER1  | NA                                   | NA     | NA     | NA     | NA    |

\*Available in 416 Volt rating only.

All machines have an auxiliary winding 'standard' with 300% short circuit capability.

Indicated voltage references to series or parallel star connection. Consult factory on voltages available for ECO40, ECO43 and ECO46 as for some machines the series/parallel connection may result in a different voltage output.

# 4 Pole | 60Hz | 3Phase

Voltage: 380 or 190 | Broad voltage

RPM: 1800

Insulation: Class H

| MODEL        | WEIGHT (kg) | LEADS | AVR   | kVA @ Temp. Rise / Ambient C/ 0.8 PF |        |        |        |       |
|--------------|-------------|-------|-------|--------------------------------------|--------|--------|--------|-------|
|              |             |       |       | 163/27                               | 150/40 | 125/40 | 105/40 | 80/40 |
| ECP3-1S/4    | 63          | 12    | DSR   | 7                                    | 6.8    | 6.5    | 6      | 5.3   |
| ECP3-2S/4    | 70          | 12    | DSR   | 8.8                                  | 8.3    | 8      | 7.3    | 6.4   |
| ECP3-1L/4    | 82          | 12    | DSR   | 11.8                                 | 11.4   | 11     | 10     | 8.8   |
| ECP3-2L/4    | 91.5        | 12    | DSR   | 14.5                                 | 14     | 13.5   | 12.3   | 10.8  |
| ECP3-3L/4    | 96          | 12    | DSR   | 16                                   | 15.5   | 15     | 13.6   | 12    |
| ECP28-S/4    | 107         | 12    | DSR   | 18                                   | 17.5   | 17     | 15.5   | 13.6  |
| ECP28-M/4    | 122         | 12    | DSR   | 21.5                                 | 20.5   | 20     | 18.3   | 16    |
| ECP28-2L/4   | 139         | 12    | DSR   | 26.5                                 | 25.5   | 25     | 22.8   | 20    |
| ECP28-VL/4   | 165         | 12    | DSR   | 32                                   | 31     | 30     | 27.4   | 24    |
| ECO32-2S/4   | 199         | 12    | SR7/2 | 39                                   | 37     | 35     | 33     | 28    |
| ECO32-3S/4   | 214         | 12    | SR7/2 | 48                                   | 46     | 42.5   | 37     | 34    |
| ECO32-1L/4   | 248         | 12    | SR7/2 | 56                                   | 53     | 50     | 46     | 40    |
| ECO32-2L/4   | 282         | 12    | SR7/2 | 67                                   | 63     | 60     | 55     | 48    |
| ECO32-3L/4   | 298         | 12    | SR7/2 | 83                                   | 80     | 75     | 68     | 60    |
| ECP34-1S/4   | 341         | 12    | DSR   | 103                                  | 97.4   | 93     | 84     | 74    |
| ECP34-2S/4   | 419         | 12    | DSR   | 121                                  | 116    | 110    | 100    | 88    |
| ECP34-1L/4   | 445         | 12    | DSR   | 143                                  | 138    | 130    | 119    | 104   |
| ECP34-2L/4   | 491         | 12    | DSR   | 164                                  | 158    | 150    | 136    | 120   |
| ECP34-3L/4   | 495         | 12    | DSR   | 175                                  | 168    | 160    | 145    | 128   |
| ECO38-1SN/4  | 510         | 12    | DSR   | 196                                  | 188    | 180    | 164    | 144   |
| ECO38-2SN/4  | 560         | 12    | DSR   | 225                                  | 215    | 205    | 188    | 164   |
| ECO38-3SN/4  | 590         | 12    | DSR   | 255                                  | 243    | 230    | 210    | 184   |
| ECO38-1LN/4  | 680         | 12    | DSR   | 275                                  | 263    | 250    | 228    | 200   |
| ECO38-2LN/4  | 765         | 12    | DSR   | 330                                  | 315    | 300    | 274    | 240   |
| ECO38-3LN/4  | 905         | 12    | DSR   | 370                                  | 360    | 350    | 319    | 280   |
| ECO40-1S/4   | 1040        | 12    | DER1  | 448                                  | 430    | 410    | 374    | 328   |
| ECO40-2S/4   | 1118        | 12    | DER1  | 501                                  | 484    | 460    | 419    | 368   |
| ECO40-3S/4   | 1171        | 12    | DER1  | 558                                  | 535    | 510    | 465    | 408   |
| ECO40-1L/4   | 1324        | 12    | DER1  | 613                                  | 589    | 560    | 510    | 448   |
| ECO40-1.5L/4 | 1380        | 12    | DER1  | 681                                  | 660    | 630    | 575    | 504   |
| ECO40-2L/4   | 1586        | 12    | DER1  | 746                                  | 725    | 690    | 630    | 553   |
| ECO40-VL/4   | 1693        | 12    | DER1  | 791                                  | 769    | 733    | 669    | 586   |
| ECO43-1SN/4  | 1870        | 12    | DER1  | 896                                  | 861    | 820    | 748    | 656   |
| ECO43-2SN/4  | 2090        | 12    | DER1  | 1038                                 | 998    | 950    | 866    | 760   |
| ECO43-1LN/4  | 2395        | 12    | DER1  | 1223                                 | 1176   | 1120   | 1021   | 896   |
| ECO43-2LN/4  | 2660        | 12    | DER1  | 1443                                 | 1386   | 1320   | 1204   | 1056  |
| ECO43-VLN/4  | 2950        | 12    | DER1  | 1520                                 | 1470   | 1400   | 1280   | 1120  |
| ECO46-1S/4   | 2770        | 12    | DER1  | NA                                   | NA     | NA     | NA     | NA    |
| ECO46-1.5S/4 | 3380        | 12    | DER1  | NA                                   | NA     | NA     | NA     | NA    |
| ECO46-2S/4   | 3440        | 12    | DER1  | NA                                   | NA     | NA     | NA     | NA    |
| ECO46-1L/4   | 3870        | 12    | DER1  | NA                                   | NA     | NA     | NA     | NA    |
| ECO46-1.5L/4 | 4260        | 12    | DER1  | NA                                   | NA     | NA     | NA     | NA    |
| ECO46-2L/4   | 4250        | 12    | DER1  | NA                                   | NA     | NA     | NA     | NA    |

All machines have an auxiliary winding 'standard' with 300% short circuit capability.

Indicated voltage references to series or parallel star connection. Consult factory on voltages available for ECO40, ECO43 and ECO46 as for some machines the series/parallel connection may result in a different voltage output.

Consult factory for transient response performances as they may vary from the published data at this rating.



# 4 Pole | 60Hz | 3Phase

Voltage: 380 | Dedicated

RPM: 1800

Insulation: Class H

| MODEL        | WEIGHT (kg) | LEADS | AVR   | kVA @ Temp. Rise / Ambient C/ 0.8 PF |        |        |        |       |
|--------------|-------------|-------|-------|--------------------------------------|--------|--------|--------|-------|
|              |             |       |       | 163/27                               | 150/40 | 125/40 | 105/40 | 80/40 |
| ECP3-1S/4    | 63          | 12    | DSR   | 8.4                                  | 8      | 7.8    | 7.3    | 6.1   |
| ECP3-2S/4    | 70          | 12    | DSR   | 10.5                                 | 10     | 9.6    | 9      | 7.5   |
| ECP3-1L/4    | 82          | 12    | DSR   | 14.3                                 | 13.8   | 13.3   | 12     | 10.6  |
| ECP3-2L/4    | 91.5        | 12    | DSR   | 17.5                                 | 16.9   | 16.3   | 15     | 13    |
| ECP3-3L/4    | 96          | 12    | DSR   | 19.3                                 | 18.8   | 18     | 16.5   | 14.4  |
| ECP28-S/4    | 107         | 12    | DSR   | 21.6                                 | 21     | 20.4   | 19     | 16.3  |
| ECP28-M/4    | 122         | 12    | DSR   | 25.8                                 | 24.6   | 24     | 22     | 19.1  |
| ECP28-2L/4   | 139         | 12    | DSR   | 31.8                                 | 30.5   | 30     | 27.5   | 23.8  |
| ECP28-VL/4   | 165         | 12    | DSR   | 38.4                                 | 36.6   | 36     | 32     | 28.8  |
| ECO32-2S/4   | 199         | 12    | SR7/2 | 47                                   | 44     | 42     | 40     | 34    |
| ECO32-3S/4   | 214         | 12    | SR7/2 | 57                                   | 54     | 51     | 49     | 40    |
| ECO32-1L/4   | 248         | 12    | SR7/2 | 67                                   | 63     | 60     | 58     | 48    |
| ECO32-2L/4   | 282         | 12    | SR7/2 | 80                                   | 75     | 72     | 69     | 58    |
| ECO32-3L/4   | 298         | 12    | SR7/2 | 100                                  | 94     | 90     | 84     | 72    |
| ECP34-1S/4   | 341         | 12    | DSR   | 114                                  | 108    | 102    | 92     | 81    |
| ECP34-2S/4   | 419         | 12    | DSR   | 139                                  | 132    | 126    | 114    | 101   |
| ECP34-1L/4   | 445         | 12    | DSR   | 171                                  | 165    | 156    | 141    | 125   |
| ECP34-2L/4   | 491         | 12    | DSR   | 196                                  | 189    | 180    | 163    | 144   |
| ECP34-3L/4   | 495         | 12    | DSR   | 209                                  | 201    | 192    | 173    | 154   |
| ECO38-1SN/4  | 510         | 12    | DSR   | 240                                  | 230    | 220    | 205    | 175   |
| ECO38-2SN/4  | 560         | 12    | DSR   | 264                                  | 253    | 240    | 220    | 193   |
| ECO38-3SN/4  | 590         | 12    | DSR   | 300                                  | 284    | 270    | 250    | 216   |
| ECO38-1LN/4  | 680         | 12    | DSR   | 330                                  | 315    | 300    | 280    | 240   |
| ECO38-2LN/4  | 765         | 12    | DSR   | 396                                  | 378    | 360    | 330    | 288   |
| ECO38-3LN/4  | 905         | 12    | DSR   | 444                                  | 433    | 420    | 385    | 336   |
| ECO40-1S/4   | 1040        | 12    | DER1  | 525                                  | 500    | 480    | 440    | 384   |
| ECO40-2S/4   | 1118        | 12    | DER1  | 589                                  | 563    | 540    | 490    | 433   |
| ECO40-3S/4   | 1171        | 12    | DER1  | 655                                  | 625    | 600    | 540    | 480   |
| ECO40-1L/4   | 1324        | 12    | DER1  | 721                                  | 680    | 660    | 600    | 528   |
| ECO40-1.5L/4 | 1380        | 12    | DER1  | 804                                  | 770    | 744    | 673    | 595   |
| ECO40-2L/4   | 1586        | 12    | DER1  | 883                                  | 840    | 816    | 756    | 653   |
| ECO40-VL/4   | 1693        | 12    | DER1  | 935                                  | 890    | 865    | 800    | 693   |
| ECO43-1SN/4  | 1870        | 12    | DER1  | 1049                                 | 1008   | 960    | 870    | 768   |
| ECO43-2SN/4  | 2090        | 12    | DER1  | 1220                                 | 1170   | 1116   | 1020   | 893   |
| ECO43-1LN/4  | 2395        | 12    | DER1  | 1441                                 | 1380   | 1320   | 1200   | 1056  |
| ECO43-2LN/4  | 2660        | 12    | DER1  | 1704                                 | 1630   | 1560   | 1440   | 1248  |
| ECO43-VLN/4  | 2950        | 12    | DER1  | 1824                                 | 1765   | 1700   | 1540   | 1360  |
| ECO46-1S/4   | 2770        | 12    | DER1  | 1944                                 | 1870   | 1800   | 1620   | 1440  |
| ECO46-1.5S/4 | 3380        | 12    | DER1  | 2140                                 | 2040   | 1980   | 1780   | 1584  |
| ECO46-2S/4   | 3440        | 12    | DER1  | 2332                                 | 2236   | 2160   | 1920   | 1728  |
| ECO46-1L/4   | 3870        | 12    | DER1  | 2721                                 | 2608   | 2520   | 2280   | 2016  |
| ECO46-1.5L/4 | 4260        | 12    | DER1  | 2980                                 | 2860   | 2760   | 2460   | 2208  |
| ECO46-2L/4   | 4250        | 12    | DER1  | 3240                                 | 3105   | 3000   | 2700   | 2400  |

