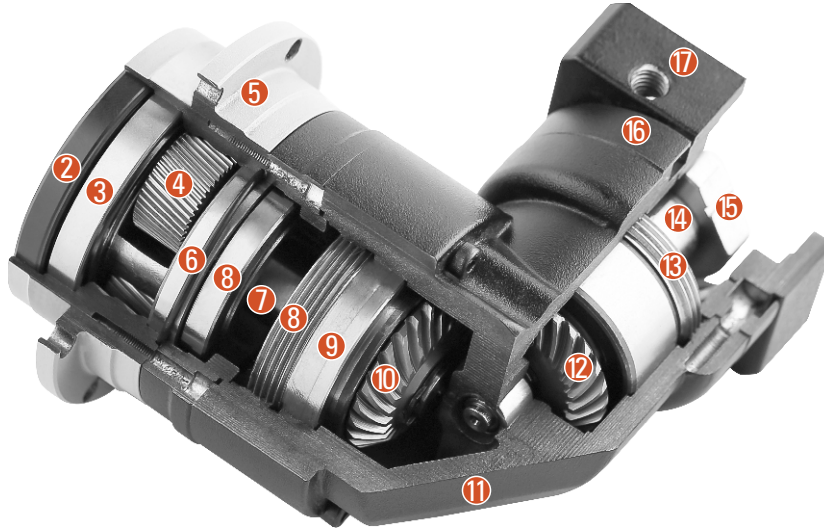


# SDR SERIES GEARBOX - PRODUCT SPECIFICATIONS

## Sectional View



- ① Output shaft
- ② Oil seal
- ③ Output shaft front bearing
- ④ Planetary gear
- ⑤ Front cover
- ⑥ Output shaft rear bearing
- ⑦ Solar wheel
- ⑧ Adjusting nut
- ⑨ Double row angular contact bearing
- ⑩ Output bevel gear
- ⑪ Right angle box
- ⑫ Input bevel gear
- ⑬ Lock nut
- ⑭ Input coupling
- ⑮ Locking device
- ⑯ Rear cover
- ⑰ Rear cover gasket

## Reducer Performance Data

| Specifications   |           | Node Number | Reduction Ratio | 064SDR                         | 090SDR | 110SDR | 140SDR | 200SDR |
|--|-----------|-------------|-----------------|--------------------------------|--------|--------|--------|--------|
| Rated Output Torque $T_{2N}$                                 | Nm        | 1           | 4               | 48                             | -      | -      | 560    | 1100   |
|  |           |             | 5               | 60                             | 160    | 330    | 650    | 1200   |
|  |           |             | 7               | 50                             | 140    | 300    | 550    | 1100   |
|  |           |             | 10              | 40                             | 100    | 230    | 450    | 900    |
|  |           |             | 14              | 42                             | 140    | 300    | 550    | 1100   |
|  |           |             | 20              | 40                             | 100    | 230    | 450    | 900    |
|  |           | 2           | 25              | 60                             | 160    | 330    | 650    | 1200   |
|  |           |             | 35              | 50                             | 140    | 300    | 550    | 1100   |
|  |           |             | 40              | 48                             | -      | -      | 560    | 1100   |
|  |           |             | 50              | 60                             | 160    | 330    | 650    | 1200   |
|  |           |             | 70              | 50                             | 140    | 300    | 550    | 1100   |
|  |           |             | 100             | 40                             | 100    | 230    | 450    | 900    |
|  |           |             | 140             | -                              | 140    | 300    | 550    | 1100   |
|  |           |             | 200             | -                              | 100    | 230    | 450    | 900    |
| Emergency Stop Torque $T_{2NCT}^2$                           | Nm        | 1,2         | 3~200           | 3 Times of Output Rated Torque |        |        |        |        |
| Rated Input Speed $n_{1H}$                                   | rpm       | 1,2         | 3~200           | 3000                           | 3000   | 3000   | 3000   | 3000   |
| Rated Input Speed $n_{1B}$                                   | rpm       | 1,2         | 3~200           | 6000                           | 6000   | 6000   | 6000   | 6000   |
| Super Precision Backlash P0                                  | arcmin    | 1           | 3~20            | -                              | ≤2     | ≤2     | ≤2     | ≤2     |
|  |           | 2           | 25~200          | -                              | ≤4     | ≤4     | ≤4     | ≤4     |
| Precision Backlash P1  | arcmin    | 1           | 3~20            | ≤4                             | ≤4     | ≤4     | ≤4     | ≤4     |
|  |           | 2           | 25~200          | -                              | ≤7     | ≤7     | ≤7     | ≤7     |
| Standard Backlash P2   | arcmin    | 1           | 3~20            | ≤6                             | ≤6     | ≤6     | ≤6     | ≤6     |
|  |           | 2           | 25~200          | -                              | ≤9     | ≤9     | ≤9     | ≤9     |
| Torsional Stiffness  | Nm/arcmin | 1,2         | 3~200           | 13                             | 31     | 82     | 151    | 440    |
| Maximum bending moment $M_{2B}^3$                            | Nm        | 1,2         | 3~200           | 120                            | 235    | 430    | 1300   | 3064   |
| Allowable Axial Force $F_{2aB}^3$                            | N         | 1,2         | 3~200           | 1050                           | 2850   | 2990   | 10590  | 16660  |
| Service Life   | hr        | 1,2         | 3~200           | 20000*                         |        |        |        |        |
| Efficiency $\eta$  | %         | 1           | 3~20            | ≥95%                           |        |        |        |        |
|  |           | 2           | 25~200          | ≥92%                           |        |        |        |        |
| Weight   | Kg        | 1           | 3~20            | 2.1                            | 5.9    | 10.5   | 21.9   | 50.9   |
|  |           | 2           | 25~200          | 1.9                            | 4.5    | 9.8    | 20.1   | 45.4   |
| Operating Temperature  | °C        | 1,2         | 3~200           | -10°C ~ +90°C                  |        |        |        |        |
| Lubrication  |           | 1,2         | 3~200           | Synthetic Lubricating Grease   |        |        |        |        |
| Protection Class   |           | 1,2         | 3~200           | IP65                           |        |        |        |        |
| Mounting Position  |           | 1,2         | 3~200           | Any Direction                  |        |        |        |        |
| Noise Level at 1m Distance ( $n_1=3000\text{rpm}$ , No Load) | dB(A)     | 1,2         | 3~200           | ≤63                            | ≤65    | ≤68    | ≤70    | ≤72    |

