



**PRiUS**

Product Catalogue



Luoyang Ganga Industry and Trade Co., Ltd  
Tel:0086-18568106073  
E-mail: sales@ priusbearings. com  
Add:26 Tengfei Rd, Yiyang 471611, China.  
www. priusbearings. com

## Five major technical breakthrough

01

High torque

02

Smaller size and  
lighter weight

03

High efficiency and near  
zero backlash

04

Long life

05

Unmatched stability at  
low speed

# Company Information

Prius engaged in high precision reducer business since 2003, a high-tech enterprises specializes in the development, production and sale of harmonious speed reducer with world-class production and inspection line.

We produced and sold over 10,000 harmonious reducers in 2017, occupying over 10% domestic robot market shares. Besides, we have sold products overseas including Europe and America, Japan and Korea, etc.



The principle of harmonious drive device was invented by American inventor C. Walt Musser in the middle of 1950s

## Composition of Harmonious Drive device

Harmonious drive device mainly consists of three basic components, wave generator, flexible spline and rigid spline.

### Wave generator

Small ball bearings are built into the outer circumference of its elliptical cam, and the bearings' inner faces are fixed to the cam. The outer faces are subjected to elastic deformation as the bearings move. It is attached to the input shaft.

### Flex spline

The flex spline is a thin cup-shaped component made of flexible metal that has external teeth around the circumference of its mouth opening. When the wave generator is inserted into the flex spline's mouth opening, the flex spline becomes deformed into an elliptical shape. It is attached to the output shaft.

### Circular spline

The circular spline is a rigid ring-shaped component with teeth along its inner circumference. The number of teeth is usually two more than the accompanying flex spline has. It is usually secured to the machine's casing.



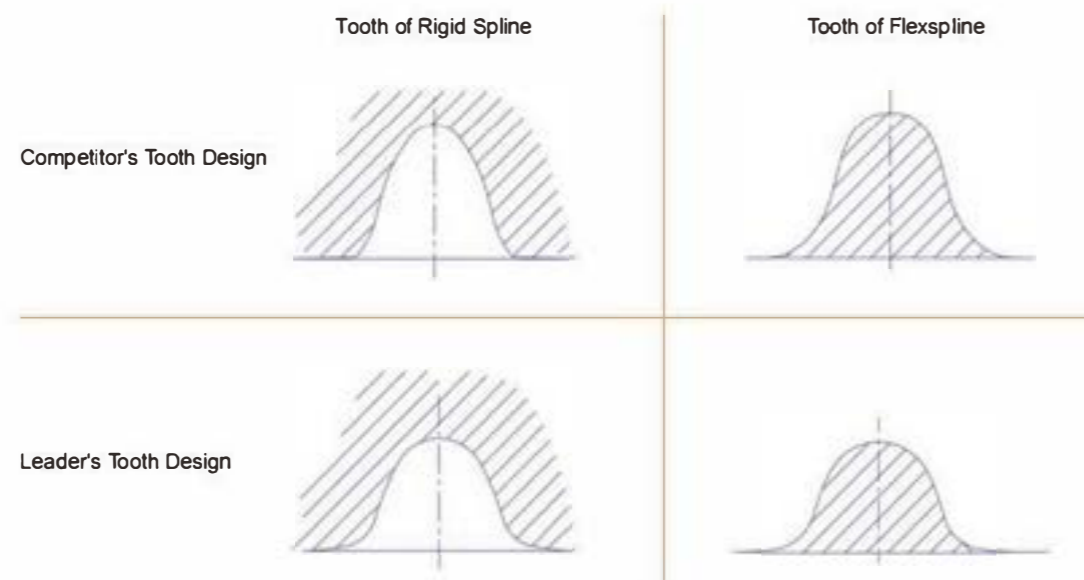
## Principle of harmonious speed reducer

As a reducer, harmonious waves are generally driven by wave generator with fixed rigid spline and output by flexible spline. When wave generator is installed inside the inner ring of flexible spline, flexible spline is forced to go through elastic transformation and becomes an elliptical shape; the flexible spline teeth of long shaft insert into the gear groove of rigid spline to realize complete engagement; the gear teeth of the two splines of the short shaft are not contacted at all but disengaged. Between engagement to disengagement, gear teeth are in engaging-out or engaging-in status. When the wave generator rotates continuously, the flexible spline is forced to deform constantly, and the gear teeth of the two gears change their working status repeatedly in the engaging-in, engagement, engaging-out and disengagement, generating the so-called staggered teeth motion and realizing the motion transmission between active wave generator and flexible spline.



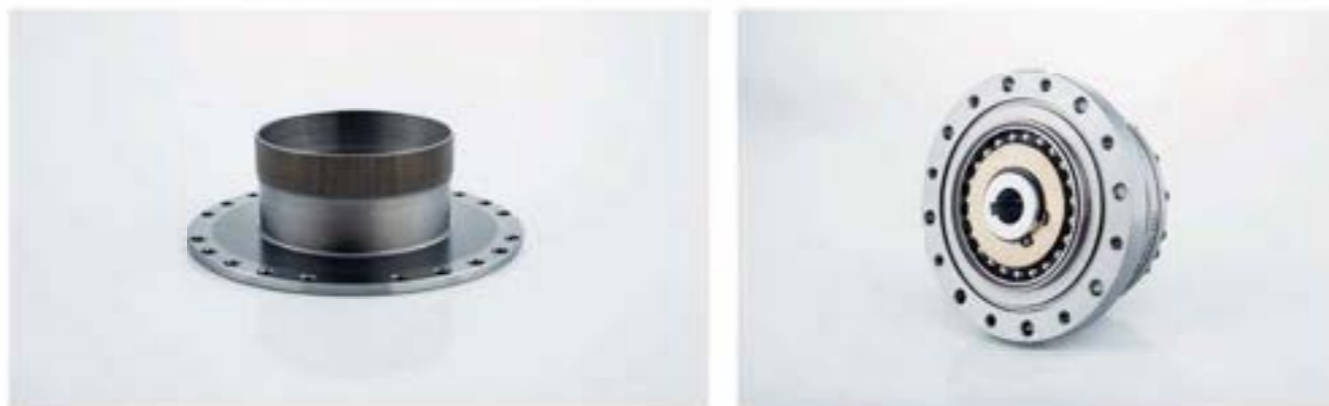
Traditionally, the design of a rigid gear sold on the market is based on the the Conugate meshing Theor Willis's Theorem . However researchers have discovered that strain wave gearing meshing is more comple than that . Instead, strain wave gearing meshing can be more accurately described by the Geometric Mapping Theory of Curves. By incorporating this theory into the design this patented technology has greatly improved the meshing of strain wave gearing differentiating the product from competitors. The design can also be further extended to high ratio rigid reducers for better precision and control.

### The P-type Tooth Profile



### The unique P-type profile has distinctive advantages over a typical profile:

1. Lower profile reduces bending stress at the base to improve torque capacity.
2. Wide tooth base and streamlined profile transition reduces core stress concentration.
3. Lower profile reduces displacement and strain in the flexspine, leading to longer flexspline life.
4. 20 -30% of tooth surface is in meshing contact to reduce surface contact pressure.



### Our harmonious reducers are all lubricated with lubrication grease

Harmonious reducers with a hollow shaft (Type III) and harmonious reducers with a solid shaft (Type IV) are sealed with lubrication grease inside , and therefore there is no need to inject otherwise. As for other models, lubrication grease has been sealed inside their internal hidden parts; however, lubrication grease still needs to be injected and applied when wave generator is assembled.

### Categories of lubrication grease

**LD super NO.096:** Developed specially for harmonious reducers, it has longer endurance and better efficiency compared with the common lubrication grease sold in market.

**LD super NO.098:** Developed specially for small harmonic reducers, it can liquefy extreme-pressure additive, so as to obtain excellent lubrication effects when wave transformer rotates.

**LD super NO.099:** It has flow characteristics that can adapt to long service life and can be used within a larger temperature range.

### Characteristics of lubrication grease :

| Grease model | Leakage of lubrication grease | Low temperature | Micro vibration and wear resistance | Endurance |
|--------------|-------------------------------|-----------------|-------------------------------------|-----------|
| NO.096       | ○                             | ◎               | ◎                                   | ◎         |
| NO.098       | △                             | ◎               | ◎                                   | ◎         |
| NO.099       | ◎                             | ◎               | ○                                   | ○         |

※ Superior: ◎ Apply: ○ Attention should be paid to: △

### Specifications of lubrication grease:

| Lubrication grease                    | 96   | 98                             | 99                             |
|---------------------------------------|--|--------------------------------|--------------------------------|
| Base oil                              | Refined mineral oil                              | Synthetic hydrocarbon oil      | Synthetic hydrocarbon oil      |
| Thickening agent                      | Special lithium base                             | Lithium based thickening agent | Lithium based thickening agent |
| Additive                              | Anti-wear additive and extreme-pressure additive | Anti-wear additive and others  | Anti-wear additive and others  |
| Viscosity ( 25°C )                    | 265 ~295   | 295~315                        | 260C~280                       |
| Temperature range of using conditions | -40°C~150°C                                      | -40°C~120°C                    | -40°C~120°C                    |
| Dropping point                        | 198°C  | 180°C                          | 180°C                          |
| Appearance (color)                    | Yellow   | Dark red                       | Red                            |
| Storage life                          | 5 years in sealed state                          | 5 years in sealed state        | 5 years in sealed state        |
| Viscosity-temperature index           | Base oil VI > 120                                | Base oil VI > 130              | Base oil VI > 120              |

# Model Number Rules

Abbreviation for company

Length Code of Flexspline

Reduction Ratio

Structure Code

| Code | Length   |
|------|----------|
| S    | Standard |
| D    | Dwarf    |

Note  
 1.30 50 80 100 120 160 are general reduction ratio  
 2.Reduction ratio can be designed according to customer's demand

| Code | Structure                     |
|------|-------------------------------|
| C    | Complete type                 |
| P    | Component type                |
| CL   | Light weight of complete type |

**L C S G — 14 ——— 50 — C — II**

Shape Code of Flexspline

Torque Code of Model

P.D.D of Flexible Gear

Connection Type

| Code | Shape  |
|------|--------|
| C    | Cup    |
| H    | Hollow |

| Code | Torque |
|------|--------|
| G    | High   |
| null | Normal |

| Code | PDD (mm) |
|------|----------|
| 14   | 35.6     |
| 17   | 43.2     |
| 20   | 50.8     |
| 25   | 63.5     |
| 32   | 81.3     |
| 40   | 102      |
| 50   | 127      |
| 58   | 147      |

