WONDER® Since 1988

*In Synchronization with the Future*

ISO14001 ISO9001 ISO45001 RoHS SASO

# SWEA Series

## Three Phase Premium Efficiency Asynchronous Aluminum Motors

## IE3

# SWEA Series

## Three Phase Premium Efficiency Asynchronous Aluminum Motors

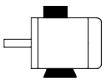
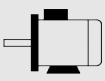
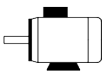
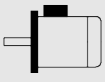
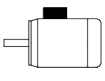
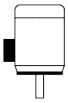
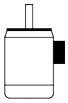

## General Information:

SWEA Series motors are Wonder-designed premium efficiency aluminum motors. They are for the application of carpentry, fans, pumps, compressors and other mechanical equipment. The efficiency indicators are in line with IE3. Wonder three phase asynchronous motors are widely applied in general machinery and industries such as pumps & water treatment, road machinery, petroleum, chemical & metallurgy, cement and papermilling.

## Technical Characteristics:

- IP55 protection, class F insulation, B-level temperature rise, S1 duty;
- Rated voltage 400V;
- Rated frequency 50Hz;
- Operation ambient temperature: -20°C~40°C;
- Operation altitude ≤1000m.
- Y-connection for motors up to 3kW, △-connection for 4kW and above.
- Cooling method: IC411/IC416.

## Mounting Arrangements:

| Types | Basic Type of Construction | Derived Types of Construction | | | | |
|---|---|---|---|---|---|---|
| | IM B3<br>IM 1001 | IM V5<br>IM 1011 | IM V6<br>IM 1031 | IM B6<br>IM 1051 | IM B7<br>IM 1061 | IM B8<br>IM 1071 |
| SWEA 80-180 |  |  |  |  |  |  |
| | IM B35<br>IM 2001 | IM V15<br>IM 2011 | IM V36<br>IM 2031 | *<br>IM 2051 | *<br>IM 2061 | *<br>IM 2071 |
| SWEA 80-180 |  |  |  |  |  |  |
| | IM B34<br>IM 2101 | *<br>IM 2111 | *<br>IM 2131 | *<br>IM 2151 | *<br>IM 2161 | *<br>IM 2171 |
| SWEA 80-180 |  |  |  |  |  |  |
| | IM B5<br>IM 3001 | IM V1<br>IM 3011 | IM V3<br>IM 3031 | | | |
| SWEA 80-180 |  |  |  | | | |
| | IM B14<br>IM 3601 | IM V18<br>IM 3611 | IM V19<br>IM 3631 | | | |
| SWEA 80-180 |  |  |  | | | |

Basic types of construction may be used in all derived types of construction.
1) "*" means not-defined mounting by IEC 60034-7.
2) for the types of construction IM V6, IM B6, IM B8 inquiry is necessary.