## 减速机转动惯量 Moment Of Inertia Of The Reducer

| Specifications          |                    | Node Number | Reduction Ratio | 064SDR | 090SDR | 110SDR | 140SDR | 200SDR |
|-------------------------|--------------------|-------------|-----------------|--------|--------|--------|--------|--------|
| Moment Of Inertia $J_1$ | Kg-cm <sup>2</sup> | 1           | 4~10            | 0.35   | 2.25   | 6.84   | 23.4   | 68.9   |
|                         |                    |             | 14              | 0.07   | 1.87   | 6.25   | 21.8   | 65.6   |
|                         |                    |             | 20              | 0.07   | 1.87   | 6.25   | 21.8   | 65.6   |
|                         |                    | 2           | 25~100          | 0.09   | 0.35   | 2.25   | 6.84   | 23.4   |
|                         |                    |             | 140~200         | -      | 0.31   | 1.87   | 6.25   | 21.8   |

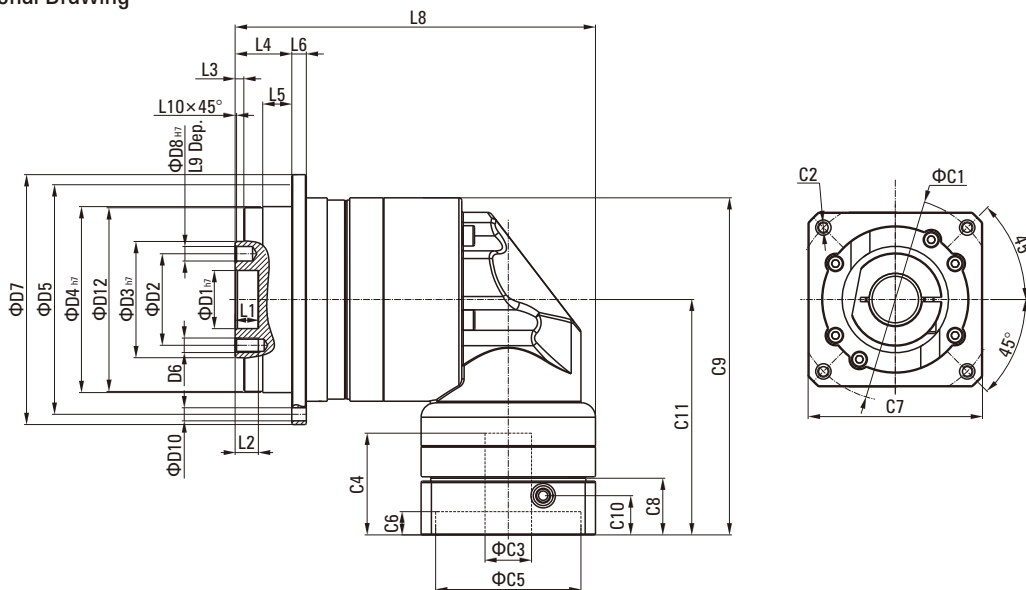
1. Gear ratio ( $i=N_p/N_{out}$ )2. Maximum acceleration torque  $T_{26}=60\%$  of  $T_{2N0T}$ 