Between input end and cam of wave generator

| Code | Type                        |
|------|-----------------------------|
| I    | Standard type               |
| II   | Cross slipper type coupling |
| III  | Hollow shaft type           |
| IV   | Shaft input type            |

# L C D series



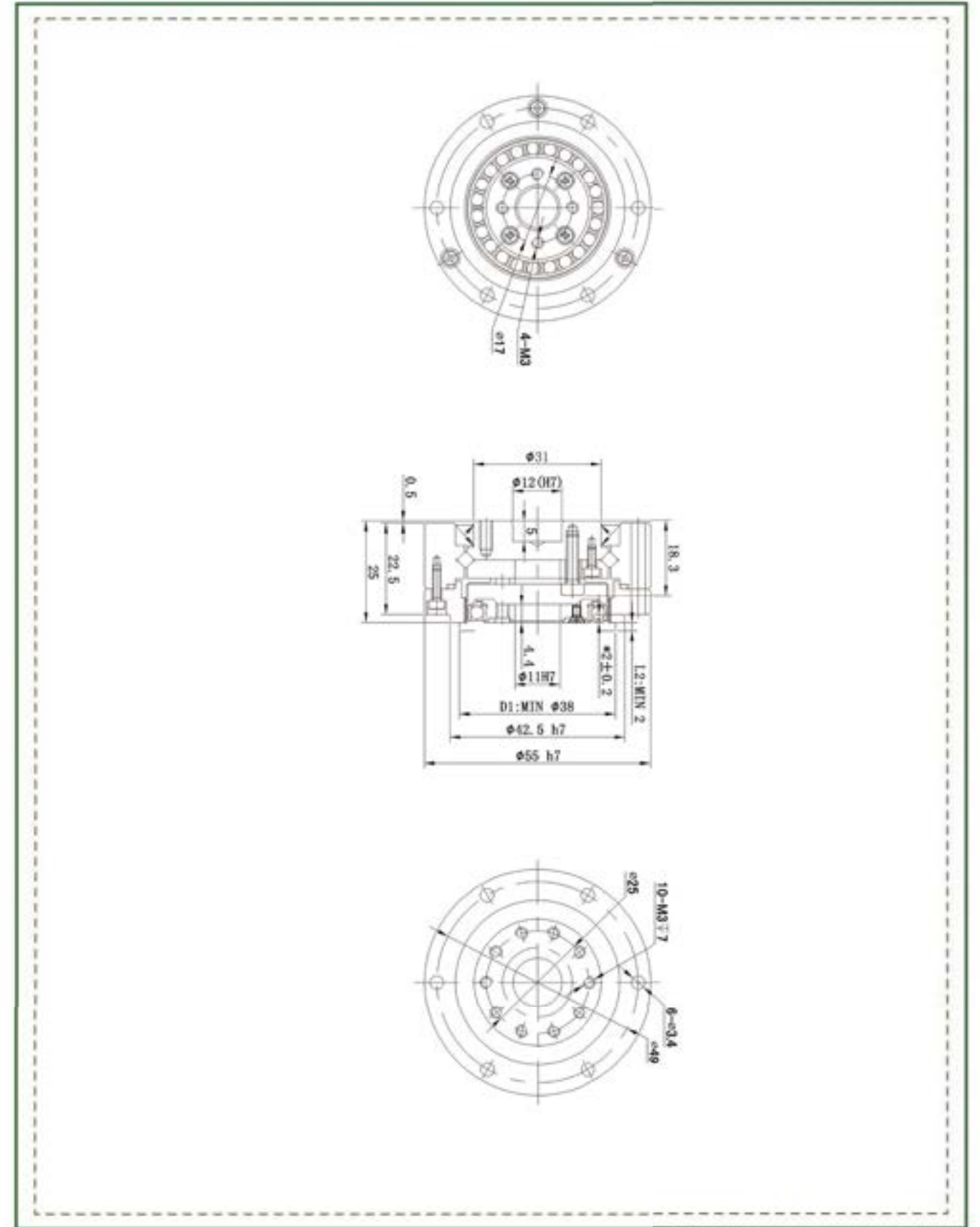
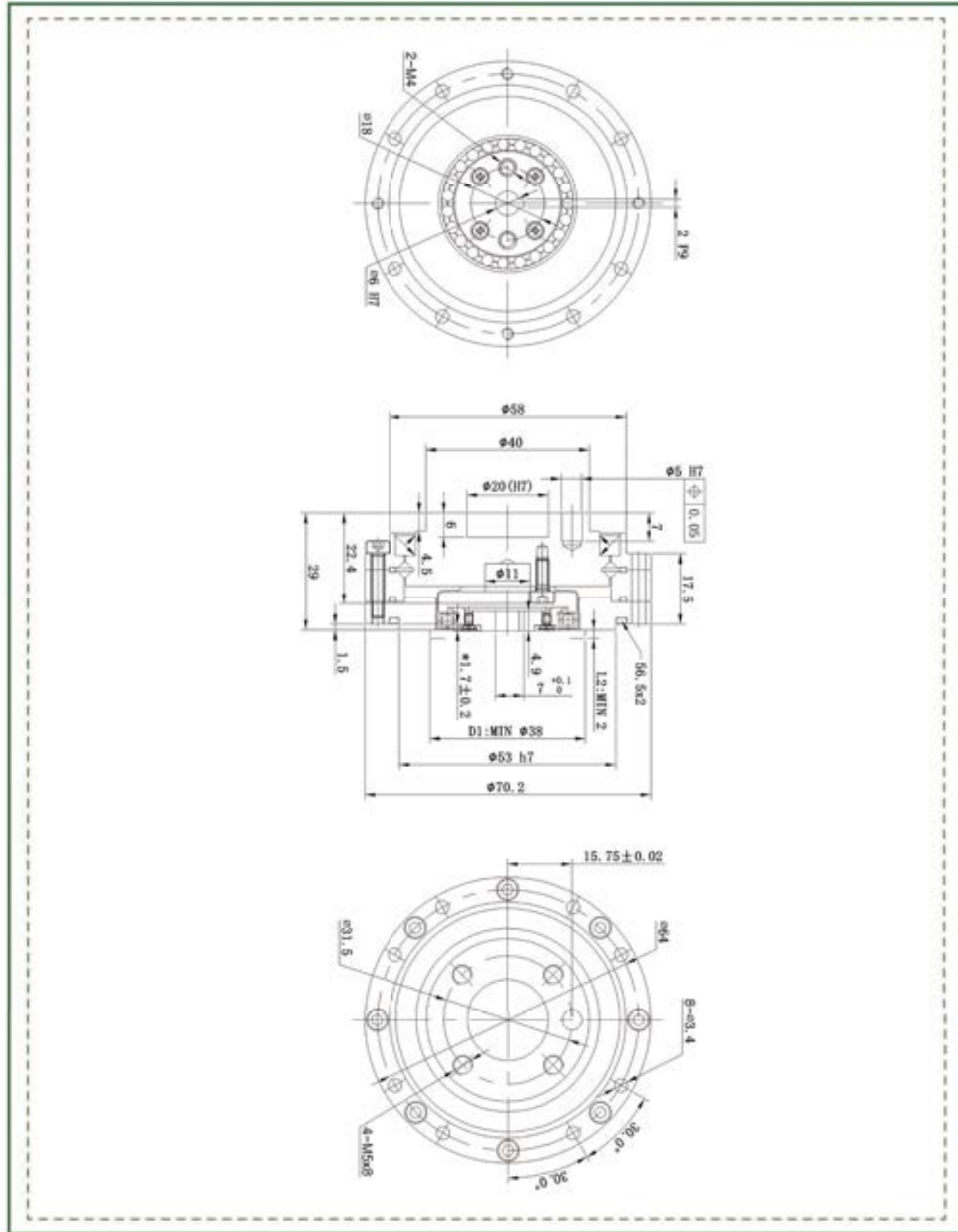
With a flexible gear in ultra-thin cup-shaped structure, LCD series are designed with an ultra-flat structure, with small volume and light weight, and are therefore can be used as the end joint of robot.