All machines have an auxiliary winding 'standard' with 300% short circuit capability.

These are 'special' build machines. Check factory for delivery lead times.

Indicated voltage references to series or parallel star connection. Consult factory on voltages available for ECO40, ECO43 and ECO46 as for some machines the series/parallel connection may result in a different voltage output.

# 4 Pole | 60Hz | 3Phase

Voltage: 600 | Dedicated

Voltage: 690 | Dedicated\*\*

RPM: 1800

Insulation: Class H

\*\* Machine wound for either 600 Dedicated or 690 Dedicated

| MODEL        | WEIGHT (kg) | LEADS | AVR   | kVA @ Temp. Rise / Ambient C/ 0.8 PF |        |        |        |       |
|--------------|-------------|-------|-------|--------------------------------------|--------|--------|--------|-------|
|              |             |       |       | 163/27                               | 150/40 | 125/40 | 105/40 | 80/40 |
| ECP3-1S/4    | 63          | 12    | DSR   | 8.4                                  | 8      | 7.8    | 7.3    | 6.1   |
| ECP3-2S/4    | 70          | 12    | DSR   | 10.5                                 | 10     | 9.6    | 9      | 7.5   |
| ECP3-1L/4    | 82          | 12    | DSR   | 14.3                                 | 13.8   | 13.3   | 12     | 10.6  |
| ECP3-2L/4    | 91.5        | 12    | DSR   | 17.5                                 | 16.9   | 16.3   | 15     | 13    |
| ECP3-3L/4    | 96          | 12    | DSR   | 19.3                                 | 18.8   | 18     | 17     | 14.4  |
| ECP28-S/4    | 107         | 12    | DSR   | 21.6                                 | 21     | 20.4   | 19     | 16.3  |
| ECP28-M/4    | 122         | 12    | DSR   | 25.8                                 | 24.6   | 24     | 22     | 19.1  |
| ECP28-2L/4   | 139         | 12    | DSR   | 31.8                                 | 30.5   | 30     | 27.5   | 23.8  |
| ECP28-VL/4   | 165         | 12    | DSR   | 37                                   | 36.6   | 36     | 32     | 28.8  |
| ECO32-2S/4   | 199         | 12    | SR7/2 | 47                                   | 44     | 42     | 40     | 34    |
| ECO32-3S/4   | 214         | 12    | SR7/2 | 57                                   | 54     | 51     | 49     | 40    |
| ECO32-1L/4   | 248         | 12    | SR7/2 | 67                                   | 64     | 60     | 58     | 48    |
| ECO32-2L/4   | 282         | 12    | SR7/2 | 80                                   | 75     | 72     | 69     | 58    |
| ECO32-3L/4   | 298         | 12    | SR7/2 | 100                                  | 94     | 90     | 84     | 72    |
| ECP34-1S/4   | 341         | 12    | DSR   | 114                                  | 108    | 102    | 92     | 81    |
| ECP34-2S/4   | 419         | 12    | DSR   | 139                                  | 132    | 126    | 114    | 101   |
| ECP34-1L/4   | 445         | 12    | DSR   | 171                                  | 165    | 156    | 141    | 125   |
| ECP34-2L/4   | 491         | 12    | DSR   | 196                                  | 189    | 180    | 163    | 144   |
| ECP34-3L/4   | 495         | 12    | DSR   | 209                                  | 201    | 192    | 173    | 154   |
| ECO38-1SN/4  | 510         | 12    | DSR   | 240                                  | 230    | 220    | 205    | 175   |
| ECO38-2SN/4  | 560         | 12    | DSR   | 264                                  | 253    | 240    | 220    | 193   |
| ECO38-3SN/4  | 590         | 12    | DSR   | 300                                  | 284    | 270    | 250    | 216   |
| ECO38-1LN/4  | 680         | 12    | DSR   | 330                                  | 315    | 300    | 280    | 240   |
| ECO38-2LN/4  | 765         | 12    | DSR   | 396                                  | 378    | 360    | 330    | 288   |
| ECO38-3LN/4  | 905         | 12    | DSR   | 444                                  | 433    | 420    | 385    | 336   |
| ECO40-1S/4   | 1040        | 12    | DER1  | 525                                  | 500    | 480    | 440    | 384   |
| ECO40-2S/4   | 1118        | 12    | DER1  | 589                                  | 563    | 540    | 490    | 433   |
| ECO40-3S/4   | 1171        | 12    | DER1  | 655                                  | 625    | 600    | 540    | 480   |
| ECO40-1L/4   | 1324        | 12    | DER1  | 721                                  | 680    | 660    | 600    | 528   |
| ECO40-1.5L/4 | 1380        | 12    | DER1  | 804                                  | 770    | 744    | 673    | 595   |
| ECO40-2L/4   | 1586        | 12    | DER1  | 883                                  | 840    | 816    | 756    | 653   |
| ECO40-VL/4   | 1693        | 12    | DER1  | 935                                  | 890    | 865    | 800    | 693   |
| ECO43-1SN/4  | 1870        | 12    | DER1  | 1049                                 | 1008   | 960    | 870    | 768   |
| ECO43-2SN/4  | 2090        | 12    | DER1  | 1220                                 | 1170   | 1116   | 1020   | 893   |
| ECO43-1LN/4  | 2395        | 12    | DER1  | 1441                                 | 1380   | 1320   | 1200   | 1056  |
| ECO43-2LN/4  | 2660        | 12    | DER1  | 1704                                 | 1630   | 1560   | 1440   | 1248  |
| ECO43-VLN/4  | 2950        | 12    | DER1  | 1824                                 | 1765   | 1700   | 1540   | 1360  |
| ECO46-1S/4   | 2770        | 12    | DER1  | 1944                                 | 1870   | 1800   | 1620   | 1440  |
| ECO46-1.5S/4 | 3380        | 12    | DER1  | 2140                                 | 2040   | 1980   | 1780   | 1584  |
| ECO46-2S/4   | 3440        | 12    | DER1  | 2333                                 | 2236   | 2160   | 1920   | 1728  |
| ECO46-1L/4   | 3870        | 12    | DER1  | 2721                                 | 2608   | 2520   | 2280   | 2016  |
| ECO46-1.5L/4 | 4260        | 12    | DER1  | 2980                                 | 2860   | 2760   | 2460   | 2208  |
| ECO46-2L/4   | 4250        | 12    | DER1  | 3240                                 | 3105   | 3000   | 2700   | 2400  |

\*ECO43 and ECO46:  
Refer To Factory before  
ordering to assure winding  
is available at 600 Volts.

All machines have an auxiliary winding 'standard' with 300% short circuit capability.

These are 'special' build machines. Check factory for delivery lead times.

Indicated voltage references to series or parallel star connection. Consult factory on voltages available for ECO40, ECO43 and ECO46 as for some machines the series/parallel connection may result in a different voltage output.