3. When the output speed is 100rpm, it will act on the central position of the output shaft.

\*Continuous operation, service life is 10000hrs

## DIMENSIONS (SINGLE STAGE, REDUCTION RATIO $i=3\sim 20$ )

### Dimensional Drawing



### Dimensional Table

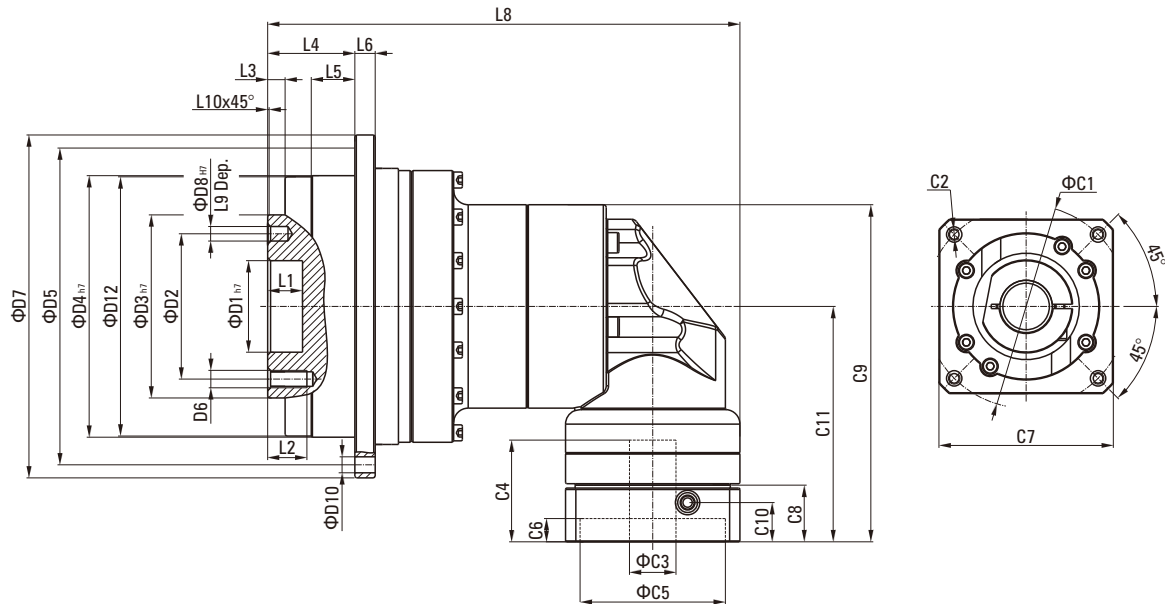
Unit: mm

| Size             | 064SDR    | 090SDR  | 110SDR   | 140SDR      | 200SDR      |
|------------------|-----------|---------|----------|-------------|-------------|
| D1 <sub>H7</sub> | 20        | 31.5    | 40       | 50          | 80          |
| D2               | 31.5      | 50      | 63       | 80          | 125         |
| D3 <sub>H7</sub> | 40        | 63      | 80       | 100         | 160         |
| D4 <sub>H7</sub> | 54        | 80      | 110      | 140         | 200         |
| D5               | 79        | 109     | 135      | 168         | 233         |
| D6               | 7×M5×0.8P | 7×M6×1P | 11×M6×1P | 11×M8×1.25P | 11×M10×1.5P |
| D7               | 86        | 118     | 145      | 179         | 247         |
| D8 <sub>H7</sub> | 5         | 6       | 6        | 8           | 10          |
| D10              | 8×4.5     | 8×5.5   | 8×5.5    | 12×6.6      | 12×9        |
| D12              | 63.2      | 89.2    | 109.2    | 139.2       | 199.2       |
| L1               | 8         | 12      | 12       | 12          | 16          |
| L2               | 8         | 13.5    | 13.5     | 17          | 22.5        |
| L3               | 3         | 6       | 6        | 6           | 8           |
| L4               | 19.5      | 30      | 29       | 38          | 50          |
| L5               | 7         | 10      | 10       | 14.6        | 15          |
| L6               | 4         | 7       | 8        | 10          | 12          |
| L8               | 126       | 172.5   | 201      | 263.5       | 334.5       |
| L9               | 6         | 7       | 7        | 7           | 10          |
| L10              | 0.5       | 1       | 1        | 1           | 1           |
| C1               | 70        | 100     | 130      | 165         | 215         |
| C2               | M5×0.8P   | M6×1P   | M8×1.25P | M10×1.5P    | M12×1.75P   |
| C3               | ≤14/≤16   | ≤19/≤24 | ≤32      | ≤38         | ≤48         |
| C4               | 34        | 40      | 50       | 60          | 85          |
| C5               | 50        | 80      | 110      | 130         | 180         |
| C6               | 8         | 4       | 5        | 6           | 6           |
| C7               | 60        | 90      | 115      | 142         | 190         |
| C8               | 19        | 17      | 19.5     | 22.5        | 29          |
| C9               | 116.5     | 159.5   | 199      | 254.5       | 316         |
| C10              | 13.5      | 10.75   | 13       | 15          | 20.75       |
| C11              | 81.5      | 107.5   | 134      | 164.5       | 213.5       |