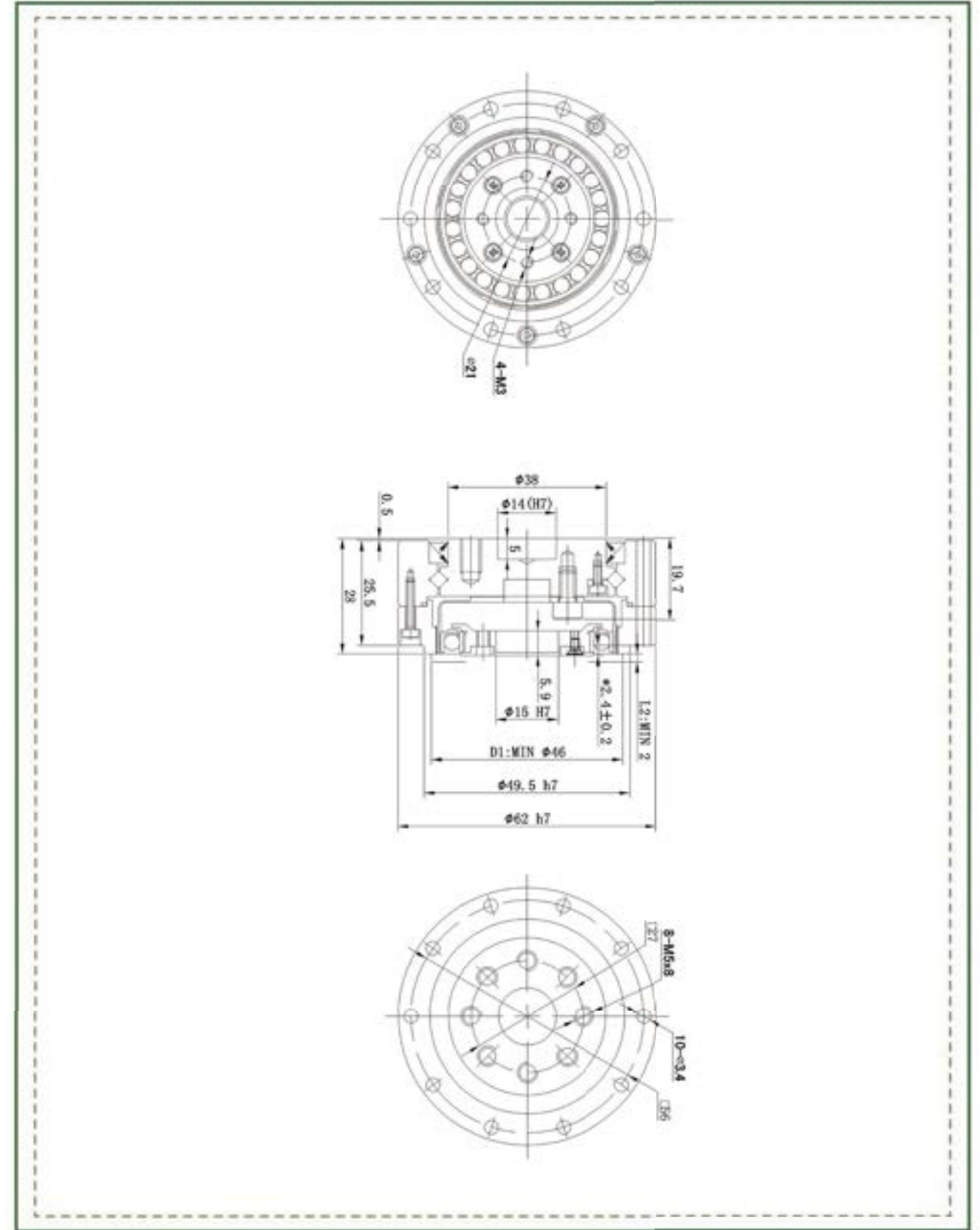
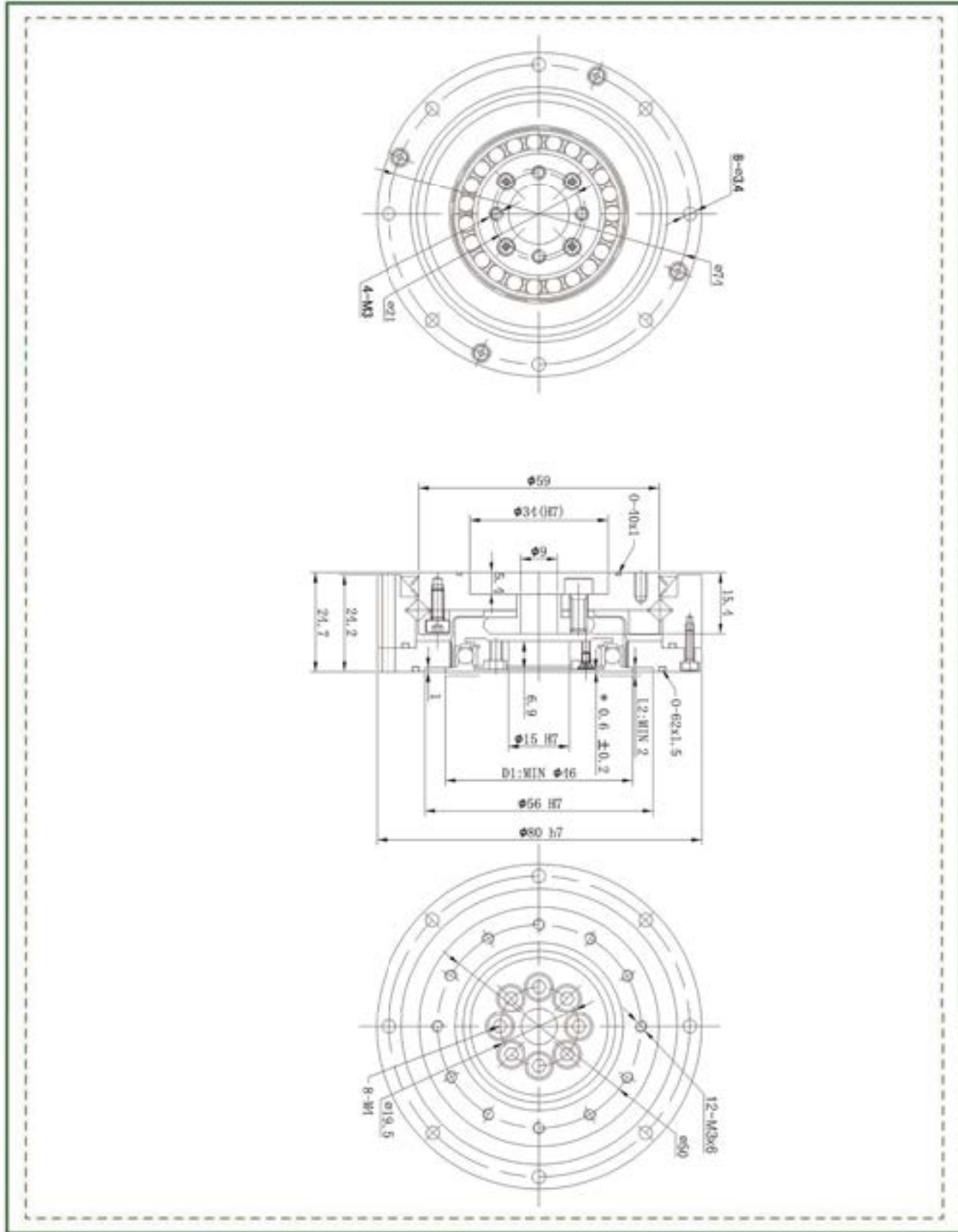
## Parameter Table

| Item<br>Model No | Reduction Ratio | Rated Torque at 2000r/min | Allowable Peak Torque at Start and Stop | Allowable Average Torque | Allowable Maximum Momentary Torque | Maximum Input Speed | Allowable Average Input Speed | Back lash | Weight | Design Life |
|------------------|-----------------|---------------------------|---|--------------------------|------------------------------------|---------------------|-------------------------------|-----------|--------|-------------|
|                  |                 | Nm                        | Nm                                      | Nm                       | Nm                                 | r/min               | r/min                         | Arc sec   | Kg     | Hour        |
| 14               | 50              | 3.5                       | 11.4                                    | 4.6                      | 23                                 | 8000                | 3500                          | ≤20       | 0.56   | 9000        |
|                  | 80              | 5.1                       | 15                                      | 6.2                      | 29                                 |                     |                               | ≤20       |        | 10000       |
|                  | 100             | 5.1                       | 18                                      | 7.3                      | 33                                 |                     |                               | ≤20       |        | 10000       |
| 17               | 50              | 10.4                      | 22                                      | 17                       | 46                                 | 7000                | 3500                          | ≤20       | 0.48   | 9000        |
|                  | 80              | 14                        | 29                                      | 21                       | 54                                 |                     |                               | ≤20       |        | 10000       |
|                  | 100             | 15                        | 35                                      | 26                       | 67                                 |                     |                               | ≤20       |        | 10000       |
| 20               | 50              | 16                        | 37                                      | 23                       | 66                                 | 6000                | 3500                          | ≤20       | 0.68   | 9000        |
|                  | 80              | 23                        | 49                                      | 28                       | 78                                 |                     |                               | ≤20       |        | 10000       |
|                  | 100             | 27                        | 54                                      | 32                       | 90                                 |                     |                               | ≤20       |        | 10000       |
| 25               | 50              | 26                        | 66                                      | 36                       | 121                                | 5500                | 3500                          | ≤20       | 1.3    | 9000        |
|                  | 80              | 42                        | 91                                      | 62                       | 157                                |                     |                               | ≤20       |        | 10000       |
|                  | 100             | 45                        | 104                                     | 71                       | 175                                |                     |                               | ≤20       |        | 10000       |
|                  | 120             | 45                        | 111                                     | 71                       | 187                                |                     |                               | ≤20       |        | 10000       |
| 32               | 50              | 50                        | 143                                     | 71                       | 255                                | 4500                | 3500                          | ≤20       | 2.5    | 9000        |
|                  | 80              | 79                        | 202                                     | 126                      | 350                                |                     |                               | ≤20       |        | 10000       |
|                  | 100             | 91                        | 221                                     | 144                      | 399                                |                     |                               | ≤20       |        | 10000       |
|                  | 120             | 91                        | 235                                     | 144                      | 423                                |                     |                               | ≤20       |        | 10000       |
| 40*              | 50              | 91                        | 267                                     | 130                      | 456                                | 4000                | 3000                          | ≤20       | 3.8    | 9000        |
|                  | 100             | 176                       | 378                                     | 247                      | 665                                |                     |                               | ≤20       |        | 10000       |
|                  | 160             | 196                       | 430                                     | 300                      | 727                                |                     |                               | ≤20       |        | 10000       |

