

SIMOTICS N-compact Non-Standard Motors

Motors specially designed for converter-fed operation

Self-ventilated motors with through-ventilation

Cast-iron series 1LL8 with standard insulation for ≤ 500 V

Selection and ordering data

| Operating values at rated output with sinusoidal infeed                                                                                                  |                                          |                                |                                                                                                     |                            |                                 |                                 |                                     |                                   |                                   |                                    |                                             |                                            | Cast-iron series                |      |                  |      | m <sub>IM</sub> B3 |               |               | J             | Torque class |                |  |     |              |
|----------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------|--------------------------------|-----------------------------------------------------------------------------------------------------|----------------------------|---------------------------------|---------------------------------|-------------------------------------|-----------------------------------|-----------------------------------|------------------------------------|---------------------------------------------|--------------------------------------------|---------------------------------|------|------------------|------|--------------------|---------------|---------------|---------------|--------------|----------------|--|-----|--------------|
| P <sub>rated</sub> , 50 Hz                                                                                                                               | P <sub>rated</sub> , 60 Hz <sup>1)</sup> | Frame size                     | n <sub>rated</sub> , 50 Hz                                                                          | T <sub>rated</sub> , 50 Hz | η <sub>rated</sub> , 50 Hz, 4/4 | η <sub>rated</sub> , 50 Hz, 3/4 | cos φ <sub>rated</sub> , 50 Hz, 4/4 | I <sub>rated</sub> , 50 Hz, 400 V | I <sub>rated</sub> , 50 Hz, 690 V | T <sub>B</sub> /T <sub>rated</sub> | L <sub>pfA</sub> , 50Hz, tolerance +3 dB(A) | L <sub>WA</sub> , 50Hz, tolerance +3 dB(A) | 1LL8 – with standard insulation |      |                  |      |                    |               |               |               |              |                |  |     |              |
| kW                                                                                                                                                       | kW                                       | FS                             | rpm                                                                                                 | Nm                         | %                               | %                               |                                     | A                                 | A                                 |                                    | dB(A)                                       | dB(A)                                      | Order No.                       | kg   | kgm <sup>2</sup> | CL   |                    |               |               |               |              |                |  |     |              |
| • Cooling: Self-ventilated with through-ventilation (IC 01)                                                                                              |                                          |                                |                                                                                                     |                            |                                 |                                 |                                     |                                   |                                   |                                    |                                             |                                            |                                 |      |                  |      |                    |               |               |               |              |                |  |     |              |
| • Converter-fed operation: Specially for operation on SINAMICS or SIMOVERT MASTERDRIVES with standard insulation for voltages of ≤ 500 V                 |                                          |                                |                                                                                                     |                            |                                 |                                 |                                     |                                   |                                   |                                    |                                             |                                            |                                 |      |                  |      |                    |               |               |               |              |                |  |     |              |
| • Insulation: Thermal class 155 (temperature class F), IP23 degree of protection, utilization in accordance with thermal class 155 (temperature class F) |                                          |                                |                                                                                                     |                            |                                 |                                 |                                     |                                   |                                   |                                    |                                             |                                            |                                 |      |                  |      |                    |               |               |               |              |                |  |     |              |
| 2-pole: 3000 rpm at 50 Hz, 3600 rpm at 60 Hz <sup>1)</sup>                                                                                               |                                          |                                |                                                                                                     |                            |                                 |                                 |                                     |                                   |                                   |                                    |                                             |                                            |                                 |      |                  |      |                    |               |               |               |              |                |  |     |              |
| 315                                                                                                                                                      | 345                                      | 315                            | 2977                                                                                                | 1010                       | 95.5                            | 95.7                            | 0.92                                | 520                               | 300                               | 2.8                                | 84 <sup>2)</sup>                            | 99                                         | 1LL8315-2PC                     | 1300 | 2.7              | 10   |                    |               |               |               |              |                |  |     |              |
| 400                                                                                                                                                      | 440                                      | 315                            | 2977                                                                                                | 1280                       | 95.9                            | 96.2                            | 0.92                                | 650                               | 380                               | 2.8                                | 84 <sup>2)</sup>                            | 99                                         | 1LL8317-2PC                     | 1500 | 3.3              | 10   |                    |               |               |               |              |                |  |     |              |
| 450                                                                                                                                                      | 495                                      | 355                            | 2981                                                                                                | 1440                       | 95.9                            | 96.0                            | 0.91                                | 740                               | 430                               | 2.6                                | 86 <sup>2)</sup>                            | 101                                        | 1LL8353-2PD                     | 1900 | 4.8              | 7    |                    |               |               |               |              |                |  |     |              |
| 500                                                                                                                                                      | 550                                      | 355                            | 2982                                                                                                | 1600                       | 96.1                            | 96.3                            | 0.92                                | 820                               | 475                               | 2.6                                | 86 <sup>2)</sup>                            | 101                                        | 1LL8355-2PD                     | 2000 | 5.3              | 7    |                    |               |               |               |              |                |  |     |              |
| 630                                                                                                                                                      | 690                                      | 355                            | 2982                                                                                                | 2020                       | 96.4                            | 96.6                            | 0.93                                | 1020                              | 590                               | 2.6                                | 86 <sup>2)</sup>                            | 101                                        | 1LL8357-2PD                     | 2200 | 6.4              | 7    |                    |               |               |               |              |                |  |     |              |
| 710                                                                                                                                                      | 780                                      | 400                            | 2986                                                                                                | 2270                       | 96.5                            | 96.6                            | 0.91                                | 1160                              | 680                               | 2.6                                | 88 <sup>2)</sup>                            | 103                                        | 1LL8403-2PD                     | 2800 | 8.6              | 7    |                    |               |               |               |              |                |  |     |              |