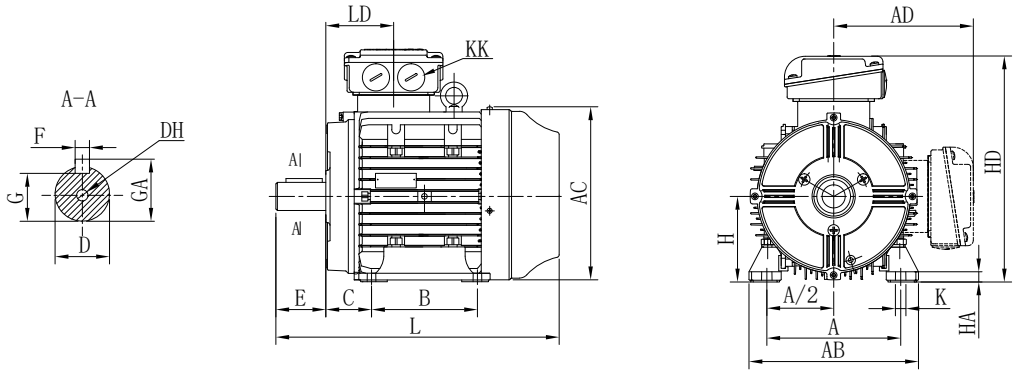
# Technical Specifications

| Rated Output | | IEC Frame | Rated Speed r/m | Full Load Current $I_n$( A) | | Effciency η% | | | Power Factor cosφ | | | Locked Rotor Current $I_L/I_n$ | Locked Rotor Torque $T_L/T_n$ | Break-down Torque $T_b/T_n$ | Sound LP dB(A) | Moment of Inertia J(kgm²) | Weight kg |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | % of Full Load | | | | | | | | | | | |
| kW | HP | | | 3810V | 400V | 100 | 75 | 50 | 100 | 75 | 50 | | | | | | |
| 3000r/m (2 Pole) 50Hz | | | | | | | | | | | | | | | | | |
| 0.75 | 1 | 80M1 | 2855 | 1.77 | 1.68 | 80.7 | 81.1 | 79.4 | 0.80 | 0.74 | 0.62 | 6.8 | 3.3 | 3.7 | 66 | 0.001 | 11 |
| 1.1 | 1.5 | 80M2 | 2855 | 2.53 | 2.40 | 82.7 | 82.9 | 80.9 | 0.80 | 0.73 | 0.60 | 7.5 | 3.5 | 3.8 | 66 | 0.001 | 12 |
| 1.5 | 2 | 90S | 2900 | 3.08 | 2.92 | 84.2 | 84.6 | 83.5 | 0.88 | 0.85 | 0.79 | 8.6 | 2.2 | 2.9 | 67 | 0.002 | 17 |
| 2.2 | 3 | 90L | 2900 | 4.37 | 4.15 | 85.9 | 86.6 | 85.1 | 0.89 | 0.87 | 0.81 | 8.3 | 2.4 | 2.9 | 67 | 0.003 | 19 |
| 3 | 4 | 100L | 2910 | 5.88 | 5.59 | 87.1 | 87.3 | 85.9 | 0.89 | 0.87 | 0.81 | 10.0 | 2.8 | 3.4 | 68 | 0.005 | 26 |
| 4 | 5.5 | 112M | 2910 | 7.84 | 7.45 | 88.1 | 88.4 | 87.6 | 0.88 | 0.86 | 0.80 | 9.0 | 2.3 | 3.1 | 68 | 0.013 | 29 |
| 5.5 | 7.5 | 132S1 | 2925 | 10.5 | 10.0 | 89.2 | 89.7 | 88.7 | 0.89 | 0.86 | 0.81 | 8.6 | 2.1 | 3.3 | 69 | 0.024 | 42 |
| 7.5 | 10 | 132S2 | 2925 | 14.1 | 13.4 | 90.1 | 90.6 | 89.7 | 0.90 | 0.88 | 0.82 | 9.5 | 2.4 | 3.4 | 69 | 0.025 | 48 |
| 11 | 15 | 160M1 | 2950 | 20.8 | 19.3 | 91.2 | 91.3 | 90.3 | 0.89 | 0.86 | 0.80 | 8.7 | 2.4 | 3.3 | 70 | 0.056 | 97* |
| 15 | 20 | 160M2 | 2950 | 27.9 | 26.5 | 91.9 | 91.8 | 90.8 | 0.89 | 0.87 | 0.82 | 8.8 | 2.6 | 3.3 | 70 | 0.064 | 107* |
| 18.5 | 25 | 160L | 2950 | 34.2 | 32.5 | 92.4 | 92.5 | 91.6 | 0.89 | 0.87 | 0.82 | 8.9 | 2.8 | 3.4 | 72 | 0.073 | 124* |
| 22 | 30 | 180M | 2955 | 40.1 | 38.1 | 92.7 | 92.6 | 91.5 | 0.90 | 0.88 | 0.84 | 9.4 | 2.6 | 3.9 | 72 | 0.105 | 145* |
| 1500r/m (4 Pole) 50Hz | | | | | | | | | | | | | | | | | |
| 0.75 | 1.0 | 80M2 | 1425 | 1.89 | 1.80 | 82.5 | 82.6 | 80.0 | 0.73 | 0.65 | 0.52 | 7.3 | 3.3 | 3.5 | 64 | 0.005 | 16 |
| 1.10 | 1.5 | 90S | 1440 | 2.55 | 2.42 | 84.1 | 84.4 | 82.9 | 0.78 | 0.72 | 0.62 | 7.0 | 2.2 | 2.7 | 64 | 0.006 | 17 |
| 1.50 | 2.0 | 90L | 1440 | 3.38 | 3.21 | 85.3 | 85.5 | 83.8 | 0.79 | 0.73 | 0.63 | 7.5 | 2.4 | 2.7 | 65 | 0.007 | 19 |