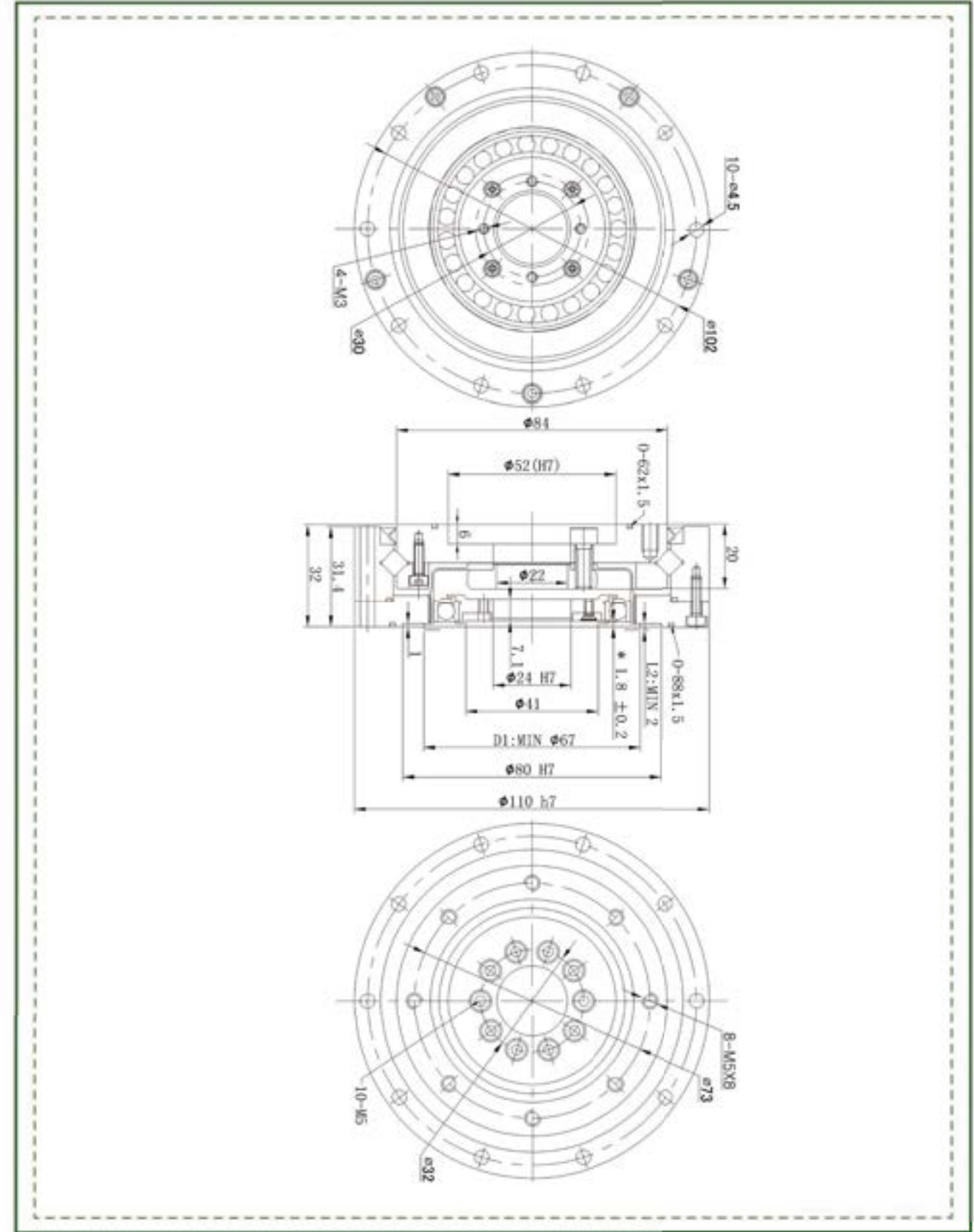
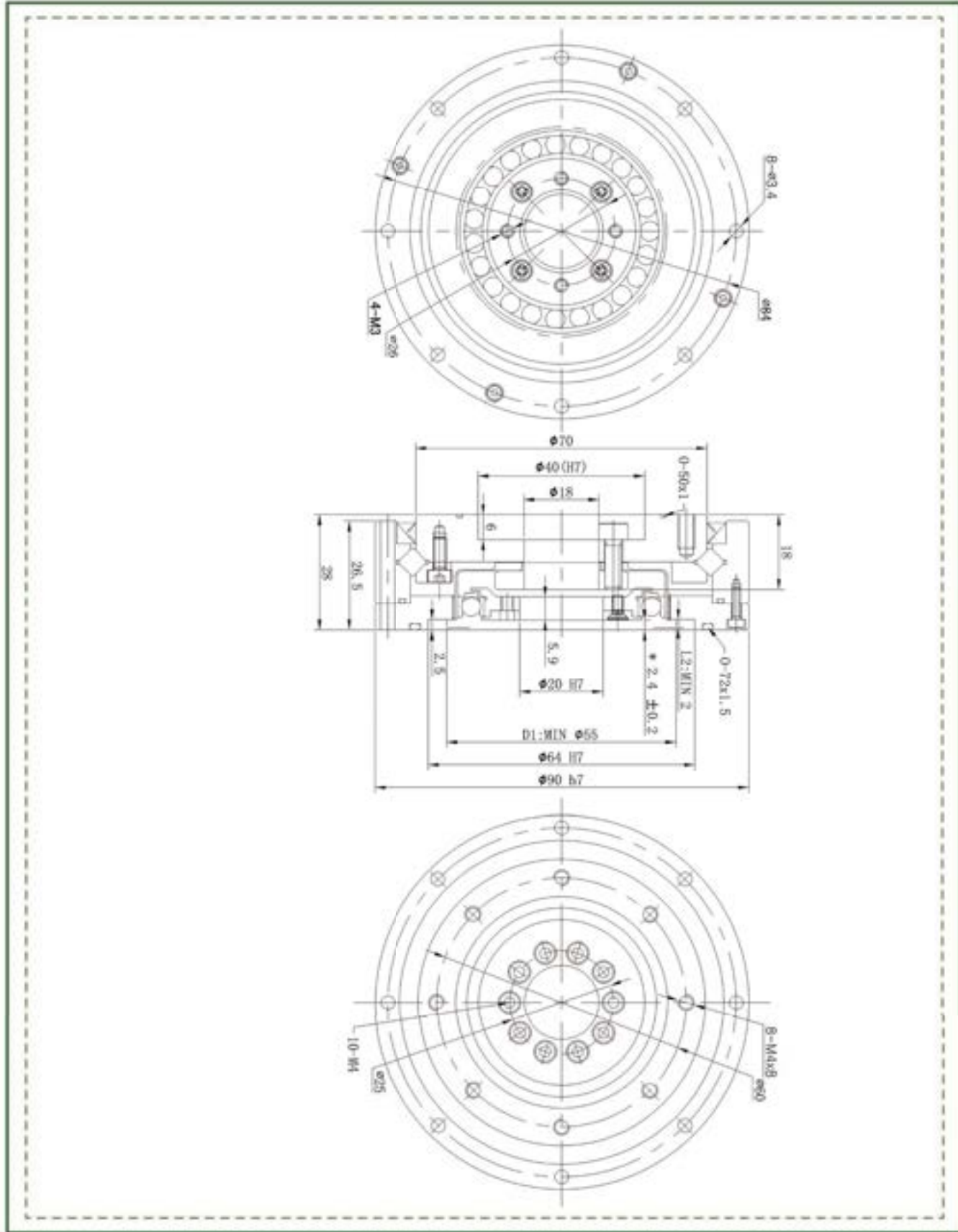
\* Consult factory