| 800                                                                                                                                                      | 880                                      | 400                            | 2986                                                                                                | 2560                       | 96.6                            | 96.7                            | 0.92                                | 1300                              | 750                               | 2.6                                | 88 <sup>2)</sup>                            | 103                                        | 1LL8405-2PD                     | 3000 | 9.6              | 7    |                    |               |               |               |              |                |  |     |              |
| 900                                                                                                                                                      | 990                                      | 400                            | 2987                                                                                                | 2880                       | 96.8                            | 96.9                            | 0.92                                | –                                 | 850                               | 2.7                                | 88 <sup>2)</sup>                            | 103                                        | 1LL8407-2PD                     | 3200 | 11               | 7    |                    |               |               |               |              |                |  |     |              |
| 1000                                                                                                                                                     | 1100                                     | 450                            | 2987                                                                                                | 3200                       | 96.8                            | 96.7                            | 0.93                                | –                                 | 930                               | 2.9                                | 90 <sup>2)</sup>                            | 105                                        | 1LL8453-2PE                     | 4000 | 19               | 5    |                    |               |               |               |              |                |  |     |              |
| 1120                                                                                                                                                     | 1230                                     | 450                            | 2986                                                                                                | 3580                       | 96.8                            | 96.9                            | 0.94                                | –                                 | 1020                              | 2.7                                | 90 <sup>2)</sup>                            | 105                                        | 1LL8455-2PE                     | 4200 | 21               | 5    |                    |               |               |               |              |                |  |     |              |
| 1250                                                                                                                                                     | 1370                                     | 450                            | 2984                                                                                                | 4000                       | 97.0                            | 97.1                            | 0.94                                | –                                 | 1140                              | 2.6                                | 90 <sup>2)</sup>                            | 105                                        | 1LL8457-2PE                     | 4400 | 23               | 5    |                    |               |               |               |              |                |  |     |              |
| 4-pole: 1500 rpm at 50 Hz, 1800 rpm at 60 Hz <sup>1)</sup>                                                                                               |                                          |                                |                                                                                                     |                            |                                 |                                 |                                     |                                   |                                   |                                    |                                             |                                            |                                 |      |                  |      |                    |               |               |               |              |                |  |     |              |
| 315                                                                                                                                                      | 360                                      | 315                            | 1485                                                                                                | 2030                       | 95.5                            | 95.6                            | 0.87                                | 550                               | 315                               | 2.7                                | 77                                          | 90                                         | 1LL8315-4PC                     | 1300 | 3.6              | 10   |                    |               |               |               |              |                |  |     |              |
| 400                                                                                                                                                      | 460                                      | 315                            | 1485                                                                                                | 2570                       | 95.7                            | 95.9                            | 0.88                                | 690                               | 395                               | 2.7                                | 77                                          | 90                                         | 1LL8317-4PC                     | 1500 | 4.4              | 10   |                    |               |               |               |              |                |  |     |              |
| 450                                                                                                                                                      | 515                                      | 355                            | 1487                                                                                                | 2890                       | 96.0                            | 96.0                            | 0.87                                | 780                               | 450                               | 2.6                                | 77                                          | 92                                         | 1LL8353-4PC                     | 1900 | 6.1              | 10   |                    |               |               |               |              |                |  |     |              |
| 500                                                                                                                                                      | 575                                      | 355                            | 1488                                                                                                | 3210                       | 96.1                            | 96.2                            | 0.88                                | 850                               | 495                               | 2.6                                | 77                                          | 92                                         | 1LL8355-4PC                     | 2000 | 6.8              | 10   |                    |               |               |               |              |                |  |     |              |
| 630                                                                                                                                                      | 725                                      | 355                            | 1490                                                                                                | 4040                       | 96.4                            | 96.5                            | 0.88                                | 1080                              | 620                               | 2.7                                | 77                                          | 92                                         | 1LL8357-4PC                     | 2200 | 8.5              | 10   |                    |               |               |               |              |                |  |     |              |
| 710                                                                                                                                                      | 815                                      | 400                            | 1490                                                                                                | 4550                       | 96.4                            | 96.5                            | 0.88                                | 1200                              | 700                               | 2.4                                | 81                                          | 96                                         | 1LL8403-4PC                     | 2800 | 13               | 10   |                    |               |               |               |              |                |  |     |              |
| 800                                                                                                                                                      | 920                                      | 400                            | 1490                                                                                                | 5130                       | 96.5                            | 96.6                            | 0.88                                | –                                 | 790                               | 2.5                                | 81                                          | 96                                         | 1LL8405-4PC                     | 3000 | 14               | 10   |                    |               |               |               |              |                |  |     |              |
| 900                                                                                                                                                      | 1035                                     | 400                            | 1492                                                                                                | 5760                       | 96.7                            | 96.7                            | 0.87                                | –                                 | 900                               | 2.6                                | 81                                          | 96                                         | 1LL8407-4PC                     | 3200 | 16               | 10   |                    |               |               |               |              |                |  |     |              |