# 4 Pole | 60Hz | 1Phase

Voltage: 240/230/220 - 120/115/110 - 277-138 | Reconnected

RPM: 1800

Insulation: Class H

| MODEL         | AVR   | 220/230/240 Volts<br>kW @ 1.0 PF |        |        | 220/230/240 Volts<br>kVA @ 0.8 PF |        |        | 270 Volts<br>kW @ 1.0 PF |        |      | 270 Volts<br>kVA @ 0.8 PF |        |      |
|---------------|-------|----------------------------------|--------|--------|-----------------------------------|--------|--------|--------------------------|--------|------|---------------------------|--------|------|
|               |       | 150/40                           | 125/40 | 105/40 | 125/40                            | 105/40 | 150/40 | 125/40                   | 105/40 | Eff% | 125/40                    | 105/40 | Eff% |
| ECP3-1S/4     | DSR   | 4.6                              | 4.5    | 4.1    | 4.1                               | 3.8    | 5.4    | 5.3                      | 4.9    | 76.9 | 4.8                       | 4.4    | 74.9 |
| ECP3-2S/4     | DSR   | 5.9                              | 5.7    | 5.3    | 5.2                               | 5      | 6.8    | 6.6                      | 6.2    | 79.1 | 6                         | 5.6    | 77.1 |
| ECP3-1L/4     | DSR   | 7.9                              | 7.7    | 7      | 6.9                               | 6.3    | 9.3    | 9                        | 8.2    | 80.7 | 8                         | 7.3    | 78.7 |
| ECP3-2L/4     | DSR   | 9.6                              | 9.3    | 8.6    | 8.3                               | 8      | 11.1   | 10.8                     | 10     | 81.2 | 9.6                       | 9      | 79.2 |
| ECP3-3L/4     | DSR   | 10.5                             | 10.2   | 9.3    | 9.2                               | 8.4    | 12.3   | 12                       | 11     | 81.5 | 10.8                      | 10     | 79.5 |
| ECP28-5/4     | DSR   | 12.3                             | 12.0   | 11     | 11                                | 10     | 13.8   | 13.5                     | 12.5   | 82.7 | 12.5                      | 12     | 80.7 |
| ECP28-M/4     | DSR   | 14.5                             | 14     | 13     | 12                                | 11     | 16.3   | 16                       | 15     | 83.0 | 14.5                      | 13.3   | 81.0 |
| ECP28-2L/4    | DSR   | 17.6                             | 17     | 15     | 15                                | 14     | 20.3   | 20                       | 18.3   | 83.7 | 18                        | 16.5   | 81.7 |
| ECP28-VL/4    | DSR   | 20.1                             | 19.5   | 18.1   | 17                                | 15.8   | 23.7   | 23                       | 20     | 84.2 | 20.5                      | 18     | 82.2 |
| ECO32-2S/4    | SR7/2 | 25                               | 24     | 23     | 22                                | 20     | 29     | 28                       | 27     | 84.3 | 25                        | 24     | 82.3 |
| ECO32-3S/4    | SR7/2 | 29                               | 27     | 26     | 25                                | 23     | 34     | 32                       | 31     | 84.8 | 29                        | 28     | 82.8 |
| ECO32-1L/4    | SR7/2 | 36                               | 34     | 33     | 31                                | 30     | 42     | 40                       | 38     | 86.7 | 36                        | 35     | 84.7 |
| ECO32-2L/4    | SR7/2 | 42                               | 40     | 38     | 36                                | 34     | 50     | 48                       | 46     | 87.3 | 43                        | 41     | 85.3 |
| ECO32-3L/4    | SR7/2 | 52                               | 49     | 46     | 45                                | 41     | 63     | 60                       | 56     | 87.3 | 54                        | 49     | 85.3 |
| ECP34-1S/4    | DSR   | 59                               | 56     | 50     | 50                                | 45     | 69     | 65                       | 59     | 86.7 | 58                        | 52     | 84.7 |
| ECP34-2S/4    | DSR   | 70                               | 67     | 61     | 60                                | 54     | 82     | 78                       | 70     | 87.8 | 70                        | 63     | 85.8 |
| ECP34-1L/4    | DSR   | 81                               | 77     | 69     | 69                                | 62     | 94     | 90                       | 81     | 88.9 | 81                        | 73     | 86.9 |
| ECP34-2L/4    | DSR   | 88                               | 84     | 76     | 75                                | 68     | 102    | 98                       | 89     | 89.9 | 88                        | 80     | 87.9 |
| ECP34-3L/4    | DSR   | 94                               | 90     | 81     | 80                                | 73     | 109    | 105                      | 95     | 89.9 | 94                        | 85     | 87.9 |
| ECO38-1SN/4   | DSR   | 116                              | 112    | 104    | 106                               | 99     | 138    | 133                      | 124    | 87   | 125                       | 116    | 85.0 |
| ECO38-2SN/4   | DSR   | 127                              | 122    | 112    | 117                               | 107    | 152    | 145                      | 133    | 88.2 | 140                       | 128    | 86.2 |
| ECO38-3SN/4   | DSR   | 142                              | 135    | 125    | 128                               | 118    | 168    | 160                      | 148    | 88.8 | 150                       | 139    | 86.8 |
| ECO38-1LN/4   | DSR   | 163                              | 156    | 145    | 149                               | 139    | 194    | 185                      | 172    | 89.2 | 175                       | 163    | 87.2 |
| ECO38-2LN/4   | DSR   | 186                              | 178    | 163    | 170                               | 155    | 228    | 218                      | 199    | 89.8 | 206                       | 188    | 87.8 |
| ECO38-3LN/4   | DSR   | 221                              | 216    | 198    | 204                               | 187    | 260    | 254                      | 232    | 88.5 | 240                       | 219    | 86.5 |
| ECO40-1S/4    | DER1  | 262                              | 252    | 231    | 243                               | 215    | 307    | 295                      | 270    | 88.5 | 274                       | 251    | 86.5 |
| ECO40-2S/4    | DER1  | 293                              | 281    | 255    | 263                               | 239    | 343    | 329                      | 299    | 88.6 | 309                       | 280    | 86.6 |
| ECO40-3S/4*   | DER1  | 322                              | 309    | 278    | 291                               | 262    | 379    | 364                      | 327    | 88.9 | 343                       | 309    | 86.9 |
| ECO40-1L/4    | DER1  | 353                              | 339    | 309    | 320                               | 291    | 416    | 400                      | 364    | 88.9 | 377                       | 343    | 86.9 |
| ECO40-1.5L/4* | DER1  | 397                              | 382    | 345    | 360                               | 325    | 469    | 451                      | 407    | 89.2 | 425                       | 384    | 87.2 |
| ECO40-2L/4    | DER1  | 436                              | 418    | 387    | 394                               | 365    | 516    | 495                      | 458    | 89.3 | 466                       | 432    | 87.3 |
| ECO40-VL/4*   | DER1  | 463                              | 444    | 410    | 418                               | 387    | 546    | 524                      | 485    | 89.4 | 494                       | 457    | 87.4 |

\*120/115/110 V not available on these three Models.

All the above machines are 12 lead. The Weights are the same as the 'standard' 3 phase Models.

Zigzag, Delta, and Double Delta single phase connections available.

Consult Factory to choose for your application.

Ratings achieved by fitting optional copper damper cage (ECP3, ECO28 and ECO32 ranges)

Indicated voltage references to series or parallel star connection. Consult factory on voltages available for ECO40, ECO43 and ECO46 as for some machines the series/parallel connection may result in a different voltage output.

# 4 Pole | 60Hz | 1Phase

Voltage: 240/230/220 - 120/115/110 | Dedicated

RPM: 1800

Insulation: Class H

| MODEL        | AVR   | 220/230/240 Volts<br>kW @ 1.0 PF |        |        |       | 220/230/240V<br>kVA @ 0.8 PF |        |        |       |
|--------------|-------|----------------------------------|--------|--------|-------|------------------------------|--------|--------|-------|
|              |       | 150/40                           | 125/40 | 105/40 | Eff % | 150/40                       | 125/40 | 105/40 | Eff % |
| ECP3-1S/4    | DSR   | 6.1                              | 6      | 5.6    | 76.9  | 5.6                          | 5.5    | 5.1    | 74.9  |
| ECP3-2S/4    | DSR   | 7.7                              | 7.5    | 7.1    | 79.1  | 6.7                          | 6.5    | 6      | 77.1  |
| ECP3-1L/4    | DSR   | 10.3                             | 10     | 9.2    | 80.7  | 9.3                          | 9      | 8.3    | 78.7  |
| ECP3-2L/4    | DSR   | 12.4                             | 12     | 11.1   | 81.2  | 11.2                         | 10.8   | 10.1   | 79.2  |
| ECP3-3L/4    | DSR   | 13.9                             | 14     | 12.5   | 81.5  | 12.4                         | 12     | 11.2   | 79.5  |
| ECP28-5/4    | DSR   | 15.4                             | 15     | 13.9   | 82.7  | 13.9                         | 13.5   | 13     | 80.7  |
| ECP28-M/4    | DSR   | 17.3                             | 17     | 15.9   | 83.0  | 16                           | 16     | 14     | 81.0  |
| ECP28-2L/4   | DSR   | 22.3                             | 22     | 20.4   | 83.7  | 19.3                         | 19     | 17.4   | 81.7  |
| ECP28-VL/4   | DSR   | 25.7                             | 25     | 22     | 84.2  | 22.6                         | 22     | 20     | 82.2  |
| ECO32-2S/4   | SR7/2 | 38                               | 36     | 35     | 84.3  | 34                           | 32     | 31     | 82.3  |
| ECO32-3S/4   | SR7/2 | 42                               | 40     | 38     | 84.8  | 38                           | 36     | 35     | 82.8  |
| ECO32-1L/4   | SR7/2 | 53                               | 50     | 48     | 86.7  | 48                           | 45     | 44     | 84.7  |
| ECO32-2L/4   | SR7/2 | 63                               | 60     | 58     | 87.3  | 57                           | 54     | 52     | 85.3  |
| ECO32-3L/4   | SR7/2 | 74                               | 71     | 66     | 87.3  | 66                           | 63     | 59     | 85.3  |
| ECP34-1S/4   | DSR   | 82                               | 78     | 71     | 86.7  | 74                           | 70     | 62     | 84.7  |
| ECP34-2S/4   | DSR   | 94                               | 90     | 81     | 87.8  | 85                           | 81     | 72     | 85.8  |
| ECP34-1L/4   | DSR   | 100                              | 95     | 85     | 88.9  | 89                           | 85     | 77     | 86.9  |
| ECP34-2L/4   | DSR   | 104                              | 100    | 91     | 89.9  | 93                           | 90     | 81     | 87.9  |
| ECP34-3L/4   | DSR   | NA                               | NA     | NA     | -     | NA                           | NA     | NA     | -     |
| ECO38-1SN/4  | DSR   | 150                              | 144    | 134    | 87    | 141                          | 135    | 125    | 85.0  |
| ECO38-2SN/4  | DSR   | 164                              | 157    | 144    | 88.2  | 158                          | 151    | 138    | 86.2  |
| ECO38-3SN/4  | DSR   | 181                              | 173    | 160    | 88.8  | 169                          | 162    | 150    | 86.8  |
| ECO38-1LN/4  | DSR   | 209                              | 200    | 186    | 89.2  | 198                          | 189    | 176    | 87.2  |
| ECO38-2LN/4  | DSR   | 246                              | 235    | 215    | 89.8  | 233                          | 223    | 203    | 87.8  |
| ECO38-3LN/4  | DSR   | 280                              | 274    | 251    | 88.5  | 265                          | 259    | 237    | 86.5  |
| ECO40-1S/4   | DER1  | 335                              | 319    | 292    | 88.5  | 311                          | 296    | 271    | 86.5  |
| ECO40-2S/4   | DER1  | 370                              | 355    | 323    | 88.6  | 348                          | 334    | 302    | 86.6  |
| ECO40-3S/4   | DER1  | 409                              | 393    | 353    | 88.9  | 386                          | 371    | 334    | 86.9  |
| ECO40-1L/4   | DER1  | 450                              | 432    | 393    | 88.9  | 424                          | 407    | 371    | 86.9  |
| ECO40-1.5L/4 | DER1  | 506                              | 487    | 440    | 89.2  | 477                          | 459    | 415    | 87.2  |
| ECO40-2L/4   | DER1  | 557                              | 535    | 495    | 89.3  | 524                          | 503    | 467    | 87.3  |
| ECO40-VL/4   | DER1  | 590                              | 566    | 524    | 89.4  | 557                          | 534    | 494    | 87.4  |

All machines have an auxiliary winding 'standard' with 300% short circuit capability.