| 2.20 | 3.0 | 100L1 | 1445 | 4.76 | 4.52 | 86.7 | 87.1 | 86.1 | 0.81 | 0.76 | 0.66 | 9.0 | 2.6 | 2.9 | 66 | 0.008 | 28 |
| 3.00 | 4.0 | 100L2 | 1445 | 6.42 | 6.10 | 87.7 | 88.2 | 87.1 | 0.81 | 0.76 | 0.66 | 9.2 | 2.7 | 2.9 | 66 | 0.009 | 34 |
| 4.00 | 5.5 | 112M | 1450 | 8.47 | 8.05 | 88.6 | 89.3 | 88.1 | 0.81 | 0.77 | 0.67 | 8.3 | 2.8 | 2.8 | 67 | 0.018 | 36 |
| 5.50 | 7.5 | 132S | 1460 | 11.5 | 10.9 | 89.6 | 89.7 | 88.3 | 0.81 | 0.76 | 0.66 | 9.0 | 2.6 | 3.0 | 68 | 0.037 | 54 |
| 7.50 | 10.0 | 132M | 1460 | 15.4 | 14.6 | 90.4 | 90.5 | 89.3 | 0.82 | 0.77 | 0.68 | 8.9 | 2.8 | 3.0 | 68 | 0.045 | 63 |
| 11.00 | 15.0 | 160M | 1470 | 21.5 | 20.4 | 91.4 | 91.5 | 90.5 | 0.85 | 0.81 | 0.73 | 8.6 | 2.6 | 3.1 | 68 | 0.105 | 100* |
| 15.00 | 20.0 | 160L | 1470 | 29.1 | 27.3 | 92.1 | 92.2 | 91.5 | 0.86 | 0.82 | 0.73 | 9.0 | 3.0 | 3.3 | 68 | 0.115 | 117* |
| 18.50 | 25.0 | 180M | 1475 | 35.7 | 33.5 | 92.6 | 92.7 | 91.5 | 0.86 | 0.82 | 0.73 | 9.0 | 2.5 | 3.0 | 73 | 0.166 | 152* |
| 22.00 | 30.0 | 180L | 1475 | 42.3 | 39.7 | 93.0 | 93.1 | 91.7 | 0.86 | 0.82 | 0.73 | 9.2 | 2.8 | 3.2 | 73 | 0.188 | 171* |
| 1000r/m (6 Pole) 50Hz | | | | | | | | | | | | | | | | | |
| 0.75 | 1 | 90S | 950 | 2.09 | 1.99 | 78.9 | 78.8 | 75.9 | 0.96 | 0.61 | 0.49 | 4.5 | 1.6 | 2.4 | 52 | 0.005 | 16 |
| 1.1 | 1.5 | 90L | 950 | 2.95 | 2.80 | 81.0 | 81.4 | 79.4 | 0.70 | 0.64 | 0.50 | 5.0 | 1.6 | 2.4 | 52 | 0.006 | 20 |
| 1.5 | 2 | 100L | 955 | 3.93 | 3.75 | 82.5 | 82.3 | 79.9 | 0.70 | 0.64 | 0.53 | 6.0 | 1.5 | 2.2 | 54 | 0.008 | 29 |
| 2.2 | 3 | 112M | 960 | 5.43 | 5.16 | 84.3 | 85.1 | 83.6 | 0.73 | 0.67 | 0.55 | 9.2 | 2.2 | 2.5 | 54 | 0.015 | 31 |
| 3 | 4 | 132S | 970 | 7.20 | 6.84 | 85.6 | 85.8 | 84.4 | 0.74 | 0.68 | 0.57 | 6.8 | 2.0 | 2.5 | 56 | 0.035 | 47 |
| 4 | 5.5 | 132M1 | 970 | 9.21 | 8.75 | 86.8 | 86.9 | 85.4 | 0.76 | 0.70 | 0.59 | 6.8 | 2.1 | 2.5 | 56 | 0.05 | 57 |
| 5.5 | 7.5 | 132M2 | 970 | 12.5 | 11.9 | 88.0 | 88.1 | 86.8 | 0.76 | 0.71 | 0.60 | 7.2 | 2.2 | 2.4 | 57 | 0.06 | 63 |
| 7.5 | 10 | 160M | 975 | 16.8 | 15.4 | 89.1 | 89.3 | 88.2 | 0.79 | 0.72 | 0.60 | 7.5 | 2.4 | 2.4 | 59 | 0.13 | 97* |
| 11 | 15 | 160L | 975 | 24.4 | 22.3 | 90.3 | 90.6 | 89.4 | 0.79 | 0.72 | 0.60 | 7.8 | 2.9 | 2.7 | 59 | 0.24 | 117* |
| 15 | 20 | 180L | 980 | 31.6 | 30.1 | 91.2 | 91.1 | 89.7 | 0.79 | 0.73 | 0.61 | 8.7 | 2.9 | 3.3 | 60 | 0.35 | 152* |