| 1000                                                                                                                                                     | 1150                                     | 450                            | 1492                                                                                                | 6400                       | 96.7                            | 96.7                            | 0.86                                | –                                 | 1000                              | 2.8                                | 84                                          | 99                                         | 1LL8453-4PD                     | 4000 | 23               | 7    |                    |               |               |               |              |                |  |     |              |
| 1120                                                                                                                                                     | 1280                                     | 450                            | 1491                                                                                                | 7170                       | 96.7                            | 96.7                            | 0.89                                | –                                 | 1080                              | 2.6                                | 84                                          | 99                                         | 1LL8455-4PD                     | 4200 | 26               | 7    |                    |               |               |               |              |                |  |     |              |
| 1250                                                                                                                                                     | 1430                                     | 450                            | 1490                                                                                                | 8010                       | 96.8                            | 96.8                            | 0.89                                | –                                 | 1220                              | 2.5                                | 84                                          | 99                                         | 1LL8457-4PD                     | 4400 | 28               | 7    |                    |               |               |               |              |                |  |     |              |
| Voltages                                                                                                                                                 |                                          |                                | No. of poles                                                                                        |                            | Motor type                      |                                 |                                     | Version                           |                                   |                                    |                                             |                                            |                                 |      |                  |      |                    | Order code(s) |               |               |              |                |  |     |              |
| 50 Hz                                                                                                                                                    | 400 VΔ/690 VY <sup>3)</sup>              |                                | 2, 4                                                                                                |                            | 1LL8315 ... 405                 |                                 |                                     | Standard                          |                                   |                                    |                                             |                                            |                                 |      |                  |      |                    | 8             |               |               |              |                |  |     |              |
|                                                                                                                                                          | 690 VΔ <sup>3)</sup>                     |                                | 2, 4                                                                                                |                            | 1LL8407 ... 457                 |                                 |                                     | Standard                          |                                   |                                    |                                             |                                            |                                 |      |                  |      |                    | 7             |               |               |              |                |  |     |              |
|                                                                                                                                                          | 400 VΔ                                   |                                | 2, 4                                                                                                |                            | 1LL8315 ... 405                 |                                 |                                     | Without additional charge         |                                   |                                    |                                             |                                            |                                 |      |                  |      |                    | 4             |               |               |              |                |  |     |              |
|                                                                                                                                                          | 500 VΔ                                   |                                | 2, 4                                                                                                |                            | 1LL8315 ... 457                 |                                 |                                     | Without additional charge         |                                   |                                    |                                             |                                            |                                 |      |                  |      |                    | 5             |               |               |              |                |  |     |              |
| Further voltages <sup>1)</sup>                                                                                                                           |                                          |                                | For add. charges, code numbers, order codes and descriptions, see supplements and special versions. |                            |                                 |                                 |                                     |                                   |                                   |                                    |                                             |                                            |                                 |      |                  |      |                    |               |               |               |              | 9              |  | ... |              |
| For types of construction see suppl.                                                                                                                     |                                          |                                |                                                                                                     |                            |                                 | Motor type                      |                                     |                                   | Version                           |                                    |                                             |                                            |                                 |      |                  |      |                    |               | Order code(s) |               |              |                |  |     |              |
| Without flange                                                                                                                                           |                                          | IM B3                          |                                                                                                     |                            |                                 | 1LL8315 ... 457 <sup>4)</sup>   |                                     |                                   | Standard                          |                                    |                                             |                                            |                                 |      |                  |      |                    |               | 0             |               | –            |                |  |     |              |
| With flange                                                                                                                                              |                                          | IM V1 without protective cover |                                                                                                     |                            |                                 | 1LL8315 ... 457 <sup>5)</sup>   |                                     |                                   | With additional charge            |                                    |                                             |                                            |                                 |      |                  |      |                    |               | 8             |               | –            |                |  |     |              |
|                                                                                                                                                          |                                          | IM V1 with protective cover    |                                                                                                     |                            |                                 | 1LL8315 ... 457 <sup>5)</sup>   |                                     |                                   | With additional charge            |                                    |                                             |                                            |                                 |      |                  |      |                    |               | 4             |               | –            |                |  |     |              |
|                                                                                                                                                          |                                          | IM B35                         |                                                                                                     |                            |                                 | 1LL8315 ... 457 <sup>5)</sup>   |                                     |                                   | With additional charge            |                                    |                                             |                                            |                                 |      |                  |      |                    |               | 6             |               | –            |                |  |     |              |