Consult Factory to choose for your application.

Ratings achieved by fitting optional copper damper cage (ECP3, ECO28 and ECO32 ranges)

Indicated voltage references to series or parallel star connection. Consult factory on voltages available for ECO40, ECO43 and ECO46 as for some machines the series/parallel connection may result in a different voltage output.

# 2 & 4 Pole | 50/60Hz | 1 & 3Phase

Voltage: Various

RPM: 3000/3600 – 1500/1800

Insulation: Class H

4 Pole, 1500 RPM

| MODEL       | WEIGHT (kg) | LEADS | AVR  | 3Phase, 50Hz kVA @ 0.8 PF |        |               |        |
|-------------|-------------|-------|------|---------------------------|--------|---------------|--------|
|             |             |       |      | 400/230 Volts             |        | 380/190 Volts |        |
|             |             |       |      | 125/40                    | 105/40 | 125/40        | 105/40 |
| CTP3-1S/4   | 63          | 6     | -    | 6.5                       | 6.3    | 6.5           | 6.3    |
| CTP3-2S/4   | 70          | 6     | -    | 8                         | 7.5    | 8             | 7.5    |
| CTP3-1L/4   | 82          | 6     | -    | 10                        | 9      | 10            | 9      |
| CTP3-2L/4   | 92          | 6     | -    | 13                        | 12     | 13            | 12     |
| ECSP28-S/4  | 107         | 12    | AVIR | 17                        | 16     | 17            | 16     |
| ECSP28-1L/4 | 122         | 12    | AVIR | 20                        | 18.5   | 20            | 18.5   |
| ECSP28-2L/4 | 139         | 12    | AVIR | 25                        | 23     | 25            | 23     |
| ECSP28-VL/4 | 165         | 12    | AVIR | 30                        | 26     | 30            | 26     |
| ECSO32-2S/4 | 199         | 12    | AVIR | 35                        | 33     | 35            | 33     |
| ECSO32-3S/4 | 214         | 12    | AVIR | 40                        | 37     | 40            | 37     |
| ECSO32-1L/4 | 248         | 12    | AVIR | 50                        | 48     | 50            | 48     |
| ECSO32-2L/4 | 281         | 12    | AVIR | 58                        | 57     | 58            | 57     |
| ECSO32-3L/4 | 298         | 12    | AVIR | 70                        | 63     | 70            | 63     |

4 Pole, 1800 RPM

| MODEL       | WEIGHT (kg) | LEADS | AVR  | 3Phase, 60Hz kVA @ 0.8 PF |        |           |        |
|-------------|-------------|-------|------|---------------------------|--------|-----------|--------|
|             |             |       |      | 480/240 V                 |        | 460/208 V |        |
|             |             |       |      | 125/40                    | 105/40 | 125/40    | 105/40 |
| CTP3-1S/4   | 63          | 6     | -    | 7.8                       | 7      | 7.8       | 7      |
| CTP3-2S/4   | 70          | 6     | -    | 9.6                       | 8.5    | 9.6       | 8.5    |
| CTP3-1L/4   | 82          | 6     | -    | 12                        | 11     | 12        | 11     |
| CTP3-2L/4   | 92          | 6     | -    | 16                        | 15     | 16        | 15     |
| ECSP28-S/4  | 107         | 12    | AVIR | 20.4                      | 19     | 20.4      | 19     |
| ECSP28-1L/4 | 122         | 12    | AVIR | 24                        | 22     | 24        | 22     |
| ECSP28-2L/4 | 139         | 12    | AVIR | 30                        | 27.5   | 30        | 27.5   |
| ECSP28-VL/4 | 165         | 12    | AVIR | 36                        | 32     | 36        | 32     |
| ECSO32-2S/4 | 199         | 12    | AVIR | 42                        | 40     | 42        | 40     |
| ECSO32-3S/4 | 214         | 12    | AVIR | 48                        | 46     | 48        | 46     |
| ECSO32-1L/4 | 248         | 12    | AVIR | 60                        | 58     | 60        | 58     |
| ECSO32-2L/4 | 281         | 12    | AVIR | 72                        | 69     | 72        | 69     |
| ECSO32-3L/4 | 298         | 12    | AVIR | 84                        | 78     | 84        | 78     |

2 Pole, 3000 RPM 50Hz / 3600rpm 60Hz

| MODEL        | WEIGHT (kg) | LEADS | AVR  | 3 Phase, kVA @ 0.8 PF |        |           |        |
|--------------|-------------|-------|------|-----------------------|--------|-----------|--------|
|              |             |       |      | 400V 50Hz             |        | 480V 60Hz |        |
|              |             |       |      | 125/40                | 105/40 | 125/40    | 105/40 |
| CTP3-1SN/2   | 51          | 6     | -    | 6.7                   | 6      | 8         | 7.3    |
| CTP3-2SN/2   | 57          | 6     | -    | 8.3                   | 7.5    | 10        | 9      |
| CTP3-3SN/2   | 63          | 6     | -    | 10.4                  | 9.2    | 12.5      | 11     |
| CTP3-1LN/2   | 72          | 6     | -    | 13.3                  | 12.1   | 16        | 14.5   |
| CTP3-2LN/2   | 78          | 6     | -    | 15.8                  | 14.2   | 19        | 17     |
| ECSP28-1L/2  | 129         | 12    | AVIR | 18.8                  | 16.7   | 22.5      | 20     |
| ECSP28-2L/2  | 136         | 12    | AVIR | 22.9                  | 20.8   | 27.5      | 25     |
| ECSP28-3L/2  | 141         | 12    | AVIR | 26                    | 25     | 31.3      | 30     |
| ECSO31-2SN/2 | 178         | 12    | AVIR | 36                    | 33     | 44        | 40     |
| ECSO31-3SN/2 | 204         | 12    | AVIR | 46                    | 42     | 55        | 50     |
| ECSO31-1LN/2 | 216         | 12    | AVIR | 55                    | 50     | 66        | 60     |
| ECSO31-2LN/2 | 235         | 12    | AVIR | 69                    | 63     | 83        | 75     |
| ECSO32-3L/2  | 298         | 12    | AVIR | 70                    | 63     | 70        | 63     |

2 Pole, other voltages available. 2 & 4 Pole kW ratings available to 1000 kW. Refer to Factory.

CTO3 is Transformer, Brushless; ECSO is Transformer, Brushless with AVR control. Industrial or Irrigation.

AVIR regulator is available on option on the ECSO range.

# 4 Pole | 50/60Hz | 1 & 3Phase

Voltage: Various

RPM: 1500/1800

Insulation: Class H

Lister Petter (TS & TR) 3Phase

| MODEL       | WEIGHT (kg) | LEADS | AVR | kVA @ 0.8PF, 125/40 C Rise/Ambient |           |               |           |
|-------------|-------------|-------|-----|------------------------------------|-----------|---------------|-----------|
|             |             |       |     | 50Hz, 1500RPM                      |           | 60Hz, 1800RPM |           |
|             |             |       |     | 380 – 415 Volts                    | 480 Volts | 440 Volts     | 416 Volts |
| ECP28-1VS/4 | 98          | 12    | DSR | 7.8                                | 9.4       | 8.9           | 8.1       |
| ECP28-2VS/4 | 101         | 12    | DSR | 11                                 | 13.3      | 12.1          | 11.4      |
| ECP28-0S/4  | 104         | 12    | DSR | 13.5                               | 16.25     | 15            | 13.8      |
| ECP28-S/4   | 107         | 12    | DSR | 17                                 | 19.3      | 18.6          | 17.5      |
| ECP28-M/4   | 122         | 12    | DSR | 20                                 | 24        | 23            | 21        |
| ECP28-2L/4  | 139         | 12    | DSR | 25                                 | 30        | 27.5          | 26        |
| ECP28-VL/4  | 165         | 12    | DSR | 30                                 | 36        | 36            | 33        |

Lister Petter (TS & TR) 1Phase

| MODEL       | WEIGHT (kg) | LEADS | AVR | kVA @ 1.0PF, 125/40 C Rise/Ambient |               |
|-------------|-------------|-------|-----|------------------------------------|---------------|
|             |             |       |     | 50Hz, 1500RPM                      | 60Hz, 1800RPM |
|             |             |       |     | 110/220 Volts                      | 120/240 Volts |
| ECP28-1VS/4 | 98          | 12    | DSR | 3.9                                | 4.7           |
| ECP28-2VS/4 | 101         | 12    | DSR | 5.5                                | 6.6           |
| ECP28-0S/4  | 104         | 12    | DSR | 7                                  | 8.2           |
| ECP28-S/4   | 107         | 12    | DSR | 11.5                               | 13.5          |
| ECP28-M/4   | 122         | 12    | DSR | 13.5                               | 16            |
| ECP28-2L/4  | 139         | 12    | DSR | 16.5                               | 20            |
| ECP28-VL/4  | 165         | 12    | DSR | 19                                 | 23            |

Special mechanical modification allows the generator to be bolted directly to the engine without an adaptor.

Please note these machines are also available with standard SAE couplings.

# 4 Pole | 50/60Hz | 1 Phase

Voltage: 220/110; 240/120

RPM: 1500/1800

Insulation: Class H

| MODEL     | WEIGHT (kg) | LENGTH (mm) | kW @ 220/110V, 50Hz, 1.0 pf, 40C amb. |        |       | Eff % |
|-----------|-------------|-------------|---------------------------------------|--------|-------|-------|
|           |             |             | 125/40                                | 105/40 | 80/40 |       |
| LT3-75/4  | 32          | 248         | 3.5                                   | 3.3    | 2.8   | 75.8  |
| LT3-100/4 | 38          | 273         | 4.5                                   | 4.1    | 3.6   | 76.5  |
| LT3-110/4 | 40          | 283         | 5.0                                   | 4.6    | 4.0   | 76.8  |
| LT3-130/4 | 46          | 303         | 6.0                                   | 5.5    | 4.8   | 77.5  |
| LT3-160/4 | 55          | 333         | 8                                     | 8      | 6.4   | 78.0  |

| MODEL     | WEIGHT (kg) | LENGTH (mm) | kW @ 240/120V, 60Hz, 1.0 pf, 40C amb. |        |       | Eff % |
|-----------|-------------|-------------|---------------------------------------|--------|-------|-------|
|           |             |             | 125/40                                | 105/40 | 80/40 |       |
| LT3-75/4  | 32          | 248         | 4.5                                   | 4.1    | 3.6   | 76.5  |
| LT3-100/4 | 38          | 273         | 6.0                                   | 5.5    | 4.8   | 77.5  |
| LT3-110/4 | 40          | 283         | 6.5                                   | 6.0    | 5.3   | 78.0  |
| LT3-130/4 | 46          | 303         | 7.5                                   | 6.9    | 6.0   | 78.6  |
| LT3-160/4 | 55          | 333         | 10                                    | 9      | 8.0   | 79.2  |

Capacitor excited machines specifically for Metal Halide light tower lamps.