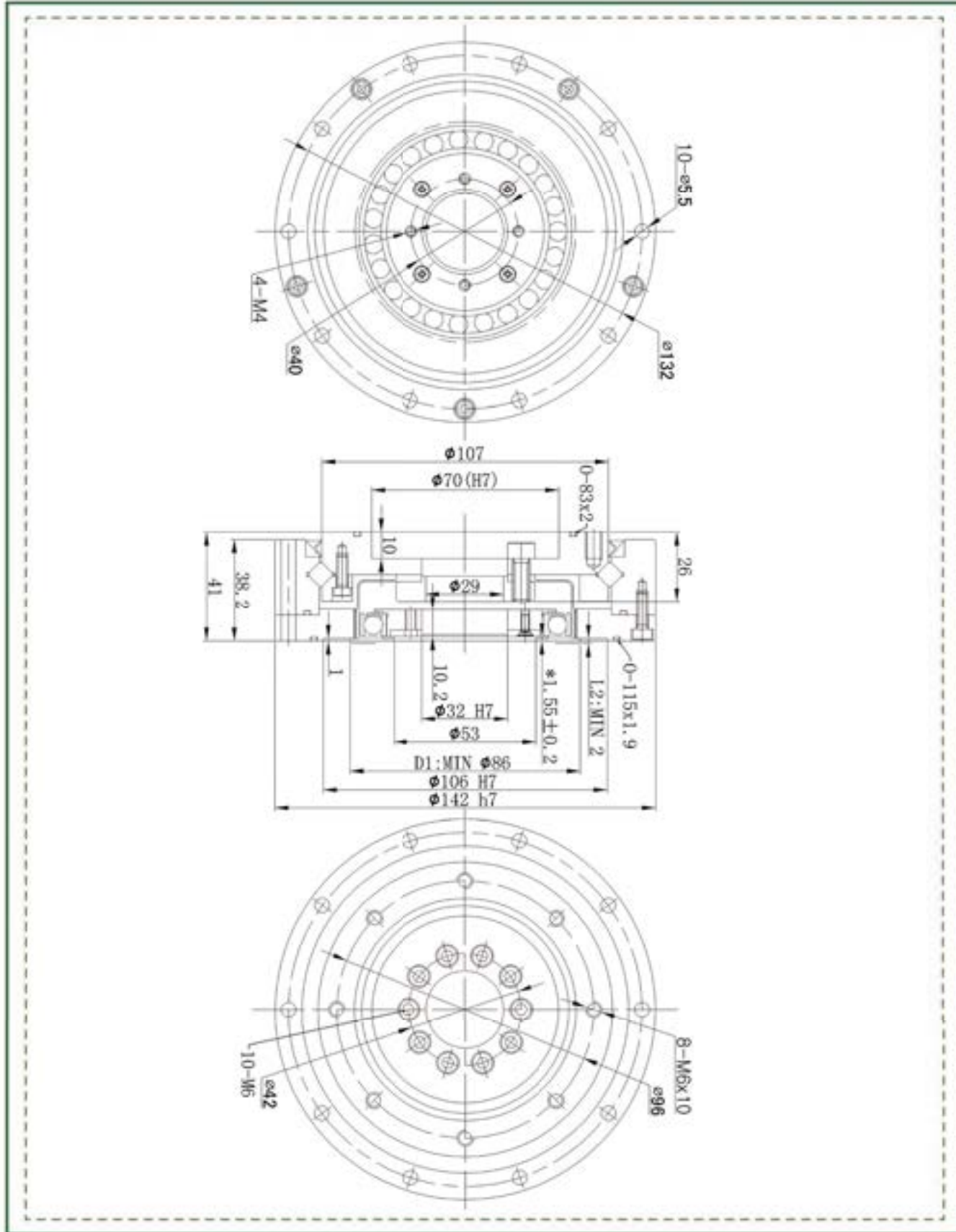












## LCS-I series

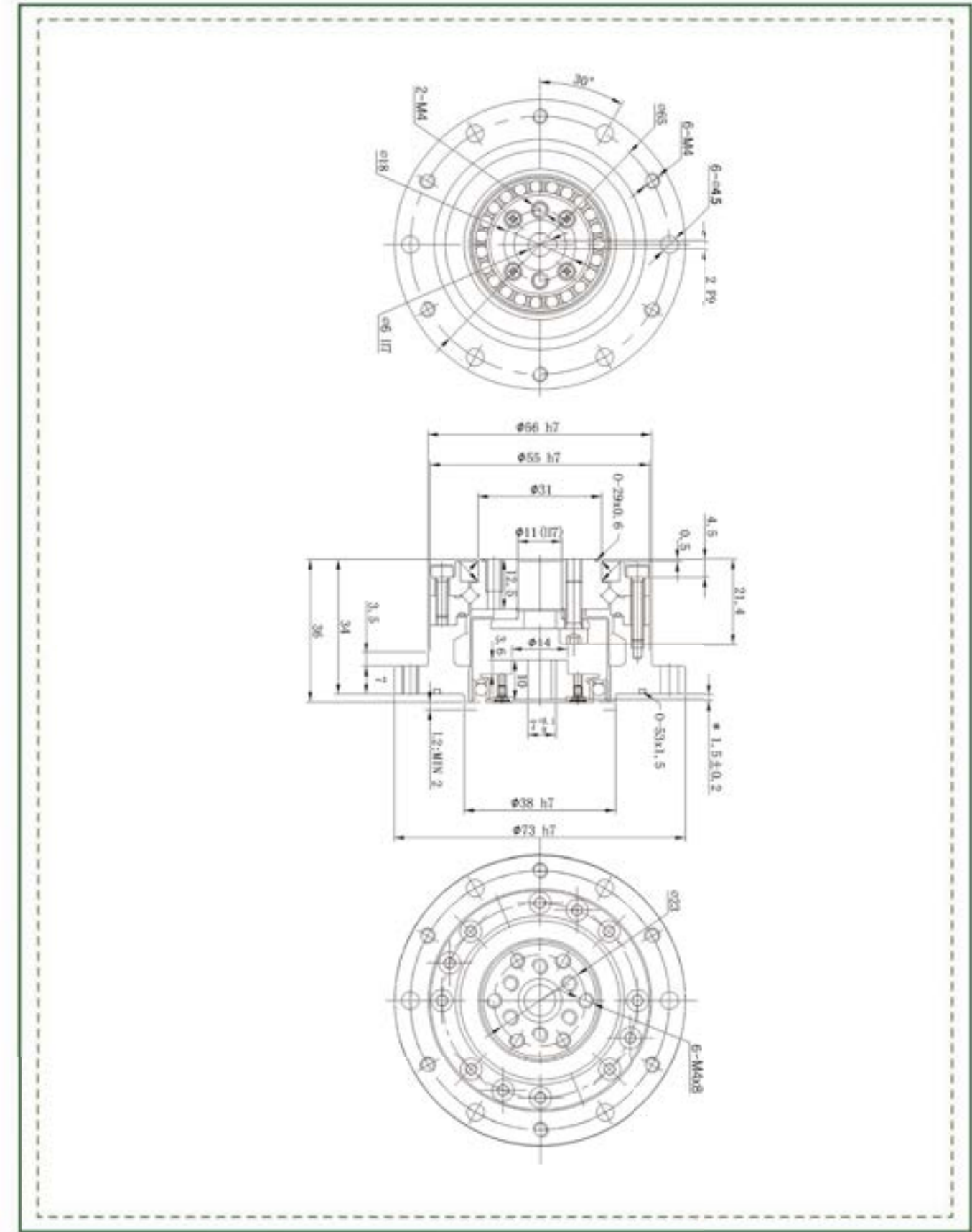


For **LCS-I** series, the structure of flexible spline is standard cup-shaped. Their input shaft matches with the inner hole of wave transformer directly and are connected by flat key. In general, the series are used with the rigid gear end fixed and flexible gear outputting.

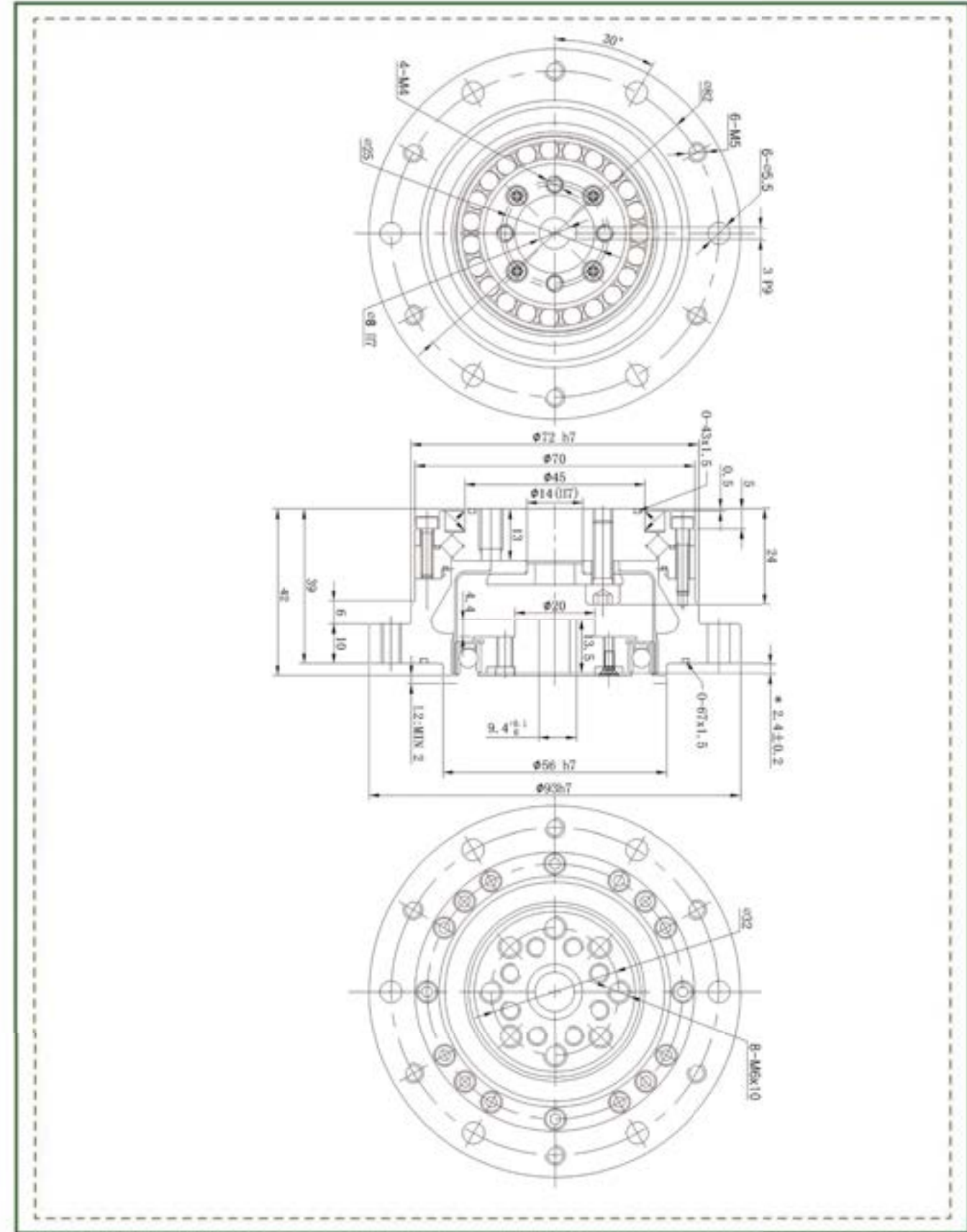
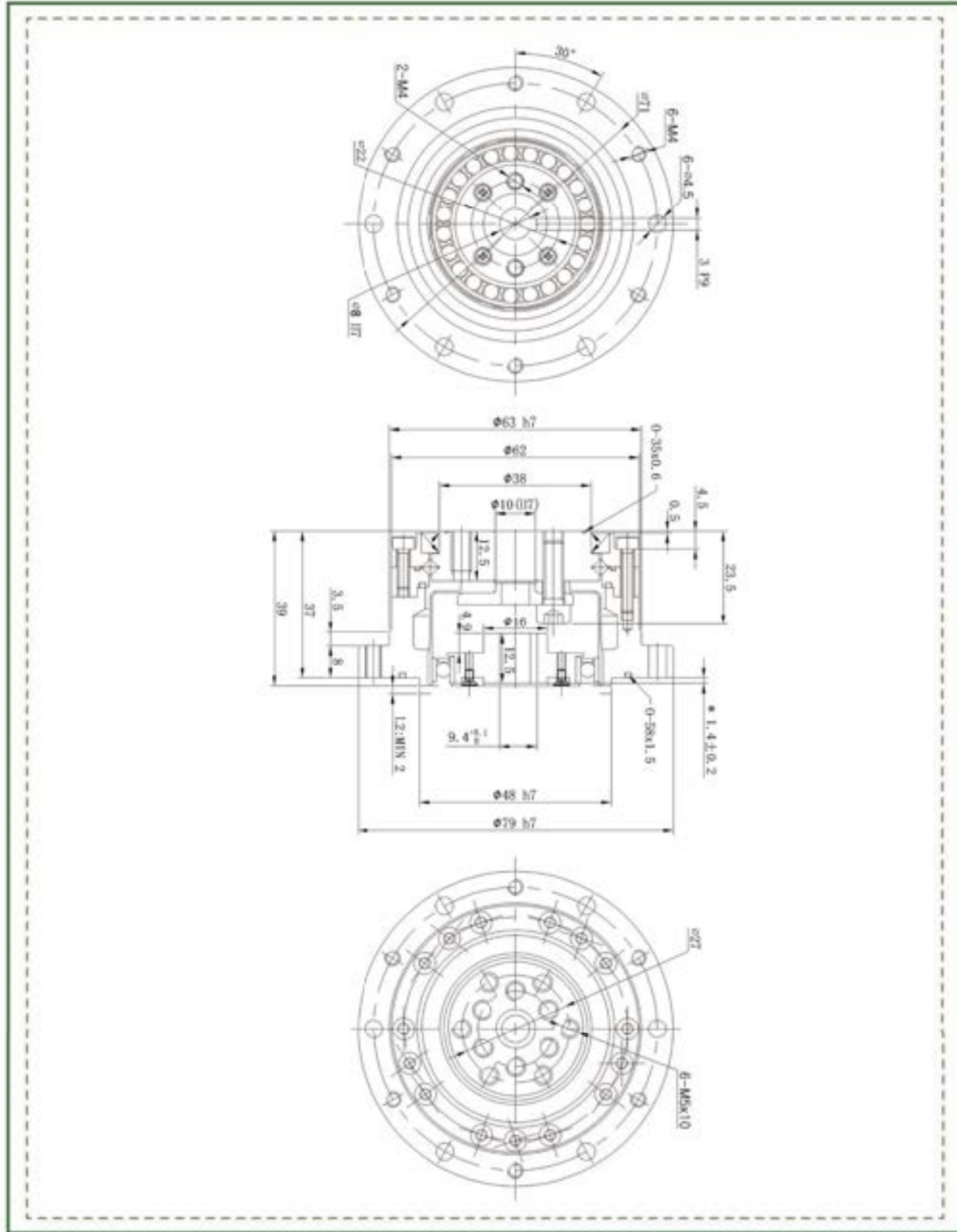