| Special versions                                                                                                                                         |                                          |                                |                                                                                                     |                            |                                 |                                 |                                     |                                   |                                   |                                    |                                             |                                            |                                 |      |                  |      |                    |               |               | Order code(s) |              |                |  |     |              |
| Options                                                                                                                                                  |                                          |                                | For add. charges, order codes and descriptions, see supplements and special versions.               |                            |                                 |                                 |                                     |                                   |                                   |                                    |                                             |                                            |                                 |      |                  |      |                    |               |               |               |              | 1LL8 ... - ... |  | -Z  | ...+...+...+ |
| Motor type 1LL8                                                                                                                                          |                                          |                                |                                                                                                     |                            |                                 |                                 |                                     |                                   |                                   |                                    |                                             |                                            |                                 |      |                  |      |                    |               |               |               |              |                |  |     |              |
| 315-2 317-2 353-2 355-2 357-2 403-2 405-2 407-2 453-2 455-2 457-2 315-4 317-4 353-4 355-4 357-4 403-4 405-4 407-4 453-4 455-4 457-4                      |                                          |                                |                                                                                                     |                            |                                 |                                 |                                     |                                   |                                   |                                    |                                             |                                            |                                 |      |                  |      |                    |               |               |               |              |                |  |     |              |
| Parallel feeders required                                                                                                                                |                                          |                                |                                                                                                     |                            |                                 |                                 |                                     |                                   |                                   |                                    |                                             |                                            |                                 |      |                  |      |                    |               |               |               |              |                |  |     |              |
| 400 V                                                                                                                                                    | Yes                                      | Yes                            | Yes                                                                                                 | Yes                        | Yes                             | Yes                             | Yes                                 | –                                 | –                                 | –                                  | –                                           | Yes                                        | Yes                             | Yes  | Yes              | Yes  | Yes                | –             | –             | –             | –            |                |  |     |              |
| 500 V                                                                                                                                                    | –                                        | –                              | Yes                                                                                                 | Yes                        | –                               | –                               | Yes                                 | Yes                               | Yes                               | Yes                                | –                                           | –                                          | Yes                             | Yes  | –                | –    | Yes                | Yes           | Yes           | Yes           | Yes          |                |  |     |              |
| 690 V                                                                                                                                                    | –                                        | –                              | –                                                                                                   | –                          | –                               | –                               | –                                   | –                                 | –                                 | Yes                                | Yes                                         | –                                          | –                               | –    | –                | –    | –                  | –             | –             | Yes           | Yes          |                |  |     |              |
| Mechanical limit speed n <sub>max</sub> in rpm                                                                                                           |                                          |                                |                                                                                                     |                            |                                 |                                 |                                     |                                   |                                   |                                    |                                             |                                            |                                 |      |                  |      |                    |               |               |               |              |                |  |     |              |
| Standard                                                                                                                                                 | 3600                                     | 3600                           | 3600                                                                                                | 3600                       | 3600                            | 3600                            | 3600                                | 3600                              | 3000                              | 3000                               | 3000                                        | 3000                                       | 3000                            | 2500 | 2500             | 2500 | 2200               | 2200          | 2200          | 2100          | 2100         |                |  |     |              |
| IM V1                                                                                                                                                    | –                                        | –                              | 3100                                                                                                | 3100                       | 3100                            | 3100                            | 3100                                | –                                 | –                                 | –                                  | 2600                                        | 2600                                       | 2200                            | 2200 | 2200             | 1900 | 1900               | 1900          | 1800          | 1800          | 1800         |                |  |     |              |
| Mechanical limit frequency f <sub>max</sub> in Hz                                                                                                        |                                          |                                |                                                                                                     |                            |                                 |                                 |                                     |                                   |                                   |                                    |                                             |                                            |                                 |      |                  |      |                    |               |               |               |              |                |  |     |              |
| Standard                                                                                                                                                 | 60                                       | 60                             | 60                                                                                                  | 60                         | 60                              | 60                              | 60                                  | 50                                | 50                                | 50                                 | 100                                         | 100                                        | 83                              | 83   | 83               | 73   | 73                 | 73            | 70            | 70            | 70           |                |  |     |              |
| IM V1                                                                                                                                                    | –                                        | –                              | 52                                                                                                  | 52                         | 52                              | 52                              | 52                                  | –                                 | –                                 | –                                  | 87                                          | 87                                         | 73                              | 73   | 73               | 63   | 63                 | 63            | 60            | 60            | 60           |                |  |     |              |