For custom voltages or non-standard lamp striking voltages, please refer to Factory.

2 Pole version of above generators available. Please refer to Factory.

# 4 Pole | 50/60Hz | 1 & 3Phase

Voltage: Various

RPM: 1500/1800

Insulation: Class H

| MODEL      | WEIGHT (kg) | LEADS | kVA 115/200-230/400V 50 Hz, 0.8pf |        | kVA 138/240-277/480V 60 Hz, 0.8pf |        |
|------------|-------------|-------|-----------------------------------|--------|-----------------------------------|--------|
|            |             |       | 125/40                            | 105/40 | 125/40                            | 105/40 |
| NPE 32-A/4 | 77          | 12    | 7.5                               | 7.3    | 9.0                               | 8.4    |
| NPE 32-B/4 | 83          | 12    | 11.5                              | 10.5   | 14.0                              | 12.5   |
| NPE 32-C/4 | 90          | 12    | 13.0                              | 12.0   | 16.0                              | 14.5   |
| NPE 32-D/4 | 102         | 12    | 17.0                              | 15.5   | 21.0                              | 19.0   |
| NPE 32-E/4 | 120         | 12    | 25.0                              | 23.0   | 31.0                              | 28.5   |
| NPE 32-F/4 | 134         | 12    | 27.5                              | 25.0   | 34                                | 31     |

| MODEL      | WEIGHT (kg) | LEADS | kW 115/230V 50 Hz |        | kW 120/240V 60 Hz |        |
|------------|-------------|-------|-------------------|--------|-------------------|--------|
|            |             |       | 125/40            | 105/40 | 125/40            | 105/40 |
| NPE 32-A/4 | 75          | 4     | 6.4               | 6.2    | 8.4               | 8      |
| NPE 32-B/4 | 81          | 4     | 8.7               | 8.3    | 10.5              | 10     |
| NPE 32-C/4 | 88          | 4     | 10.8              | 10.4   | 13                | 12.5   |
| NPE 32-D/4 | 100         | 4     | 13.8              | 13.3   | 17                | 16     |
| NPE 32-E/4 | 118         | 4     | 18.5              | 17.5   | 22                | 21     |
| NPE 32-F/4 | 132         | 4     | 22.5              | 21     | 26.5              | 25     |

| MODEL      | WEIGHT (kg) | LEADS | kW 115/230V 50 Hz |        | kW 120/240V 60 Hz |        |
|------------|-------------|-------|-------------------|--------|-------------------|--------|
|            |             |       | 125/40            | 105/40 | 125/40            | 105/40 |
| NPE 32-A/4 | 75          | 12    | 5                 |        | 6                 |        |
| NPE 32-B/4 | 81          | 12    | 7.5               |        | 9.3               |        |
| NPE 32-C/4 | 88          | 12    | 8.6               |        | 10.6              |        |
| NPE 32-D/4 | 100         | 12    | 11.3              |        | 14                |        |
| NPE 32-E/4 | 118         | 12    | 16.6              |        | 20.6              |        |
| NPE 32-F/4 | 132         | 12    | 18.3              |        | 22.6              |        |

Space Efficient- designed for length reduction.

All the generators on this page come 'standard' with the SR7/2 AVR.



# 2 Pole | 50/60Hz | 1 & 3Phase

Voltage: Various

RPM: 3000/3600

Insulation: Class H

| 3Phase     |             |       | kVA 115/200-230/400V 50 Hz, 0.8pf |        | kVA 138/240-277/480V 60 Hz, 0.8pf |        |
|------------|-------------|-------|-----------------------------------|--------|-----------------------------------|--------|
| MODEL      | WEIGHT (kg) | LEADS | 125/40                            | 105/40 | 125/40                            | 105/40 |
| NPE 31-A/2 | 77          | 12    | 8.0                               | 7.8    | 10.0                              | 9.3    |
| NPE 31-B/2 | 83          | 12    | 10.5                              | 9.6    | 13.0                              | 11.6   |
| NPE 31-C/2 | 90          | 12    | 13.5                              | 12.3   | 16.5                              | 15.0   |
| NPE 31-D/2 | 102         | 12    | 21.0                              | 19.2   | 25.2                              | 23.0   |
| NPE 31-E/2 | 120         | 12    | 26.0                              | 23.8   | 31.5                              | 29.0   |
| NPE 31-F/2 | 134         | 12    | 32.0                              | 28.8   | 38.4                              | 35.0   |

| 1 Phase (Dedicated Winding) |             |       | kW 115/230V 50 Hz |        | kW 120/240V 60 Hz |        |
|-----------------------------|-------------|-------|-------------------|--------|-------------------|--------|
| MODEL                       | WEIGHT (kg) | LEADS | 125/40            | 105/40 | 125/40            | 105/40 |
| NPE 31-A/2                  | 75          | 4     | 5.6               | 5      | 6.7               | 6.4    |
| NPE 31-B/2                  | 81          | 4     | 8                 | 7.3    | 9.2               | 8.8    |
| NPE 31-C/2                  | 88          | 4     | 12.0              | 11     | 14.4              | 13.2   |
| NPE 31-D/2                  | 100         | 4     | 14                | 12.8   | 16.8              | 15.4   |
| NPE 31-E/2                  | 118         | 4     | 21.0              | 19     | 25.2              | 23     |
| NPE 31-F/2                  | 132         | 4     | 25                | 23     | 30                | 27.5   |

| 1 Phase (Re-connected) |             |       | kW 115/230V 50 H |        | kW 120/240V 60 Hz |        |
|------------------------|-------------|-------|------------------|--------|-------------------|--------|
| MODEL                  | WEIGHT (kg) | LEADS | 125/40           | 105/40 | 125/40            | 105/40 |
| NPE 31-A/2             | 75          | 12    | 5.3              |        | 6.6               |        |
| NPE 31-B/2             | 81          | 12    | 7                |        | 8.6               |        |
| NPE 31-C/2             | 88          | 12    | 9                |        | 11                |        |
| NPE 31-D/2             | 100         | 12    | 14               |        | 16.8              |        |
| NPE 31-E/2             | 118         | 12    | 17.3             |        | 21                |        |
| NPE 31-F/2             | 132         | 12    | 21.3             |        | 25.5              |        |

Space Efficient – designed for length reduction.

All the generators on this page come 'standard' with the SR7/2 AVR.

# 4 Pole | 50/60Hz | 3Phase

Voltage: Various

RPM: 1500/1800

Insulation: Class H



## Railroad Duty Alternators

Mecc Alte has been building Railroad Duty alternators for over two decades. Designed and manufactured to meet harsh environmental demands for line haul locomotives and switching applications.

Our rugged insulation system, with our unique, overcoat of Butylh Rubber, provides unparalleled mechanical strength and superior protection against airborne rail dust, oil and grease.

Our TE (Totally Enclosed), pre-engineered generators (some are listed below) are becoming the standard for other harsh environmental applications, which include gantry cranes for Asian Port Authorities and off-shore oil platforms on two continents.

**Typical Mechanical and Electrical Specification**  
Insulation System and mechanical reinforcement:

- ▶ Stator treatments can include additional mechanical bracing, additional lacing on the end turns; VPI treatment, Butylh Rubber overcoat on the windings.
- ▶ Rotor treatments can include VPI application(s), closer machining tolerances on the rotor shaft with shrink collars to prevent core pack movement.
- ▶ Special Lead termination and configurations (long leads, bus bars, etc.) as well as special cable glands, cooling fans, adaptors and mounting reinforcement.

| kVA @ 50Hz Temp. Rise/Amb. C/ 0.8PF |             |       |      |        |        |       |       |
|-------------------------------------|-------------|-------|------|--------|--------|-------|-------|
| MODEL                               | WEIGHT (kg) | LEADS | AVR  | 125/40 | 105/40 | 80/40 | 95/50 |
| TE34-1S/4                           | 309         | 12    | UVR6 | 50     | 45     | 40    | 42    |
| TE34-2S/4                           | 375         | 12    | UVR6 | 60     | 54     | 48    | 50    |
| TE34-1L/4                           | 395         | 12    | UVR6 | 70     | 63     | 56    | 58    |
| TE34-2L/4                           | 429         | 12    | UVR6 | 80     | 72     | 64    | 67    |

| kVA @ 60Hz Temp. Rise/Amb. C/ 0.8PF |             |       |      |        |        |       |       |
|-------------------------------------|-------------|-------|------|--------|--------|-------|-------|
| MODEL                               | WEIGHT (kg) | LEADS | AVR  | 125/40 | 105/40 | 80/40 | 95/50 |
| TE34-1S/4                           | 309         | 12    | UVR6 | 60     | 54     | 48    | 50    |
| TE34-2S/4                           | 375         | 12    | UVR6 | 72     | 65     | 57.5  | 60    |
| TE34-1L/4                           | 395         | 12    | UVR6 | 84     | 76     | 67    | 70    |
| TE34-2L/4                           | 429         | 12    | UVR6 | 96     | 87     | 77    | 80    |

\*Consult Factory for pricing.

Above generators are built to IP55 standards.

Custom Engineered models are available to fit special applications. Consult Factory.