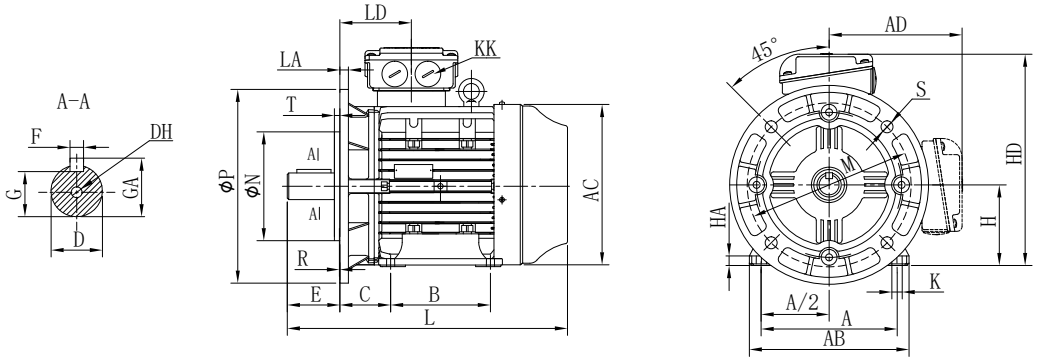
"*" means the maximum weight of motor.