\*070SBR 5,10 Reduction ratio provides C3≤16 to choose from.

# DIMENSIONS (TWO STAGE, REDUCTION RATIO $i=25\sim 200$ )

## Dimensional Drawing



## Dimensional Table

Unit: mm

| Size             | 064SDR    | 090SDR  | 110SDR   | 140SDR      | 200SDR      |
|------------------|-----------|---------|----------|-------------|-------------|
| D1 <sub>h7</sub> | 20        | 31.5    | 40       | 50          | 80          |
| D2               | 31.5      | 50      | 63       | 80          | 125         |
| D3 <sub>h7</sub> | 40        | 63      | 80       | 100         | 160         |
| D4 <sub>h7</sub> | 54        | 80      | 110      | 140         | 200         |
| D5               | 79        | 109     | 135      | 168         | 233         |
| D6               | 7×M5×0.8P | 7×M6×1P | 11×M6×1P | 11×M8×1.25P | 11×M10×1.5P |
| D7               | 86        | 118     | 145      | 179         | 247         |
| D8 <sub>h7</sub> | 5         | 6       | 6        | 8           | 10          |
| D10              | 8×4.5     | 8×5.5   | 8×5.5    | 12×6.6      | 12×9        |
| D12              | 63.2      | 89.2    | 109.2    | 139.2       | 199.2       |
| L1               | 8         | 12      | 12       | 12          | 16          |
| L2               | 8         | 13.5    | 13.5     | 17          | 22.5        |
| L3               | 3         | 6       | 6        | 6           | 8           |
| L4               | 19.5      | 30      | 29       | 38          | 50          |
| L5               | 7         | 10      | 10       | 14.6        | 15          |
| L6               | 4         | 7       | 8        | 10          | 12          |
| L8               | 132.5     | 163     | 217.5    | 269.5       | 333.5       |
| L9               | 6         | 7       | 7        | 7           | 10          |
| L10              | 0.5       | 1       | 1        | 1           | 1           |
| C1               | 46        | 70      | 100      | 130         | 165         |
| C2               | M4×0.7P   | M5×0.8P | M6×1P    | M8×1.25P    | M10×1.5P    |
| C3               | ≤11/≤12   | ≤14/≤16 | ≤19/≤24  | ≤32         | ≤38         |
| C4               | 30        | 34      | 40       | 50          | 60          |
| C5               | 30        | 50      | 80       | 110         | 130         |
| C6               | 3.5       | 8       | 4        | 5           | 6           |
| C7               | 48        | 60      | 90       | 115         | 142         |
| C8               | 19.5      | 19      | 17       | 19.5        | 22.5        |
| C9               | 108.25    | 128.25  | 166.5    | 209         | 269.5       |
| C10              | 13.25     | 13.5    | 10.75    | 13          | 15          |
| C11              | 74        | 81.5    | 107.5    | 134         | 164.5       |

\*070SBR 5,10 Reduction ratio provides C3≤16 to choose from.