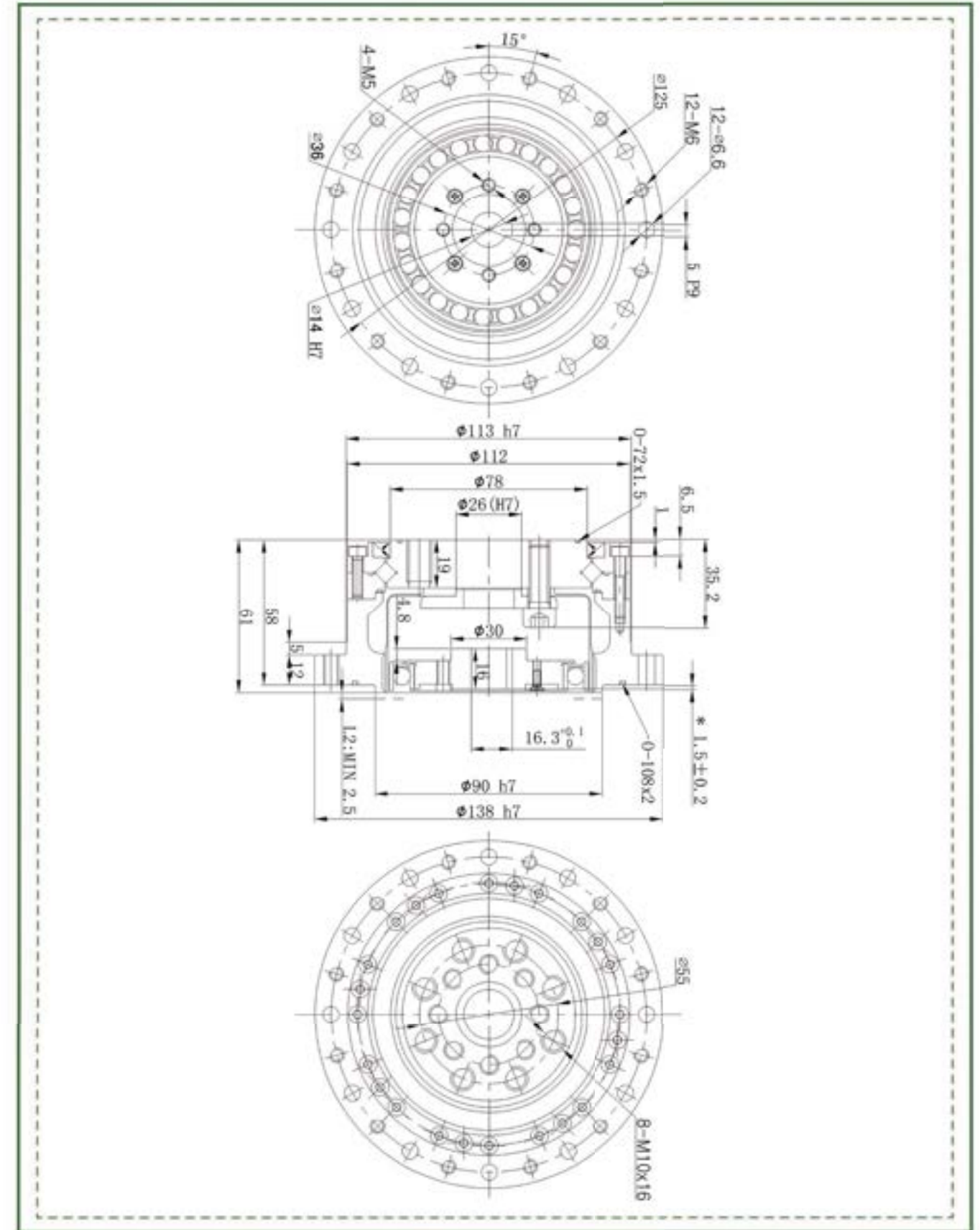
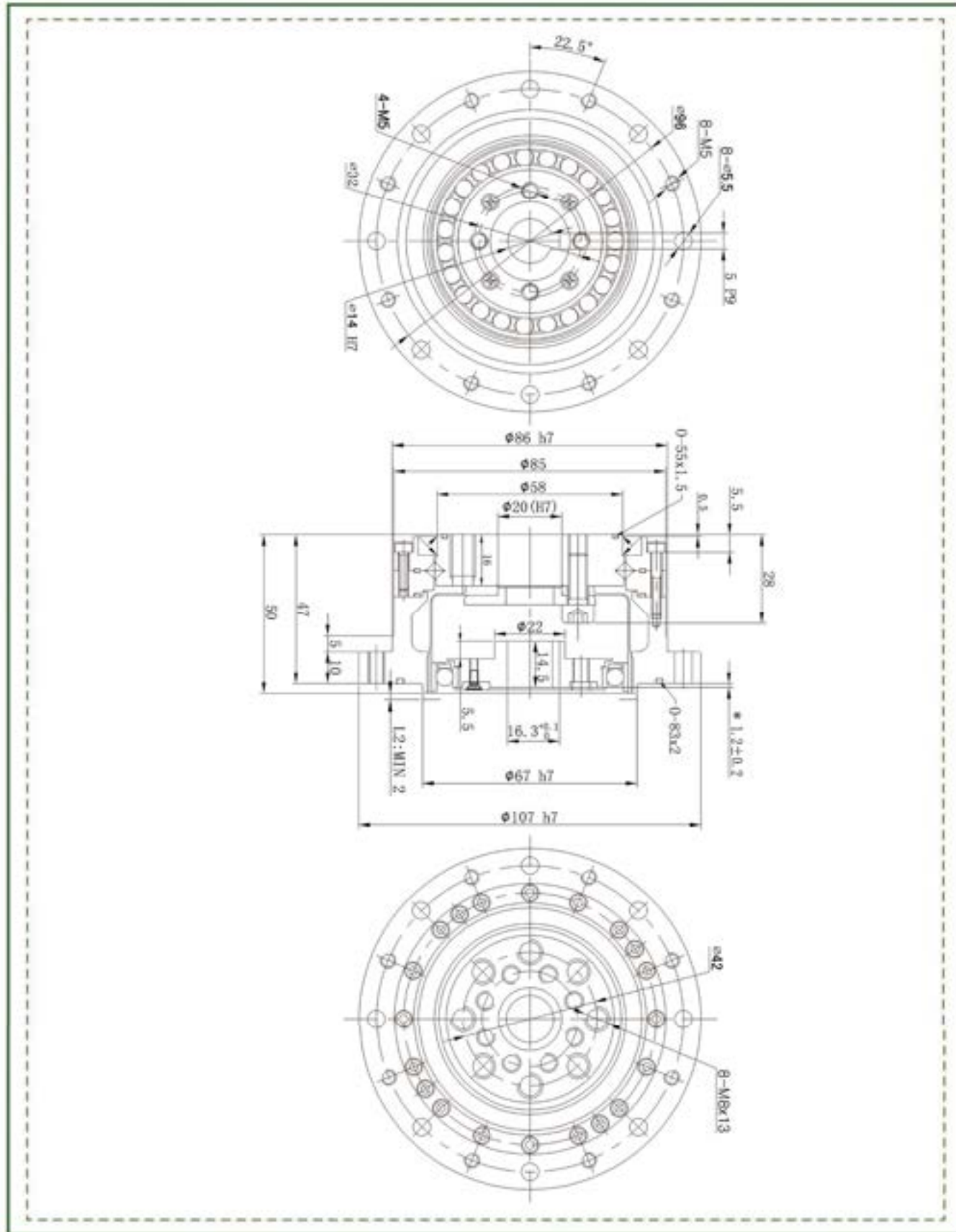
### Parameter Table