# 14/20/24 Pole | 400Hz | 3Phase

Voltage: 115/200 – 208

RPM: 3400/2400/2000

Insulation: Class H



| MODEL         | WEIGHT (kg) | LEADS | AVR    | RPM  | kVA @ Temp. Rise / Ambient C |        |
|---------------|-------------|-------|--------|------|------------------------------|--------|
|               |             |       |        |      | 125/40                       | 105/40 |
| HCO3-1S/14    | 48          | 12    | UVR6/H | 3428 | 5.5                          | 5      |
| HCO3-2S/14    | 54          | 12    | UVR6/H | 3428 | 7                            | 6.5    |
| HCO3-3S/14    | 63          | 12    | UVR6/H | 3428 | 9                            | 8.5    |
| HCO3-2L/14    | 70          | 12    | UVR6/H | 3428 | 10                           | 10     |
| HCO3-3L/14    | 79          | 12    | UVR6/H | 3428 | 13                           | 12     |
| HCO32-1S/20   | 186         | 12    | UVR6/H | 2400 | 45                           | 40     |
| HCO32-2S/20   | 220         | 12    | UVR6/H | 2400 | 50                           | 45     |
| HCO32-2L/20   | 274         | 12    | UVR6/H | 2400 | 60                           | 55     |
| HCO32-3L/20   | 299         | 12    | UVR6/H | 2400 | 70                           | 65     |
| HCP34-1S/20   | 304         | 12    | UVR6/H | 2400 | 75                           | 70     |
| HCP34-2S/20   | 344         | 12    | UVR6/H | 2400 | 95                           | 85     |
| HCP34-3S/20   | 379         | 12    | UVR6/H | 2400 | 125                          | 115    |
| HCP34-2L/20   | 429         | 12    | UVR6/H | 2400 | 150                          | 135    |
| HCP34-1SN/24* | 304         | 12    | UVR6/H | 2000 | 60                           | 55     |
| HCP34-2SN/24* | 379         | 12    | UVR6/H | 2000 | 90                           | 80     |
| HCP34-2LN/24* | 429         | 12    | UVR6/H | 2000 | 125                          | 110    |
| HCO38-1L/24*  | -           | 12    | UVR6/H | 2000 | 150                          | 135    |
| HCO38-1L/24*  | -           | 12    | UVR6/H | 2000 | 180                          | 165    |
| HCO38-1L/24*  | -           | 12    | UVR6/H | 2000 | 200                          | 185    |

\*According BS 2G 219 – EN2292 – ISO 6858 – Mil Stnd 704F

All machines have an auxiliary winding 'standard' with 300% short circuit capability.

UVR6/H AVR has under frequency, over voltage protection, 3ph reference; regulation is +/- 1%

Line Drop Compensator is also available as an option.

Custom projects available for dedicated power nodes.

The following accessories are available upon request for an additional charge:

- ▶ Space Heaters
- ▶ Temperature detectors (thermistors or PT100) for stator windings and bearings.
- ▶ IP45 or IP54 rated enclosure.
- ▶ Paralleling CT's for parallel operation.
- ▶ Black Butylh Rubber overcoat for superior winding protection in hazardous environments.
- ▶ Remote voltage control.

2/3 pitch windings with skewed slots for maximum reduction of harmonic content.

4 layers of polyester in addition to a clear varnish and EG43 overcoat on the main and exciter windings is standard' on 400 Hz machines.

# 2 Pole | 50/60Hz | 1 & 3Phase

Voltage: Various

RPM: 3000/3600

Insulation: Class H

| MODEL       | WEIGHT (kg) | AVR   | 1 Phase - Reconnected |        |      |                    | 50Hz, 1.0 PF  |      | 60Hz, 1.0 PF |  |
|-------------|-------------|-------|-----------------------|--------|------|--------------------|---------------|------|--------------|--|
|             |             |       | kVA @ Temp Rise/Amb   |        | %EFF | kW @ Temp Rise/Amb |               | %EFF |              |  |
|             |             |       | 110/120 Volts         | 125/40 |      | 105/40             | 120/240 Volts |      | 105/40       |  |
| ECP3-1S/2   | 51          | DSR   | 5.5                   | 5      | 72.6 | 6.6                | 5.9           | 74.2 |              |  |
| ECP3-2S/2   | 57          | DSR   | 7                     | 6.3    | 73.9 | 8.4                | 7.6           | 75.6 |              |  |
| ECP3-3S/2   | 63          | DSR   | 8                     | 7.2    | 74.0 | 9.6                | 8.6           | 75.7 |              |  |
| ECP3-1L/2   | 72          | DSR   | 10                    | 9      | 77.9 | 12                 | 10.8          | 79.8 |              |  |
| ECP3-2L/2   | 78          | DSR   | 11.5                  | 10.4   | 78.8 | 13.8               | 12.4          | 80.7 |              |  |
| ECP28-1L/2  | 129         | DSR   | 15                    | 13     | 79.5 | 17.5               | 16            | 81.1 |              |  |
| ECP28-2L/2  | 136         | DSR   | 18                    | 16     | 80.9 | 21.5               | 19            | 82.5 |              |  |
| ECP28-3L/2  | 141         | DSR   | 21                    | 19     | 81.7 | 25                 | 23            | 83.3 |              |  |
| ECP28-VL/2  | 156         | DSR   | 25.5                  | 23     | 81.9 | 30.5               | 27.8          | 83.5 |              |  |
| ECO31-2SN/2 | 178         | SR7/2 | 29                    | 26     | 81.4 | 35                 | 32            | 82.8 |              |  |
| ECO31-3SN/2 | 204         | SR7/2 | 36                    | 32     | 82.2 | 43                 | 39            | 84.8 |              |  |
| ECO31-1LN/2 | 216         | SR7/2 | 43                    | 39     | 83.0 | 52                 | 47            | 85.5 |              |  |
| ECO31-2LN/2 | 235         | SR7/2 | 54                    | 49     | 83.1 | 65                 | 59            | 85.6 |              |  |
| ECP34-1S/2  | 343         | DSR   | 67                    | 60     | 85.9 | 80                 | 72            | 88.1 |              |  |
| ECP34-2S/2  | 412         | DSR   | 83                    | 75     | 86.5 | 100                | 90            | 88.4 |              |  |
| ECP34-1L/2  | 455         | DSR   | 104                   | 93     | 87.0 | 125                | 113           | 89.0 |              |  |
| ECP34-2L/2  | 491         | DSR   | 113                   | 103    | 87.5 | 139                | 125           | 89.7 |              |  |
| ECO37-1SN/2 | 508         | DSR   | 105                   | 95     | 87.7 | 125                | 112           | 89.7 |              |  |
| ECO37-1LN/2 | 676         | DSR   | 140                   | 125    | 88.2 | 209                | 141           | 90.3 |              |  |
| ECO37-2LN/2 | 762         | DSR   | 199                   | 182    | 88.7 | 302                | 156           | 91.0 |              |  |

| MODEL       | WEIGHT (kg) | AVR   | 3Phase              |        |      |                     | 50Hz, 0.8 PF  |      | 60Hz, 0.8 PF  |      |
|-------------|-------------|-------|---------------------|--------|------|---------------------|---------------|------|---------------|------|
|             |             |       | kVA @ Temp Rise/Amb |        | %EFF | kVA @ Temp Rise/Amb |               | %EFF |               |      |
|             |             |       | 415/380 Volts       | 125/40 |      | 105/40              | 480/440 Volts |      | 416/208 Volts |      |
| ECP3-1S/2   | 51          | DSR   | 8.0                 | 7.3    | 78.5 | 9.6                 | 8.6           | 8.3  | 7.4           | 79.9 |
| ECP3-2S/2   | 57          | DSR   | 10.0                | 9.0    | 80.5 | 12.0                | 10.8          | 10.4 | 9.3           | 82.8 |
| ECP3-3S/2   | 63          | DSR   | 12.5                | 11.0   | 83.0 | 15.0                | 13.0          | 12.9 | 11.1          | 84.5 |
| ECP3-1L/2   | 72          | DSR   | 16.0                | 14.5   | 84.5 | 19.3                | 16.8          | 16.5 | 14.4          | 86.1 |
| ECP3-2L/2   | 78          | DSR   | 19.0                | 17.0   | 85.8 | 22.8                | 20.5          | 19.6 | 17.6          | 87.2 |
| ECP28-1L/2  | 129         | DSR   | 22                  | 20.0   | 85.2 | 26.5                | 24.0          | 23   | 20.0          | 86.2 |
| ECP28-2L/2  | 136         | DSR   | 27                  | 25.0   | 86.4 | 32.5                | 30.0          | 28   | 26.3          | 87.9 |
| ECP28-3L/2  | 141         | DSR   | 31.5                | 30.0   | 87.2 | 38                  | 36.0          | 33   | 31.3          | 89.2 |
| ECP28-VL/2  | 156         | DSR   | 40                  | 37.0   | 87.8 | 48                  | 44.0          | 45   | 41.5          | 89.7 |
| ECO31-2SN/2 | 178         | SR7/2 | 44                  | 40.0   | 87.4 | 53                  | 47.5          | 45   | 41.3          | 89.2 |
| ECO31-3SN/2 | 204         | SR7/2 | 55                  | 50.0   | 88.1 | 66                  | 60.0          | 58   | 51.3          | 89.5 |
| ECO31-1LN/2 | 216         | SR7/2 | 66                  | 60.0   | 88.4 | 80                  | 72.5          | 69   | 62.5          | 90.2 |
| ECO31-2LN/2 | 235         | SR7/2 | 83                  | 75.0   | 89.0 | 99                  | 90.0          | 85   | 77.5          | 90.5 |
| ECP34-1S/2  | 343         | DSR   | 100                 | 90.0   | 89.7 | 120                 | 107.5         | 105  | 95.0          | 91.8 |
| ECP34-2S/2  | 412         | DSR   | 125                 | 112.5  | 90.4 | 150                 | 135.0         | 130  | 120.0         | 92.2 |
| ECP34-1L/2  | 455         | DSR   | 156                 | 140.0  | 90.9 | 188                 | 168.8         | 160  | 145.0         | 92.8 |
| ECP34-2L/2  | 491         | DSR   | 170                 | 153.8  | 91.5 | 208                 | 187.5         | 175  | 160.0         | 93.5 |
| ECO37-1SN/2 | 508         | DSR   | 158                 | 141.8  | 91.7 | 188                 | 169           | 163  | 150           | 94   |
| ECO37-1LN/2 | 676         | DSR   | 210                 | 188.2  | 92.2 | 313                 | 211           | 200  | 181           | 94   |
| ECO37-2LN/2 | 762         | DSR   | 300                 | 271.3  | 92.8 | 360                 | 234           | 219  | 200           | 95   |

\*Refer To Factory for pricing. Larger 1 & 3 phase ratings up to 3MW are available. Please Consult Factory.