# B3, B35, B5 Mounting and Overall Dimensions

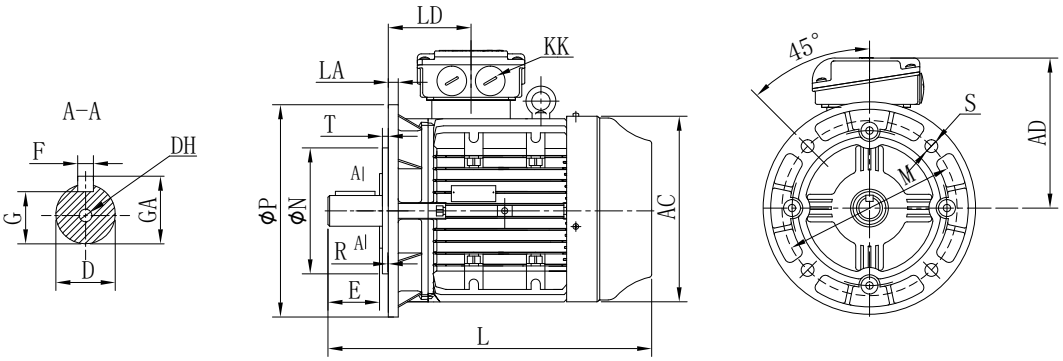
## B3




## B35



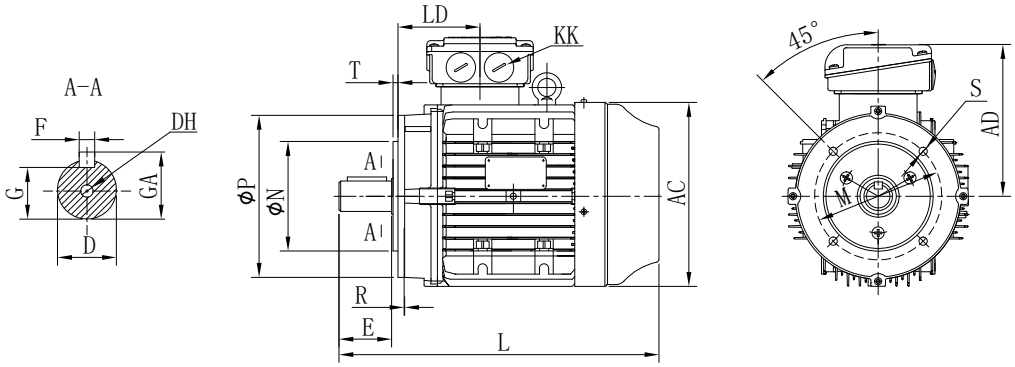

## B5



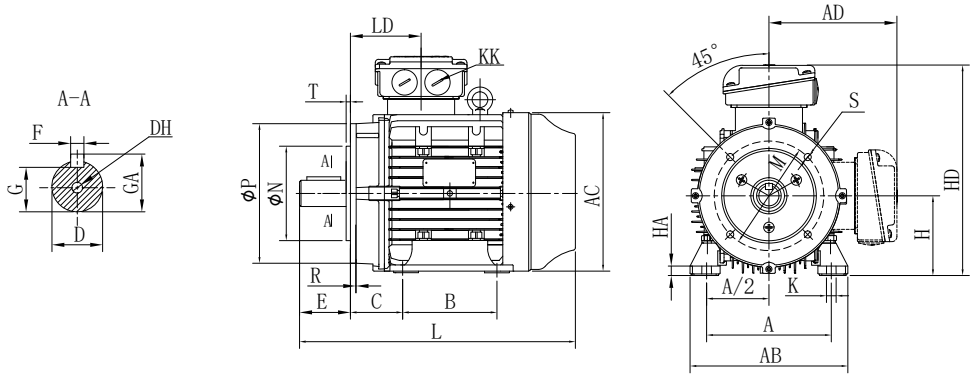

| Frame Size | Mounting and Overall Dimensions (mm) | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | A | A/2 | B | C | D | DH | E | F | G | H | K | KK | M | N | P | R | S | T | AB | AC | AD | HD | GA | LA | LD | HA | L |
| 80M-2 | 125 | 62.5 | 100 | 50 | 19 | M6×16 | 40 | 6 | 15.5 | 80 | 4-Φ10 | M20×1.5 | 165 | 130 | 200 | 0±1.5 | 4-Φ12 | 3.5 | 154 | 157 | 124 | 204 | 21.5 | 9.5 | 75 | 10 | 295 |
| 80M2-4 | 125 | 62.5 | 100 | 50 | 19 | M6×16 | 40 | 6 | 15.5 | 80 | 4-Φ10 | M20×1.5 | 165 | 130 | 200 | 0±1.5 | 4-Φ12 | 3.5 | 154 | 157 | 124 | 204 | 21.5 | 9.5 | 75 | 10 | 330 |
| 90S | 140 | 70 | 100 | 56 | 24 | M8×20 | 50 | 8 | 20.0 | 90 | 4-Φ10 | M25×1.5 | 165 | 130 | 200 | 0±1.5 | 4-Φ12 | 3.5 | 180 | 175 | 143 | 233 | 27 | 10 | 87 | 10 | 324 |
| 90L | 140 | 70 | 125 | 56 | 24 | M8×20 | 50 | 8 | 20.0 | 90 | 4-Φ10 | M25×1.5 | 165 | 130 | 200 | 0±1.5 | 4-Φ12 | 3.5 | 180 | 175 | 143 | 233 | 27 | 10 | 87 | 12 | 349 |
| 100L1-4 100L 2, 6 | 160 | 80 | 140 | 63 | 28 | M10×22 | 60 | 8 | 24.0 | 100 | 4-Φ12 | M25×1.5 | 215 | 180 | 250 | 0±2 | 4-Φ14.5 | 4.0 | 200 | 199 | 159 | 259 | 31 | 12 | 78 | 12 | 373 |