| Item     | Reduction Ratio | Rated Torque at 2000r/min | Allowable Peak Torque at Start and Stop | Allowable Average Torque | Allowable Maximum Momentary Torque | Maximum Input Speed | Allowable Average Input Speed | Back lash | Weight | Design Life |
|----------|-----------------|---------------------------|---|--------------------------|------------------------------------|---------------------|-------------------------------|-----------|--------|-------------|
| Model No |                 | Nm                        | Nm                                      | Nm                       | Nm                                 | r/min               | r/min                         | Arc sec   | Kg     | Hour        |
| 14       | 30              | 3.8                       | 8.5                                     | 6.5                      | 16                                 | 8000                | 3500                          | ≤20       | 0.51   | 10000       |
|          | 50              | 5.1                       | 17.1                                    | 6.6                      | 33                                 |                     |                               | ≤20       |        | 10000       |
|          | 80              | 7.4                       | 22                                      | 10.5                     | 44                                 |                     |                               | ≤10       |        | 15000       |
|          | 100             | 7.4                       | 26                                      | 10.5                     | 51                                 |                     |                               | ≤10       |        | 15000       |
| 17       | 30              | 8.4                       | 15                                      | 11.5                     | 28                                 | 7000                | 3500                          | ≤20       | 0.68   | 10000       |
|          | 50              | 15.2                      | 32                                      | 25                       | 66                                 |                     |                               | ≤20       |        | 10000       |
|          | 80              | 21                        | 41                                      | 26                       | 83                                 |                     |                               | ≤10       |        | 15000       |
|          | 100             | 23                        | 51                                      | 37                       | 103                                |                     |                               | ≤10       |        | 15000       |
| 20       | 120             | 23                        | 51                                      | 37                       | 82                                 | 6000                | 3500                          | ≤10       | 0.98   | 15000       |
|          | 30              | 14                        | 26                                      | 19                       | 48                                 |                     |                               | ≤20       |        | 10000       |
|          | 50              | 24                        | 53                                      | 32                       | 93                                 |                     |                               | ≤20       |        | 10000       |
|          | 80              | 32                        | 70                                      | 45                       | 121                                |                     |                               | ≤10       |        | 15000       |
|          | 100             | 38                        | 78                                      | 47                       | 140                                |                     |                               | ≤10       |        | 15000       |
| 25       | 120             | 38                        | 83                                      | 47                       | 140                                | 5500                | 3500                          | ≤10       | 1.47   | 15000       |
|          | 160             | 38                        | 87                                      | 47                       | 140                                |                     |                               | ≤10       |        | 15000       |
|          | 30              | 26                        | 48                                      | 36                       | 90                                 |                     |                               | ≤20       |        | 10000       |
|          | 50              | 37                        | 93                                      | 52                       | 177                                |                     |                               | ≤20       |        | 10000       |
|          | 80              | 60                        | 130                                     | 83                       | 242                                |                     |                               | ≤10       |        | 15000       |
|          | 100             | 64                        | 149                                     | 103                      | 270                                |                     |                               | ≤10       |        | 15000       |
| 32       | 120             | 64                        | 159                                     | 103                      | 289                                | 4500                | 3500                          | ≤10       | 3.19   | 15000       |
|          | 160             | 64                        | 167                                     | 103                      | 298                                |                     |                               | ≤10       |        | 15000       |
|          | 30              | 51                        | 95                                      | 71                       | 190                                |                     |                               | ≤20       |        | 10000       |
|          | 50              | 72                        | 205                                     | 103                      | 363                                |                     |                               | ≤20       |        | 10000       |
|          | 80              | 112                       | 289                                     | 159                      | 540                                |                     |                               | ≤10       |        | 15000       |
| 40       | 100             | 130                       | 316                                     | 205                      | 615                                | 4000                | 3000                          | ≤10       | 5.0    | 15000       |
|          | 120             | 130                       | 335                                     | 205                      | 652                                |                     |                               | ≤10       |        | 15000       |
|          | 160             | 130                       | 353                                     | 205                      | 652                                |                     |                               | ≤10       |        | 15000       |
|          | 50              | 130                       | 382                                     | 186                      | 652                                |                     |                               | ≤20       |        | 10000       |
|          | 80              | 196                       | 493                                     | 270                      | 931                                |                     |                               | ≤10       |        | 15000       |
| 50*      | 100             | 252                       | 540                                     | 353                      | 1026                               | 3000                | 2500                          | ≤10       | 9.6    | 15000       |
|          | 120             | 279                       | 586                                     | 429                      | 1121                               |                     |                               | ≤10       |        | 15000       |
|          | 160             | 279                       | 615                                     | 429                      | 1121                               |                     |                               | ≤10       |        | 15000       |
|          | 50              | 233                       | 679                                     | 333                      | 1358                               |                     |                               | ≤20       |        | 10000       |
| 58*      | 80              | 353                       | 894                                     | 493                      | 1767                               | 3000                | 2200                          | ≤10       | 14.8   | 15000       |
|          | 100             | 446                       | 931                                     | 633                      | 1957                               |                     |                               | ≤10       |        | 15000       |
|          | 120             | 503                       | 1026                                    | 772                      | 1957                               |                     |                               | ≤10       |        | 15000       |
|          | 160             | 503                       | 1121                                    | 801                      | 2327                               |                     |                               | ≤10       |        | 15000       |
| 58*      | 80              | 522                       | 1406                                    | 732                      | 2328                               | 3000                | 2200                          | ≤10       | 14.8   | 15000       |
|          | 100             | 661                       | 1511                                    | 1007                     | 3021                               |                     |                               | ≤10       |        | 15000       |
|          | 120             | 708                       | 1634                                    | 1131                     | 3164                               |                     |                               | ≤10       |        | 15000       |
| 58*      | 160             | 708                       | 1748                                    | 1150                     | 3259                               | 3000                | 2200                          | ≤10       | 14.8   | 15000       |