1) Voltages for 60 Hz can be ordered with voltage code 9 and the appropriate order code.

2) The noise values for 2-pole 1LL8 motors are for guidance only.

3) Operation is possible only with converter circuit ( $du/dt$  filter or sine-wave filter).

4) Not for 1LL8353 to 457 2-pole, 60 Hz.

5) Not for 1LL8453 to 457 2-pole, 60 Hz.

SIMOTICS N-compact Non-Standard Motors

Motors specially designed for converter-fed operation

Self-ventilated motors with through-ventilation

Cast-iron series 1LL8 with standard insulation for ≤ 500 V

Selection and ordering data (continued)

| Operating values at rated output with sinusoidal infeed                                                                                                                                                                                                                                                                                                             |                                      |                                |                                                                                  |                        |                                                                                                |                                |                                                            |                               |                               |                 |                                         |                                        |                                 | Cast-iron series |                                   |               |      | $m_{IM\ B3}$ | $J$  | Torque class |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------|--------------------------------|----------------------------------------------------------------------------------|------------------------|------------------------------------------------------------------------------------------------|--------------------------------|------------------------------------------------------------|-------------------------------|-------------------------------|-----------------|-----------------------------------------|----------------------------------------|---------------------------------|------------------|-----------------------------------|---------------|------|--------------|------|--------------|
| $P_{rated}$ ,<br>50 Hz                                                                                                                                                                                                                                                                                                                                              | $P_{rated}$ ,<br>60 Hz <sup>1)</sup> | Frame size                     | $n_{rated}$ ,<br>50 Hz                                                           | $T_{rated}$ ,<br>50 Hz | $\eta_{rated}$ ,<br>50 Hz, 4/4                                                                 | $\eta_{rated}$ ,<br>50 Hz, 3/4 | $\cos\varphi_{rated}$ ,<br>50 Hz, 4/4                      | $I_{rated}$ ,<br>50 Hz, 400 V | $I_{rated}$ ,<br>50 Hz, 690 V | $T_B/I_{rated}$ | $L_{pfA}$ ,<br>50Hz, tolerance +3 dB(A) | $L_{WA}$ ,<br>50Hz, tolerance +3 dB(A) | 1LL8 – with standard insulation |                  |                                   |               |      |              |      |              |
| kW                                                                                                                                                                                                                                                                                                                                                                  | kW                                   | FS                             | rpm                                                                              | Nm                     | %                                                                                              | %                              |                                                            | A                             | A                             |                 | dB(A)                                   | dB(A)                                  | Order No.                       | kg               | kgm <sup>2</sup>                  | CL            |      |              |      |              |
| • Cooling: Self-ventilated with through-ventilation (IC 01)<br>• Converter-fed operation: Specially for operation on SINAMICS or SIMOVERT MASTERDRIVES with standard insulation for voltages of ≤ 500 V<br>• Insulation: Thermal class 155 (temperature class F), IP23 degree of protection, utilization in accordance with thermal class 155 (temperature class F) |                                      |                                |                                                                                  |                        |                                                                                                |                                |                                                            |                               |                               |                 |                                         |                                        |                                 |                  |                                   |               |      |              |      |              |
| 6-pole: 1000 rpm at 50 Hz, 1200 rpm at 60 Hz <sup>1)</sup>                                                                                                                                                                                                                                                                                                          |                                      |                                |                                                                                  |                        |                                                                                                |                                |                                                            |                               |                               |                 |                                         |                                        |                                 |                  |                                   |               |      |              |      |              |
| 250                                                                                                                                                                                                                                                                                                                                                                 | 285                                  | 315                            | 988                                                                              | 2420                   | 95.0                                                                                           | 95.0                           | 0.88                                                       | 430                           | 250                           | 2.6             | 70                                      | 84                                     | 1LL8315-6PC                     | 1300             | 6.0                               | 10            |      |              |      |              |
| 315                                                                                                                                                                                                                                                                                                                                                                 | 360                                  | 315                            | 988                                                                              | 3040                   | 95.2                                                                                           | 95.2                           | 0.89                                                       | 540                           | 310                           | 2.6             | 70                                      | 84                                     | 1LL8317-6PC                     | 1500             | 7.3                               | 10            |      |              |      |              |
| 400                                                                                                                                                                                                                                                                                                                                                                 | 460                                  | 355                            | 991                                                                              | 3850                   | 95.6                                                                                           | 95.8                           | 0.88                                                       | 690                           | 400                           | 2.5             | 73                                      | 88                                     | 1LL8355-6PC                     | 2000             | 13                                | 10            |      |              |      |              |
| 500                                                                                                                                                                                                                                                                                                                                                                 | 575                                  | 355                            | 992                                                                              | 4820                   | 95.9                                                                                           | 96.2                           | 0.88                                                       | 860                           | 495                           | 2.6             | 73                                      | 88                                     | 1LL8357-6PC                     | 2200             | 16                                | 10            |      |              |      |              |
| 560                                                                                                                                                                                                                                                                                                                                                                 | 645                                  | 400                            | 993                                                                              | 5390                   | 96.1                                                                                           | 96.1                           | 0.86                                                       | 980                           | 570                           | 2.6             | 76                                      | 91                                     | 1LL8403-6PC                     | 2800             | 21                                | 10            |      |              |      |              |
| 630                                                                                                                                                                                                                                                                                                                                                                 | 725                                  | 400                            | 993                                                                              | 6060                   | 96.2                                                                                           | 96.4                           | 0.87                                                       | 1080                          | 630                           | 2.6             | 76                                      | 91                                     | 1LL8405-6PC                     | 3000             | 24                                | 10            |      |              |      |              |
| 710                                                                                                                                                                                                                                                                                                                                                                 | 815                                  | 400                            | 993                                                                              | 6830                   | 96.2                                                                                           | 96.4                           | 0.88                                                       | 1220                          | 700                           | 2.5             | 76                                      | 91                                     | 1LL8407-6PC                     | 3200             | 27                                | 10            |      |              |      |              |
| 800                                                                                                                                                                                                                                                                                                                                                                 | 920                                  | 450                            | 993                                                                              | 7700                   | 96.3                                                                                           | 96.5                           | 0.86                                                       | –                             | 810                           | 2.5             | 78                                      | 93                                     | 1LL8453-6PD                     | 4000             | 35                                | 7             |      |              |      |              |