| 100L2-4 | 160 | 80 | 140 | 63 | 28 | M10×22 | 60 | 8 | 24.0 | 100 | 4-Φ12 | M25×1.5 | 215 | 180 | 250 | 0±2 | 4-Φ14.5 | 4.0 | 200 | 199 | 159 | 259 | 31 | 12 | 78 | 12 | 418 |
| 112M | 190 | 95 | 140 | 70 | 28 | M10×22 | 60 | 8 | 24.0 | 112 | 4-Φ12 | M25×1.5 | 215 | 180 | 250 | 0±2 | 4-Φ14.5 | 4.0 | 230 | 222 | 169 | 281 | 31 | 12 | 85 | 12 | 380 |
| 132S | 216 | 108 | 140 | 89 | 38 | M12×28 | 80 | 10 | 33.0 | 132 | 4-Φ12 | M32×1.5 | 265 | 230 | 300 | 0±2 | 4-Φ14.5 | 4.0 | 264 | 260 | 193 | 325 | 41 | 14 | 129 | 15 | 475 |
| 132M | 216 | 108 | 178 | 89 | 38 | M12×28 | 80 | 10 | 33.0 | 132 | 4-Φ12 | M32×1.5 | 265 | 230 | 300 | 0±2 | 4-Φ14.5 | 4.0 | 264 | 260 | 193 | 325 | 41 | 14 | 129 | 15 | 513 |
| 160M | 254 | 127 | 210 | 108 | 42 | M16×36 | 110 | 12 | 37.0 | 160 | 4-Φ14.5 | M40×1.5 | 300 | 250 | 350 | 0±3 | 4-Φ18.5 | 5.0 | 314 | 314 | 237 | 397 | 45 | 15 | 154 | 22 | 612 |
| 160L | 254 | 127 | 254 | 108 | 42 | M16×36 | 110 | 12 | 37.0 | 160 | 4-Φ14.5 | M40×1.5 | 300 | 250 | 350 | 0±3 | 4-Φ18.5 | 5.0 | 314 | 314 | 237 | 397 | 45 | 15 | 154 | 22 | 656 |
| 180M | 279 | 139.5 | 241 | 121 | 48 | M16×36 | 110 | 14 | 42.5 | 180 | 4-Φ14.5 | M40×1.5 | 300 | 250 | 350 | 0±3 | 4-Φ18.5 | 5.0 | 317 | 355 | 255 | 435 | 51.5 | 15 | 159 | 25 | 685 |
| 180L | 279 | 139.5 | 279 | 121 | 48 | M16×36 | 110 | 14 | 42.5 | 180 | 4-Φ14.5 | M40×1.5 | 300 | 250 | 350 | 0±3 | 4-Φ18.5 | 5.0 | 347 | 355 | 255 | 435 | 51.5 | 15 | 159 | 25 | 723 |