# 2 Pole | 50/60Hz | 1Phase

Voltage: Various

RPM: 3000/3600

Insulation: Class H



| 2 Pole   1Phase (Capacitor) |             | kW @ 1.0 PF, 50Hz |      | kW @ 1.0 PF, 60Hz |      |
|-----------------------------|-------------|-------------------|------|-------------------|------|
| MODEL                       | WEIGHT (kg) | 115/230           | %EFF | 120/240           | %EFF |
| S15W-45                     | 8.2         | 1.2               | 68.7 | 1.5               | 69.7 |
| S15W-60                     | 10.4        | 1.8               | 70.2 | 2.2               | 71.2 |
| S15W-75                     | 12.2        | 2.1               | 71.4 | 2.5               | 71.8 |
| S15W-85                     | 13.2        | 2.4               | 71.8 | 2.9               | 72.2 |
| S15W-102                    | 15.0        | 2.8               | 72   | 3.4               | 72.3 |
| S16W-75                     | 14.1        | 2.5               | 74   | 3                 | 74.6 |
| S16W-90                     | 15.9        | 3.5               | 75   | 4.2               | 75.6 |
| S16W-105                    | 17.7        | 4.1               | 76   | 4.9               | 76.6 |
| S16W-130                    | 20.9        | 5                 | 77   | 6                 | 77.6 |
| S16W-150                    | 23.6        | 5.7               | 78   | 6.8               | 78.6 |
| S20W-95                     | 27.2        | 6                 | 77.5 | 7.2               | 78.2 |
| S20W-110                    | 30.4        | 7                 | 78.4 | 8.4               | 79.2 |
| S20W-130                    | 34.9        | 8.5               | 79   | 10.2              | 79.8 |
| S16F-150                    | 28.1        | 5.5               | 79   | 6.6               | 79.6 |
| S16F-180                    | 30.8        | 6.5               | 79.5 | 7.8               | 80.1 |
| S20FS-130                   | 41.7        | 8.5               | 79   | 10.5              | 79.4 |
| S20FS-160                   | 48.5        | 10.0              | 79.2 | 12.0              | 79.6 |
| S20F-200                    | 56.2        | 12.0              | 80.3 | 14.4              | 80.8 |
| S20F-230                    | 59.9        | 13.0              | 82.1 | 15.5              | 82.7 |

Above machines are brushless with capacitor control and optional AVR.

| 2 Pole   1Phase (AVR) |             | kW @ 1.0 PF, 50Hz |      | kW @ 1.0 PF, 60Hz |      |
|-----------------------|-------------|-------------------|------|-------------------|------|
| MODEL                 | WEIGHT (kg) | 115/230           | %EFF | 120/240           | %EFF |
| ES16F-130             | 29.0        | 4.5               | 79.4 | 5.5               | 80   |
| ES16F-160             | 31.8        | 5.5               | 79.8 | 6.8               | 80.5 |
| ES20FS-130            | 43.1        | 8.0               | 79.4 | 9.6               | 79.8 |
| ES20FS-160            | 49.9        | 9.5               | 79.5 | 11.4              | 80   |
| ES20FS-200            | 58.1        | 11.0              | 80.7 | 13.2              | 81.2 |

Above machines are brush type with AVR control.

# 2 Pole | 50/60Hz | 3Phase

Voltage: Various

RPM: 3000/3600

Insulation: Class H



| 2 Pole   3Phase (Transformer) |             | kVA @ 0.8 PF, 50Hz |      | kVA @ 0.8 PF, 60Hz |      |
|-------------------------------|-------------|--------------------|------|--------------------|------|
| MODEL                         | WEIGHT (kg) | 230/400            | %EFF | 277/480            | %EFF |
| T16F-130                      | 30.5        | 6.0                | 79.8 | 7.2                | 80.3 |
| T16F-160                      | 34.5        | 7.5                | 82.0 | 9.0                | 82.5 |
| T20FS-130                     | 44.7        | 10.0               | 81.5 | 12.0               | 83.0 |
| T20FS-160                     | 51.7        | 12.5               | 82.0 | 15.0               | 83.5 |
| T20F-200                      | 59.5        | 15.0               | 82.6 | 18.0               | 83.8 |
| BTP3-1L                       | 69.0        | 16.0               | 83.0 | 19.2               | 84.5 |
| BTP3-2L                       | 76.0        | 20.0               | 84.0 | 24.0               | 86.4 |

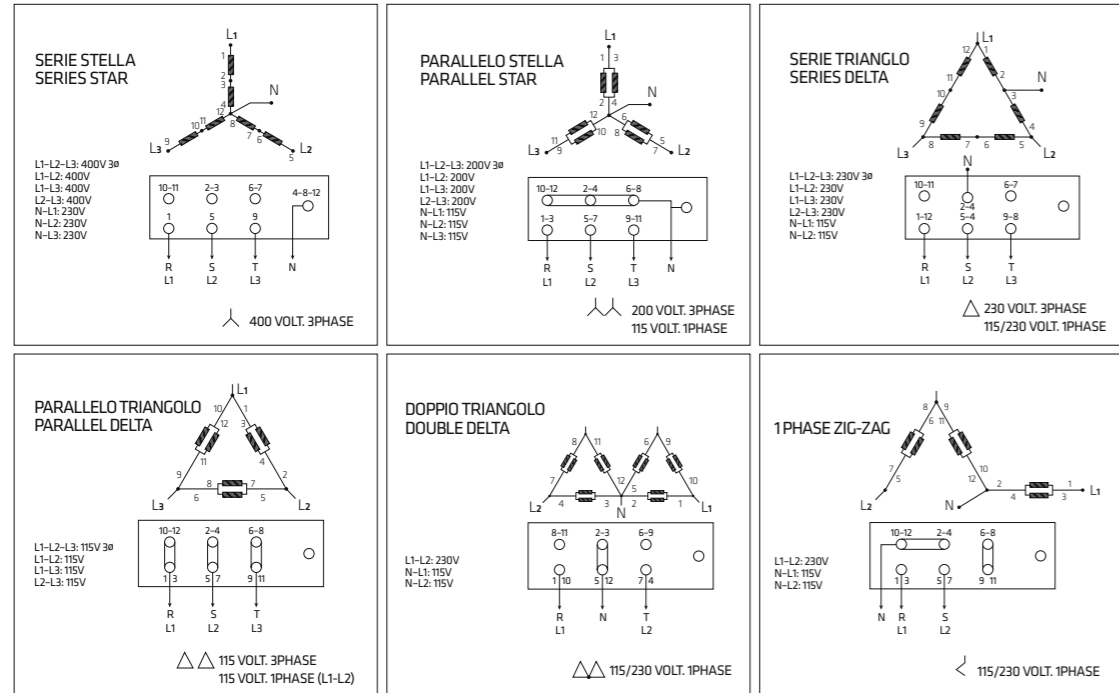
Above machines are brush type with transformer control.

| 2 Pole   3Phase (AVR) |             | kVA @ 0.8 PF, 50Hz |      | kVA @ 0.8 PF, 60Hz |      |
|-----------------------|-------------|--------------------|------|--------------------|------|
| MODEL                 | WEIGHT (kg) | 230/400            | %EFF | 277/480            | %EFF |
| ET16F-130             | 30.0        | 5.5                | 80.2 | 6.6                | 80.6 |
| ET16F-160             | 34.0        | 6.5                | 82.3 | 7.8                | 82.5 |
| ET20FS-130            | 44.2        | 9.0                | 81.9 | 11.0               | 83.6 |
| ET20FS-160            | 51.2        | 11.5               | 82.4 | 14.0               | 83.9 |
| ET20F-200             | 59.0        | 13.5               | 82.9 | 16.5               | 84.1 |

Above machines are brush type with AVR control.

# 50Hz Connections

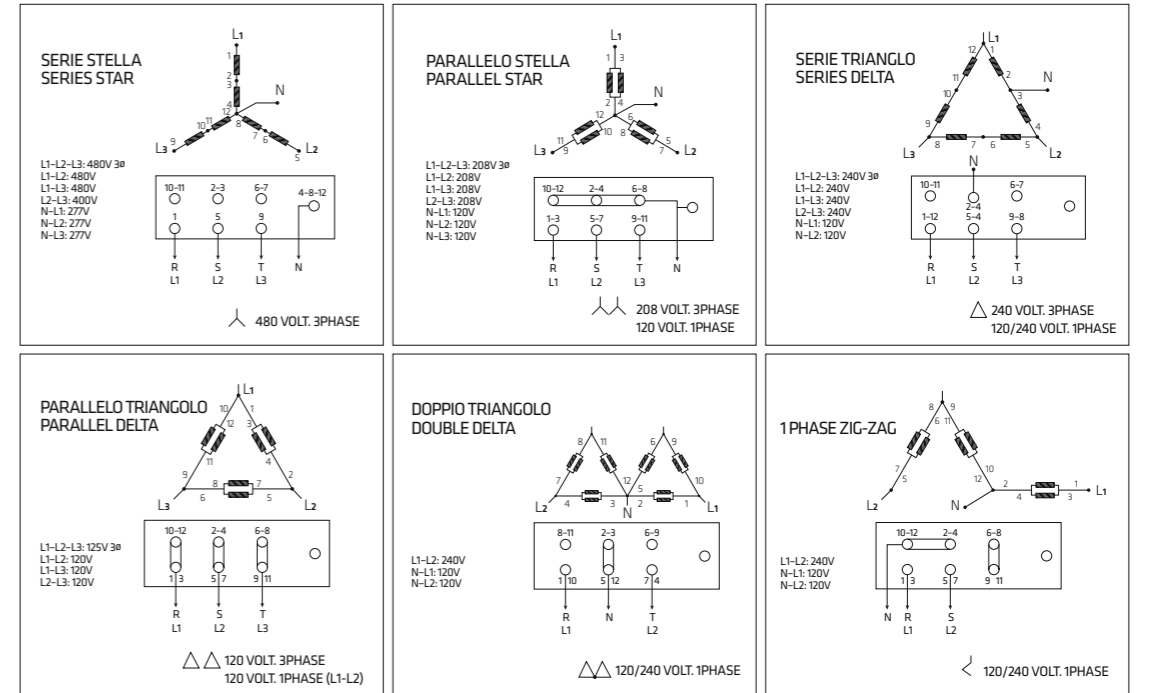
The following are the most common connection arrangements utilized with Mecc Alte generators. Always verify that the connections of all the leads from the main stator are consistent with the nameplate voltage required. Connection diagrams are supplied with every generator and should be used as the primary source of information. Please consult the factory for any questions regarding these connections.



| 50Hz                          |     | Series 3, 28, 31, 32, 34, 38, 40 (1S, 2S, 1L, 2L) |     |     |     | Series 40 (3S, 1.5L, VL), 43, 46 |     |     |     |
|-------------------------------|-----|---|-----|-----|-----|----------------------------------|-----|-----|-----|
| Series Star                   | L-L | 380   | 400 | 415 | 440 | 760                              | 800 | 830 | 880 |
|                               | L-N | 220   | 230 | 240 | 254 | 440                              | 460 | 480 | 508 |
| Parallel Star                 | L-L | 190   | 200 | 208 | 220 | 380                              | 400 | 415 | 440 |
|                               | L-N | 110   | 115 | 120 | 127 | 219                              | 231 | 240 | 254 |
| Series Delta                  | L-L | 220   | 230 | 240 | 254 | 440                              | 460 | 480 | 508 |
|                               | L-N | 110   | 115 | 120 | 127 | 220                              | 230 | 240 | 254 |
| Parallel Delta                | L-L | 110   | 115 | 120 | 127 | 220                              | 230 | 240 | 254 |
| Zig-Zag                       | L-L | 330   | 346 | 360 | 380 | 660                              | 690 | 720 | 760 |
|                               | L-N | 191   | 200 | 208 | 220 | 380                              | 400 | 415 | 440 |
| Single Phase Parallel Zig-Zag | L-L | 220   | 230 | 240 | 254 | 440                              | 460 | 480 | 508 |
|                               | L-N | 110   | 115 | 120 | 127 | 220                              | 230 | 240 | 254 |
| Single Phase Double Delta     | L-L | 220   | 230 | 240 | 254 | 440                              | 460 | 480 | 508 |
|                               | L-N | 110   | 115 | 120 | 127 | 220                              | 230 | 240 | 254 |