| 900                                                                                                                                                                                                                                                                                                                                                                 | 1035                                 | 450                            | 992                                                                              | 8660                   | 96.3                                                                                           | 96.6                           | 0.87                                                       | –                             | 900                           | 2.4             | 78                                      | 93                                     | 1LL8455-6PD                     | 4200             | 39                                | 7             |      |              |      |              |
| 1000                                                                                                                                                                                                                                                                                                                                                                | 1150                                 | 450                            | 993                                                                              | 9620                   | 96.4                                                                                           | 96.7                           | 0.88                                                       | –                             | 990                           | 2.5             | 78                                      | 93                                     | 1LL8457-6PD                     | 4500             | 44                                | 7             |      |              |      |              |
| 8-pole: 750 rpm at 50 Hz, 900 rpm at 60 Hz <sup>1)</sup>                                                                                                                                                                                                                                                                                                            |                                      |                                |                                                                                  |                        |                                                                                                |                                |                                                            |                               |                               |                 |                                         |                                        |                                 |                  |                                   |               |      |              |      |              |
| 200                                                                                                                                                                                                                                                                                                                                                                 | 230                                  | 315                            | 738                                                                              | 2590                   | 94.2                                                                                           | 94.7                           | 0.82                                                       | 375                           | 215                           | 2.4             | 67                                      | 81                                     | 1LL8315-8PC                     | 1300             | 6.0                               | 10            |      |              |      |              |
| 250                                                                                                                                                                                                                                                                                                                                                                 | 285                                  | 315                            | 738                                                                              | 3240                   | 94.5                                                                                           | 95.1                           | 0.82                                                       | 465                           | 270                           | 2.4             | 67                                      | 81                                     | 1LL8317-8PC                     | 1500             | 7.3                               | 10            |      |              |      |              |
| 315                                                                                                                                                                                                                                                                                                                                                                 | 360                                  | 355                            | 740                                                                              | 4070                   | 95.0                                                                                           | 95.2                           | 0.83                                                       | 580                           | 335                           | 2.4             | 69                                      | 84                                     | 1LL8355-8PC                     | 2000             | 13                                | 10            |      |              |      |              |
| 400                                                                                                                                                                                                                                                                                                                                                                 | 460                                  | 355                            | 740                                                                              | 5160                   | 95.1                                                                                           | 95.4                           | 0.84                                                       | 720                           | 420                           | 2.3             | 69                                      | 84                                     | 1LL8357-8PC                     | 2200             | 16                                | 10            |      |              |      |              |
| 450                                                                                                                                                                                                                                                                                                                                                                 | 515                                  | 400                            | 741                                                                              | 5800                   | 95.4                                                                                           | 95.6                           | 0.84                                                       | 810                           | 470                           | 2.3             | 72                                      | 87                                     | 1LL8403-8PD                     | 2800             | 21                                | 7             |      |              |      |              |
| 500                                                                                                                                                                                                                                                                                                                                                                 | 575                                  | 400                            | 741                                                                              | 6440                   | 95.6                                                                                           | 95.8                           | 0.84                                                       | 900                           | 520                           | 2.4             | 72                                      | 87                                     | 1LL8405-8PD                     | 3000             | 24                                | 7             |      |              |      |              |
| 560                                                                                                                                                                                                                                                                                                                                                                 | 645                                  | 400                            | 742                                                                              | 7210                   | 95.7                                                                                           | 95.9                           | 0.83                                                       | 1020                          | 590                           | 2.4             | 72                                      | 87                                     | 1LL8407-8PD                     | 3200             | 27                                | 7             |      |              |      |              |
| 630                                                                                                                                                                                                                                                                                                                                                                 | 745                                  | 450                            | 742                                                                              | 8100                   | 95.8                                                                                           | 96.0                           | 0.82                                                       | 1160                          | 670                           | 2.3             | 74                                      | 89                                     | 1LL8453-8PD                     | 4000             | 35                                | 7             |      |              |      |              |
| 710                                                                                                                                                                                                                                                                                                                                                                 | 815                                  | 450                            | 743                                                                              | 9130                   | 95.9                                                                                           | 96.2                           | 0.83                                                       | 1280                          | 750                           | 2.3             | 74                                      | 89                                     | 1LL8455-8PD                     | 4200             | 39                                | 7             |      |              |      |              |
| 800                                                                                                                                                                                                                                                                                                                                                                 | 920                                  | 450                            | 742                                                                              | 10300                  | 96.0                                                                                           | 96.0                           | 0.83                                                       | –                             | 840                           | 2.3             | 74                                      | 89                                     | 1LL8457-8PD                     | 4500             | 44                                | 7             |      |              |      |              |
| Voltages                                                                                                                                                                                                                                                                                                                                                            |                                      |                                | No. of poles                                                                     |                        | Motor type                                                                                     |                                | Version                                                    |                               |                               |                 |                                         |                                        |                                 | Order code(s)    |                                   |               |      |              |      |              |