# B14, B34 Mounting and Overall Dimensions

## B14




## B34




| Frame Size | Mounting and Overall Dimensions (mm) | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | A | A/2 | B | C | D | DH | E | F | G | H | K | KK | M | N | P | R | S | T | AB | AC | AD | HD | GA | LD | HA | L |
| 80M-2 | 125 | 62.5 | 100 | 50 | 19 | M6×16 | 40 | 6 | 15.5 | 80 | 4-Φ10 | M20×1.5 | 100 | 80 | 120 | 0±1.5 | 4-M6 | 3 | 154 | 157 | 124 | 204 | 21.5 | 75 | 10 | 295 |
| 80M2-4 | 125 | 62.5 | 100 | 50 | 19 | M6×16 | 40 | 6 | 15.5 | 80 | 4-Φ10 | M20×1.5 | 100 | 80 | 120 | 0±1.5 | 4-M6 | 3 | 154 | 157 | 124 | 204 | 21.5 | 75 | 10 | 330 |
| 90S | 140 | 70 | 100 | 56 | 24 | M8×20 | 50 | 8 | 20 | 90 | 4-Φ10 | M25×1.5 | 115 | 95 | 140 | 0±1.5 | 4-M8 | 3 | 180 | 175 | 143 | 233 | 27 | 87 | 10 | 324 |
| 90L | 140 | 70 | 125 | 56 | 24 | M8×20 | 50 | 8 | 20 | 90 | 4-Φ10 | M25×1.5 | 115 | 95 | 140 | 0±1.5 | 4-M8 | 3 | 180 | 175 | 143 | 233 | 27 | 87 | 10 | 349 |
| 100L1-4<br>100L 2, 6 | 160 | 80 | 140 | 63 | 28 | M10×22 | 60 | 8 | 24 | 100 | 4-Φ12 | M25×1.5 | 130 | 110 | 160 | 0±2 | 4-M8 | 3.5 | 200 | 199 | 159 | 259 | 31 | 78 | 12 | 373 |
| 100L2-4 | 160 | 80 | 140 | 63 | 28 | M10×22 | 60 | 8 | 24 | 100 | 4-Φ12 | M25×1.5 | 130 | 110 | 160 | 0±2 | 4-M8 | 3.5 | 200 | 199 | 159 | 259 | 31 | 78 | 12 | 418 |
| 112M | 190 | 95 | 140 | 70 | 28 | M10×22 | 60 | 8 | 24 | 112 | 4-Φ12 | M25×1.5 | 130 | 110 | 160 | 0±2 | 4-M8 | 3.5 | 200 | 222 | 169 | 281 | 31 | 85 | 12 | 380 |
| 132S | 216 | 108 | 140 | 89 | 38 | M12×28 | 80 | 10 | 33 | 132 | 4-Φ12 | M32×1.5 | 165 | 130 | 200 | 0±2 | 4-M10 | 3.5 | 264 | 260 | 193 | 325 | 41 | 129 | 15 | 475 |
| 132M | 216 | 108 | 178 | 89 | 38 | M12×28 | 80 | 10 | 33 | 132 | 4-Φ12 | M32×1.5 | 165 | 130 | 200 | 0±2 | 4-M10 | 3.5 | 264 | 260 | 193 | 325 | 41 | 129 | 15 | 513 |

## Bearings

| Frame Size | Driving End | | Non-driving End | |
|---|---|---|---|---|
| | 2 Pole | 4~8 Pole | 2 Pole | 4~8 Pole |
| SWEA 80 | 6204-2Z/C3 | 6204-2Z/C3 | 6203-2Z/C3 | 6203-2Z/C3 |
| SWEA 90 | 6205-2Z/C3 | 6205-2Z/C3 | 6204-2Z/C3 | 6204-2Z/C3 |
| SWEA 100 | 6306-2Z/C3 | 6306-2Z/C3 | 6205-2Z/C3 | 6205-2Z/C3 |
| SWEA 112 | 6306-2Z/C3 | 6306-2Z/C3 | 6205-2Z/C3 | 6205-2Z/C3 |
| SWEA 132 | 6208-2Z/C3 | 6208-2Z/C3 | 6206-2Z/C3 | 6206-2Z/C3 |
| SWEA 160 | 6209-2Z/C3 | 6209-2Z/C3 | 6209-2Z/C3 | 6209-2Z/C3 |
| SWEA 180 | 6211/C3 | 6311/C3 | 6211/C3 | 6211/C3 |

WONDER

*Since 1988*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