# 60Hz Connections

The following are the most common connection arrangements utilized with Mecc Alte generators. Always verify that the connections of all the leads from the main stator are consistent with the nameplate voltage required. Connection diagrams are supplied with every generator and should be used as the primary source of information. Please consult the factory for any questions regarding these connections.



| 60Hz                          |     | Series 3, 28, 31, 32, 34, 38, 40 (1S, 2S, 1L, 2L) |     |     |     | Series 40 (3S, 1.5L, VL), 43, 46 |     |     |     |
|-------------------------------|-----|---|-----|-----|-----|----------------------------------|-----|-----|-----|
| Series Star                   | L-L | 415   | 440 | 460 | 480 | 830                              | 880 | 920 | 960 |
|                               | L-N | 240   | 254 | 266 | 277 | 440                              | 460 | 480 | 554 |
| Parallel Star                 | L-L | 208   | 220 | 230 | 240 | 415                              | 440 | 460 | 480 |
|                               | L-N | 120   | 127 | 133 | 139 | 240                              | 254 | 266 | 277 |
| Series Delta                  | L-L | 240   | 254 | 266 | 277 | 440                              | 460 | 480 | 554 |
|                               | L-N | 120   | 127 | 133 | 139 | 220                              | 230 | 240 | 277 |
| Parallel Delta                | L-L | 120   | 127 | 133 | 139 | 220                              | 230 | 240 | 277 |
| Zig-Zag                       | L-L | 359   | 380 | 400 | 415 | 720                              | 760 | 800 | 830 |
|                               | L-N | 207   | 220 | 230 | 240 | 415                              | 440 | 460 | 480 |
| Single Phase Parallel Zig-Zag | L-L | 240   | 254 | 266 | 277 | 440                              | 460 | 480 | 554 |
|                               | L-N | 120   | 127 | 133 | 139 | 220                              | 230 | 240 | 277 |
| Single Phase Double Delta     | L-L | 240   | 254 | 266 | 277 | 440                              | 460 | 480 | 554 |
|                               | L-N | 120   | 127 | 133 | 139 | 220                              | 230 | 240 | 277 |

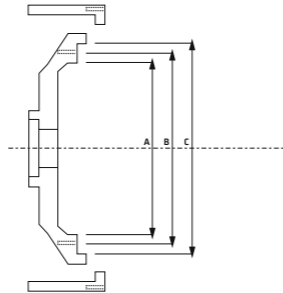


# SAE Flywheel Housing Dimensions

Mounting Arrangements.

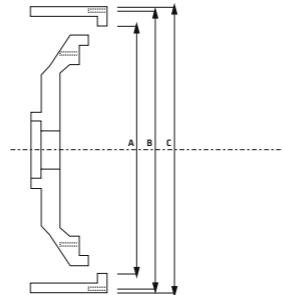
SAE Flywheel Housing Dimensions

| SAE No. | A      | B      | C      | Holes | Size    |
|---------|--------|--------|--------|-------|---------|
| 00      | 31     | 33.5   | 34.75  | 16    | 1/2-13  |
| 0       | 25.5   | 26.75  | 28     | 16    | 1/2-13  |
| 1/2     | 23     | 24 3/8 | 25.5   | 12    | 1/2-13  |
| 1       | 20 1/8 | 20 7/8 | 21.75  | 12    | 7/16-14 |
| 2       | 17 5/8 | 18 3/8 | 19.25  | 12    | 3/8-16  |
| 3       | 16 1/8 | 16 7/8 | 17.75  | 12    | 3/8-16  |
| 4       | 14.25  | 15     | 15 7/8 | 12    | 3/8-16  |
| 5       | 12 3/8 | 13 1/8 | 14     | 8     | 3/8-16  |
| 6       | 10.5   | 11.25  | 12 1/8 | 8     | 3/8-16  |



SAE Flywheel Dimensions

| Flywheel | A      | B      | C      | XG     | Holes | Size    |
|----------|--------|--------|--------|--------|-------|---------|
| 21       | 23     | 25.25  | 26.5   | 0      | 12    | 5/8-11  |
| 18       | 19 5/8 | 21 3/8 | 22.5   | 5/8    | 6     | 5/8-11  |
| 16       | 18 1/8 | 19 1/4 | 20 3/8 | 5/8    | 8     | 1/2-13  |
| 14       | 16 1/8 | 17.25  | 18 3/8 | 1      | 8     | 1/2-13  |
| 11 1/2   | 12.375 | 13.125 | 13 7/8 | 1 9/16 | 8     | 3/8-16  |
| 10       | 10 7/8 | 11 5/8 | 12 3/8 | 2 1/8  | 8     | 3/8-16  |
| 8        | 8 7/8  | 9 5/8  | 10 3/8 | 2 7/16 | 6     | 3/8-16  |
| 7 1/2    | 8 1/8  | 8.75   | 9 1/2  | 1 3/16 | 8     | 5/16-18 |
| 6 1/2    | 7.25   | 7 7/8  | 8 1/2  | 1 3/16 | 6     | 5/16-18 |
| 17.75 D  | --     | 15.5   | 17.75  | .72    | 8     | 5/8-11  |
| 15.50 D  | --     | 13 7/8 | 15.50  | .72    | 8     | 5/8-11  |
| 12.75 D  | --     | 11     | 12.75  | 0      | 4     | 1/2-13  |



Available Mounting Arrangements

| Adaptor | Coupling | ECO3 | ECO28 | ECO32 | ECP34 | ECO38 | ECO40 | ECO43 | ECO46 | NPE 32 |
|---------|----------|------|-------|-------|-------|-------|-------|-------|-------|--------|
| 6       | 6.5      | •    |       |       |       |       |       |       |       |        |
|         | 7.5      | •    |       |       |       |       |       |       |       |        |
| 5       | 6.5      | •    | •     | •     |       |       |       |       |       | •      |
|         | 7.5      | •    | •     | •     |       |       |       |       |       | •      |
|         | 8        | •    | •     | •     |       |       |       |       |       | •      |
| 4       | 6.5      | •    | •     | •     |       |       |       |       |       | •      |
|         | 7.5      | •    | •     | •     |       |       |       |       |       | •      |
|         | 8        | •    | •     | •     |       |       |       |       |       | •      |
|         | 10       | •    | •     | •     |       |       |       |       |       | •      |
|         | 11.5     | •    | •     | •     |       |       |       |       |       | •      |
| 3       | 8        | •    | •     | •     |       |       |       |       |       | •      |
|         | 10       | •    | •     | •     | •     |       |       |       |       | •      |
|         | 11.5     | •    | •     | •     | •     | •     |       |       |       | •      |
| 2       | 10       |      | •     | •     | •     | •     |       |       |       |        |
|         | 11.5     |      | •     | •     | •     | •     |       |       |       |        |
| 1       | 11.5     |      |       | •     | •     | •     |       |       |       |        |
|         | 14       |      |       |       | •     | •     | •     |       |       |        |
| 1/2     | 17.75 D  |      |       | •     | •     | •     | •     |       |       |        |
|         | 14       |      |       |       |       | •     | •     |       |       |        |
|         | 18       |      |       |       |       | •     | •     | •     |       |        |
| 0       | 17.75 D  |      |       |       |       | •     | •     | •     |       |        |
|         | 14       |      |       |       |       |       | •     | •     | •     |        |
| 00      | 18       |      |       |       |       |       | •     | •     | •     |        |
|         | 21       |      |       |       |       |       |       | •     | •     |        |
| 00      | 24       |      |       |       |       |       |       | •     | •     |        |
|         | 21       |      |       |       |       |       |       |       | •     |        |

# Altitude Derations/Environmental

Temperature & Altitude

Environmental Concerns

Humidity & Moisture

## Temperature and Altitude

Temperature and altitude – individually or combined, have an effect on the generator power available. Temperature may be considered as both the air inlet to the generator and also the ambient air around the generator. When the ambient air or air entering the generator exceeds 40°C, or 104° F, it becomes necessary to derate the output of the generator. The chart below gives the recommended amount to adjust for the higher temperatures.

Higher altitudes also require a derate, specifically when it exceeds 3300 ft., or 1000 Meters. Again, please refer to the Altitude Deration Chart below to determine the necessary derate.

## Environmental Concerns

Generators are often exposed to harmful airborne pollutants, like sand and saltwater which may require some form of protection to reduce or eliminate these harmful agents. Common elements like dirt, gravel or rock dust can create abrasive and potentially damaging effects on the windings of the generator. While the addition of filters, baffles, or housings will certainly help extend the life of the protective insulation, it may be equally effective to overcoat the windings at point of manufacture. It is also extremely important to recognize that filters and other devices can affect the airflow through the generator and create additional heat in the windings. It is also important to understand that the use of filters requires a strict maintenance regime.

Mecc Alte has a variety of insulation treatments which can add years of life to your generator, and ensure that the windings are protected in these harmful environmental applications. Please refer to our separate Technical guide: Insulation Protection Systems for further guidance.

Please consult your Mecc Alte Representative for application reviews and recommendations.

## Humidity and Moisture

Another common enemy of the insulation system is high humidity, salt air and moisture. While the windings are certainly protected against these conditions, space heaters can be added insurance to promote long life and trouble free operation. The location of the unit

and operating conditions with proper ventilation are both important considerations when determining what protection is required. Once again, please consult your Mecc Alte Representative for assistance in selecting proper protection and modifications.

Altitude & Ambient Temperature Deration Coefficients

| Altitude (meters) | Ambient Temperature (°C) |     |     |     |     |     |
|-------------------|--------------------------|-----|-----|-----|-----|-----|
|                   | 25                       | 40  | 45  | 50  | 55  | 60  |
| < 1000            | 1.07                     | 1   | .96 | .93 | .91 | .89 |
| 1000 - 1500       | 1.01                     | .96 | .92 | .89 | .87 | .84 |
| 1500 - 2000       | .96                      | .91 | .87 | .84 | .83 | .79 |
| 2000 - 3000       | .90                      | .85 | .81 | .78 | .76 | .73 |