| 50 Hz                                                                                                                                                                                                                                                                                                                                                               | 400 VΔ/690 VY <sup>2)</sup>          | 6                              | 1LL8315 ... 453                                                                  |                        | Standard                                                                                       |                                |                                                            |                               |                               |                 | 8                                       | –                                      |                                 |                  |                                   |               |      |              |      |              |
|                                                                                                                                                                                                                                                                                                                                                                     |                                      |                                | 1LL8315 ... 455                                                                  |                        | Standard                                                                                       |                                |                                                            |                               |                               |                 |                                         | 8                                      |                                 | –                |                                   |               |      |              |      |              |
|                                                                                                                                                                                                                                                                                                                                                                     | 690 VΔ <sup>2)</sup>                 | 6                              | 1LL8455 ... 457                                                                  |                        | Standard                                                                                       |                                |                                                            |                               |                               |                 | 7                                       |                                        |                                 | –                |                                   |               |      |              |      |              |
|                                                                                                                                                                                                                                                                                                                                                                     |                                      |                                | 1LL8457                                                                          |                        | Standard                                                                                       |                                |                                                            |                               |                               |                 |                                         | 7                                      |                                 | –                |                                   |               |      |              |      |              |
|                                                                                                                                                                                                                                                                                                                                                                     | 400 VΔ                               | 6                              | 1LL8315 ... 453                                                                  |                        | Without additional charge                                                                      |                                |                                                            |                               |                               |                 | 4                                       |                                        |                                 | –                |                                   |               |      |              |      |              |
|                                                                                                                                                                                                                                                                                                                                                                     |                                      |                                | 1LL8315 ... 455                                                                  |                        | Without additional charge                                                                      |                                |                                                            |                               |                               |                 |                                         | 4                                      |                                 | –                |                                   |               |      |              |      |              |
|                                                                                                                                                                                                                                                                                                                                                                     | 500 VΔ                               | 6, 8                           | 1LL8315 ... 457                                                                  |                        | Without additional charge                                                                      |                                |                                                            |                               |                               |                 | 5                                       |                                        |                                 | –                |                                   |               |      |              |      |              |
|                                                                                                                                                                                                                                                                                                                                                                     |                                      |                                | Further voltages <sup>1)</sup>                                                   |                        | For add. charges, code numbers, order codes and descriptions, see suppl. and special versions. |                                |                                                            |                               |                               |                 |                                         |                                        |                                 |                  | 9                                 | ...           |      |              |      |              |
| For types of construction                                                                                                                                                                                                                                                                                                                                           |                                      |                                | see suppl.                                                                       |                        | Motor type                                                                                     |                                | Version                                                    |                               |                               |                 |                                         |                                        |                                 | Order code(s)    |                                   |               |      |              |      |              |
| Without flange                                                                                                                                                                                                                                                                                                                                                      |                                      | IM B3                          | 1LL8315 ... 457                                                                  |                        | Standard                                                                                       |                                |                                                            |                               |                               |                 | 0                                       | –                                      |                                 |                  |                                   |               |      |              |      |              |
| With flange                                                                                                                                                                                                                                                                                                                                                         |                                      | IM V1 without protective cover | 1LL8315 ... 457                                                                  |                        | With additional charge                                                                         |                                |                                                            |                               |                               |                 |                                         | 8                                      |                                 | –                |                                   |               |      |              |      |              |
|                                                                                                                                                                                                                                                                                                                                                                     |                                      | IM V1 with protective cover    | 1LL8315 ... 457                                                                  |                        | With additional charge                                                                         |                                | The "Second shaft extension" option (K16) is not possible. |                               |                               |                 |                                         |                                        |                                 | 4                | –                                 |               |      |              |      |              |
|                                                                                                                                                                                                                                                                                                                                                                     |                                      | IM B35                         | 1LL8315 ... 457                                                                  |                        | With additional charge                                                                         |                                |                                                            |                               |                               |                 |                                         |                                        |                                 |                  | 6                                 | –             |      |              |      |              |
| Special versions                                                                                                                                                                                                                                                                                                                                                    |                                      |                                |                                                                                  |                        |                                                                                                |                                |                                                            |                               |                               |                 |                                         |                                        |                                 |                  |                                   | Order code(s) |      |              |      |              |
| Options                                                                                                                                                                                                                                                                                                                                                             |                                      |                                | For add. charges, order codes and descriptions, see suppl. and special versions. |                        |                                                                                                |                                |                                                            |                               |                               |                 |                                         |                                        |                                 |                  | 1LL8 ... - ... -Z ...+...+...+... |               |      |              |      |              |
|                                                                                                                                                                                                                                                                                                                                                                     |                                      |                                |                                                                                  |                        |                                                                                                |                                |                                                            |                               |                               |                 |                                         |                                        |                                 |                  |                                   |               |      |              |      |              |
|                                                                                                                                                                                                                                                                                                                                                                     |                                      |                                |                                                                                  |                        |                                                                                                |                                |                                                            |                               |                               |                 |                                         |                                        |                                 |                  |                                   |               |      |              |      |              |
|                                                                                                                                                                                                                                                                                                                                                                     |                                      |                                |                                                                                  |                        |                                                                                                |                                |                                                            |                               |                               |                 |                                         |                                        |                                 |                  |                                   |               |      |              |      |              |
| Parallel feeders required                                                                                                                                                                                                                                                                                                                                           |                                      |                                |                                                                                  |                        |                                                                                                |                                |                                                            |                               |                               |                 |                                         |                                        |                                 |                  |                                   |               |      |              |      |              |
| 400 V                                                                                                                                                                                                                                                                                                                                                               | –                                    | Yes                            | Yes                                                                              | Yes                    | –                                                                                              | Yes                            | Yes                                                        | Yes                           | –                             | –               | –                                       | –                                      | Yes                             | –                | –                                 | Yes           | Yes  | Yes          |      |              |
| 500 V                                                                                                                                                                                                                                                                                                                                                               | –                                    | –                              | –                                                                                | Yes                    | –                                                                                              | –                              | –                                                          | Yes                           | Yes                           | Yes             | –                                       | –                                      | –                               | –                | –                                 | –             | Yes  | Yes          |      |              |
| 690 V                                                                                                                                                                                                                                                                                                                                                               | –                                    | –                              | –                                                                                | –                      | –                                                                                              | –                              | –                                                          | –                             | –                             | –               | –                                       | –                                      | –                               | –                | –                                 | –             | –    | –            |      |              |
| Mechanical limit speed $n_{max}$ in rpm                                                                                                                                                                                                                                                                                                                             |                                      |                                |                                                                                  |                        |                                                                                                |                                |                                                            |                               |                               |                 |                                         |                                        |                                 |                  |                                   |               |      |              |      |              |
| Standard                                                                                                                                                                                                                                                                                                                                                            | 2950                                 | 2950                           | 2500                                                                             | 2500                   | 2200                                                                                           | 2200                           | 2200                                                       | 2100                          | 2100                          | 2100            | 2950                                    | 2950                                   | 2500                            | 2500             | 2200                              | 2200          | 2200 | 2100         | 2100 | 2100         |
| IM V1                                                                                                                                                                                                                                                                                                                                                               | 2600                                 | 2600                           | 2200                                                                             | 2200                   | 1900                                                                                           | 1900                           | 1900                                                       | 1800                          | 1800                          | 1800            | 2600                                    | 2600                                   | 2200                            | 2200             | 1900                              | 1900          | 1800 | 1800         | 1800 |              |
| Mechanical limit frequency $f_{max}$ in Hz                                                                                                                                                                                                                                                                                                                          |                                      |                                |                                                                                  |                        |                                                                                                |                                |                                                            |                               |                               |                 |                                         |                                        |                                 |                  |                                   |               |      |              |      |              |
| Standard                                                                                                                                                                                                                                                                                                                                                            | 147                                  | 147                            | 125                                                                              | 125                    | 110                                                                                            | 110                            | 110                                                        | 105                           | 105                           | 105             | 196                                     | 196                                    | 166                             | 166              | 146                               | 146           | 140  | 140          | 140  |              |
| IM V1                                                                                                                                                                                                                                                                                                                                                               | 130                                  | 130                            | 110                                                                              | 110                    | 95                                                                                             | 95                             | 95                                                         | 90                            | 90                            | 90              | 173                                     | 173                                    | 146                             | 146              | 126                               | 126           | 120  | 120          | 120  |              |