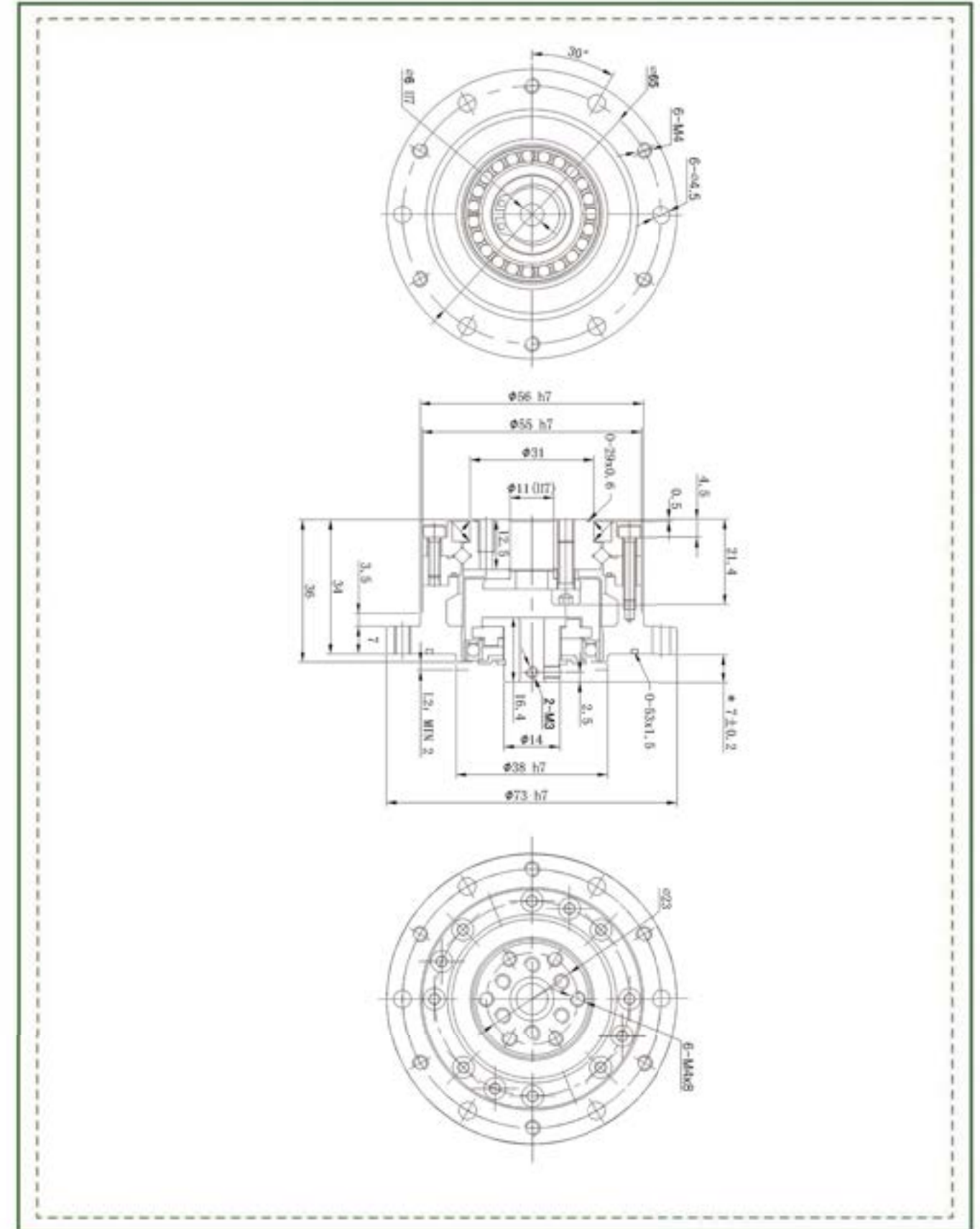




### Parameter Table

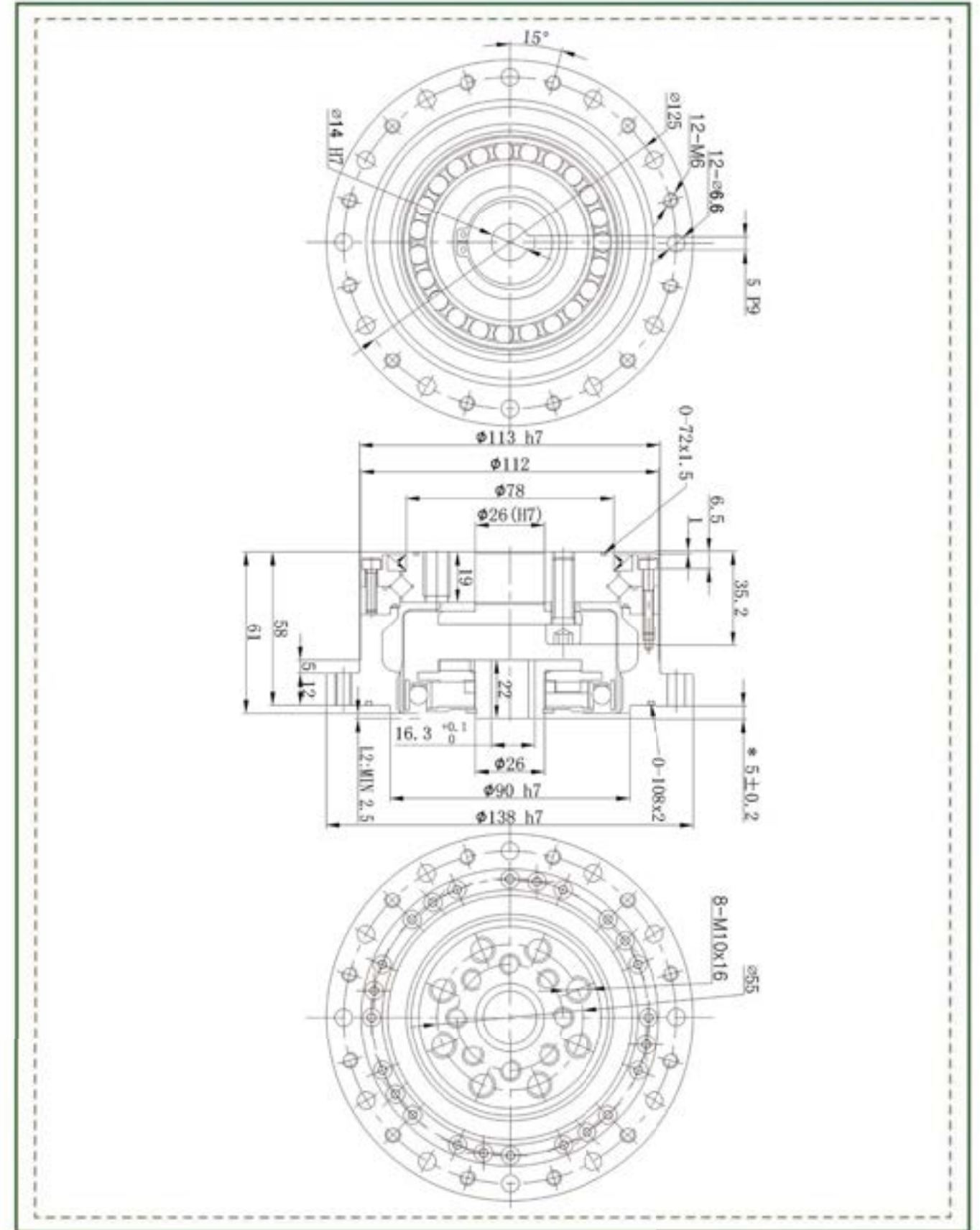
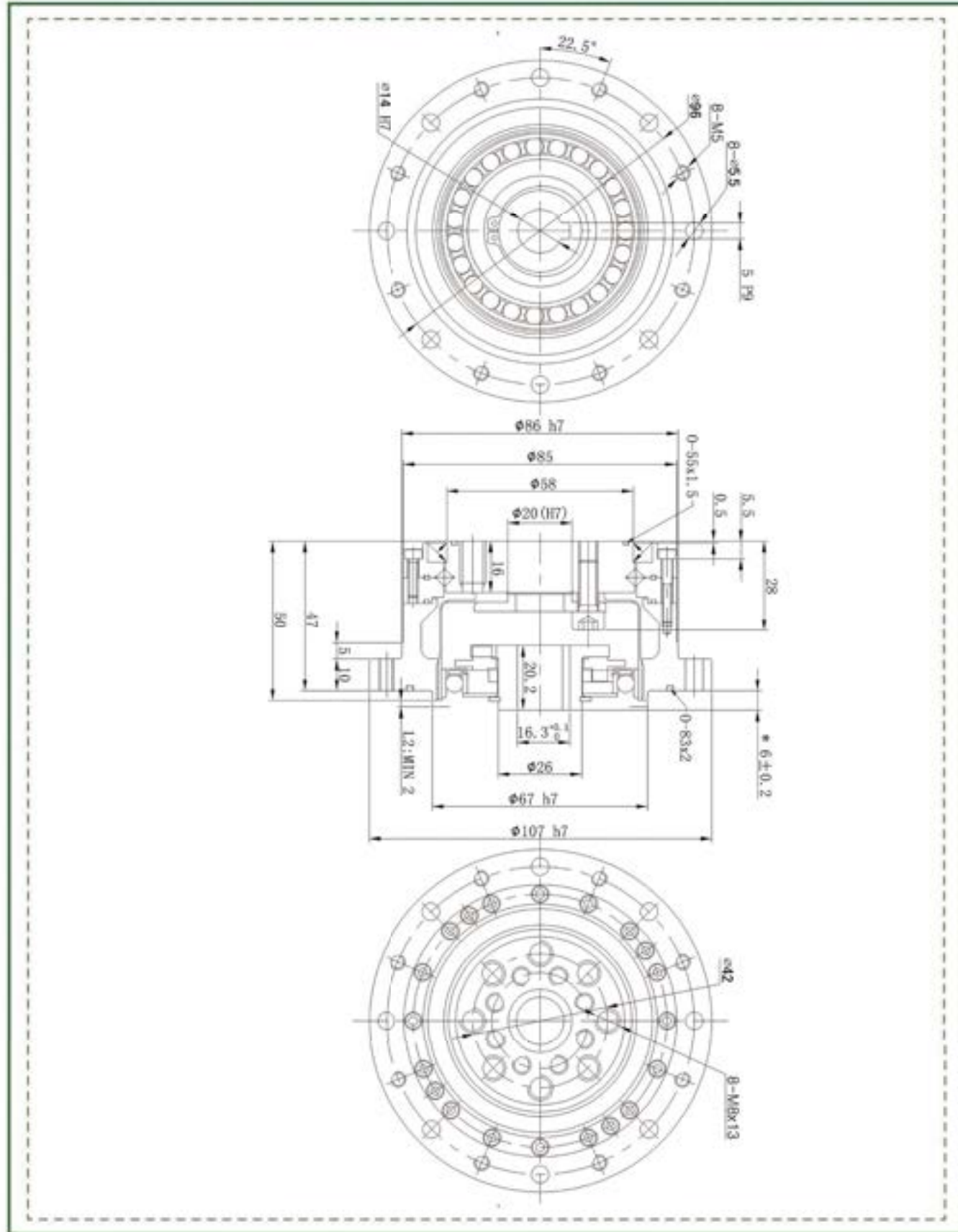
| Item | Reduction Ratio | Rated Torque at 2000r/min | Allowable Peak Torque at Start and Stop | Allowable Average Torque | Allowable Maximum Momentary Torque | Maximum Input Speed | Allowable Average Input Speed | Back lash | Weight | Design Life |
|------|-----------------|---------------------------|---|--------------------------|------------------------------------|---------------------|-------------------------------|-----------|--------|-------------|
|      |                 | Nm                        | Nm                                      | Nm                       | Nm                                 | r/min               | r/min                         | Arc sec   | Kg     | Hour        |
| 14   | 30              | 3.8                       | 8.5                                     | 6.5                      | 16                                 | 8000                | 3500                          | ≤20       | 0.52   | 10000       |
|      | 50              | 5.1                       | 17.1                                    | 6.6                      | 33                                 |                     |                               | ≤20       |        | 10000       |
|      | 80              | 7.4                       | 22                                      | 10.5                     | 44                                 |                     |                               | ≤20       |        | 15000       |
|      | 100             | 7.4                       | 26                                      | 10.5                     | 51                                 |                     |                               | ≤20       |        | 15000       |
| 17   | 30              | 8.4                       | 15                                      | 11.5                     | 28                                 | 7000                | 3500                          | ≤20       | 0.69   | 10000       |
|      | 50              | 15.2                      | 32                                      | 25                       | 66                                 |                     |                               | ≤20       |        | 10000       |
|      | 80              | 21                        | 41                                      | 26                       | 83                                 |                     |                               | ≤20       |        | 15000       |
|      | 100             | 23                        | 51                                      | 37                       | 103                                |                     |                               | ≤20       |        | 15000       |
|      | 120             | 23                        | 51                                      | 37                       | 82                                 |                     |                               | ≤20       |        | 15000       |
| 20   | 30              | 14                        | 26                                      | 19                       | 48                                 | 6000                | 3500                          | ≤20       | 0.99   | 10000       |
|      | 50              | 24                        | 53                                      | 32                       | 93                                 |                     |                               | ≤20       |        | 10000       |
|      | 80              | 32                        | 70                                      | 45                       | 121                                |                     |                               | ≤20       |        | 15000       |
|      | 100             | 38                        | 78                                      | 47                       | 140                                |                     |                               | ≤20       |        | 15000       |
|      | 120             | 38                        | 83                                      | 47                       | 140                                |                     |                               | ≤20       |        | 15000       |
|      | 160             | 38                        | 87                                      | 47                       | 140                                |                     |                               | ≤20       |        | 15000       |
| 25   | 30              | 26                        | 48                                      | 36                       | 90                                 | 5500                | 3500                          | ≤20       | 1.48   | 10000       |
|      | 50              | 37                        | 93                                      | 52                       | 177                                |                     |                               | ≤20       |        | 10000       |
|      | 80              | 60                        | 130                                     | 83                       | 242                                |                     |                               | ≤20       |        | 15000       |
|      | 100             | 64                        | 149                                     | 103                      | 270                                |                     |                               | ≤20       |        | 15000       |
|      | 120             | 64                        | 159                                     | 103                      | 289                                |                     |                               | ≤20       |        | 15000       |
|      | 160             | 64                        | 167                                     | 103                      | 298                                |                     |                               | ≤20       |        | 15000       |
| 32   | 30              | 51                        | 95                                      | 71                       | 190                                | 4500                | 3500                          | ≤20       | 3.2    | 10000       |
|      | 50              | 72                        | 205                                     | 103                      | 363                                |                     |                               | ≤20       |        | 10000       |
|      | 80              | 112                       | 289                                     | 159                      | 540                                |                     |                               | ≤20       |        | 15000       |
|      | 100             | 130                       | 316                                     | 205                      | 615                                |                     |                               | ≤20       |        | 15000       |
|      | 120             | 130                       | 335                                     | 205                      | 652                                |                     |                               | ≤20       |        | 15000       |
|      | 160             | 130                       | 353                                     | 205                      | 652                                |                     |                               | ≤20       |        | 15000       |
| 40   | 50              | 130                       | 382                                     | 186                      | 652                                | 4000                | 3000                          | ≤20       | 5.0    | 10000       |
|      | 80              | 196                       | 493                                     | 270                      | 931                                |                     |                               | ≤20       |        | 15000       |
|      | 100             | 252                       | 540                                     | 353                      | 1026                               |                     |                               | ≤20       |        | 15000       |
|      | 120             | 279                       | 586                                     | 429                      | 1121                               |                     |                               | ≤20       |        | 15000       |
|      | 160             | 279                       | 615                                     | 429                      | 1121                               |                     |                               | ≤20       |        | 15000       |
| 50*  | 50              | 233                       | 679                                     | 333                      | 1358                               | 3000                | 2500                          | ≤20       | 9.0    | 10000       |
|      | 80              | 353                       | 894                                     | 493                      | 1767                               |                     |                               | ≤20       |        | 15000       |
|      | 100             | 446                       | 931                                     | 633                      | 1957                               |                     |                               | ≤20       |        | 15000       |
|      | 120             | 503                       | 1026                                    | 772                      | 1957                               |                     |                               | ≤20       |        | 15000       |
|      | 160             | 503                       | 1121                                    | 801                      | 2327                               |                     |                               | ≤20       |        | 15000       |
| 58*  | 80              | 522                       | 1406                                    | 732                      | 2328                               | 3000                | 2200                          | ≤10       | 14.8   | 15000       |
|      | 100             | 661                       | 1511                                    | 1007                     | 3021                               |                     |                               | ≤10       |        | 15000       |
|      | 120             | 708                       | 1634                                    | 1131                     | 3164                               |                     |                               | ≤10       |        | 15000       |
|      | 160             | 708                       | 1748                                    | 1150                     | 3259                               |                     |                               | ≤10       |        | 15000       |

\* Consult factory

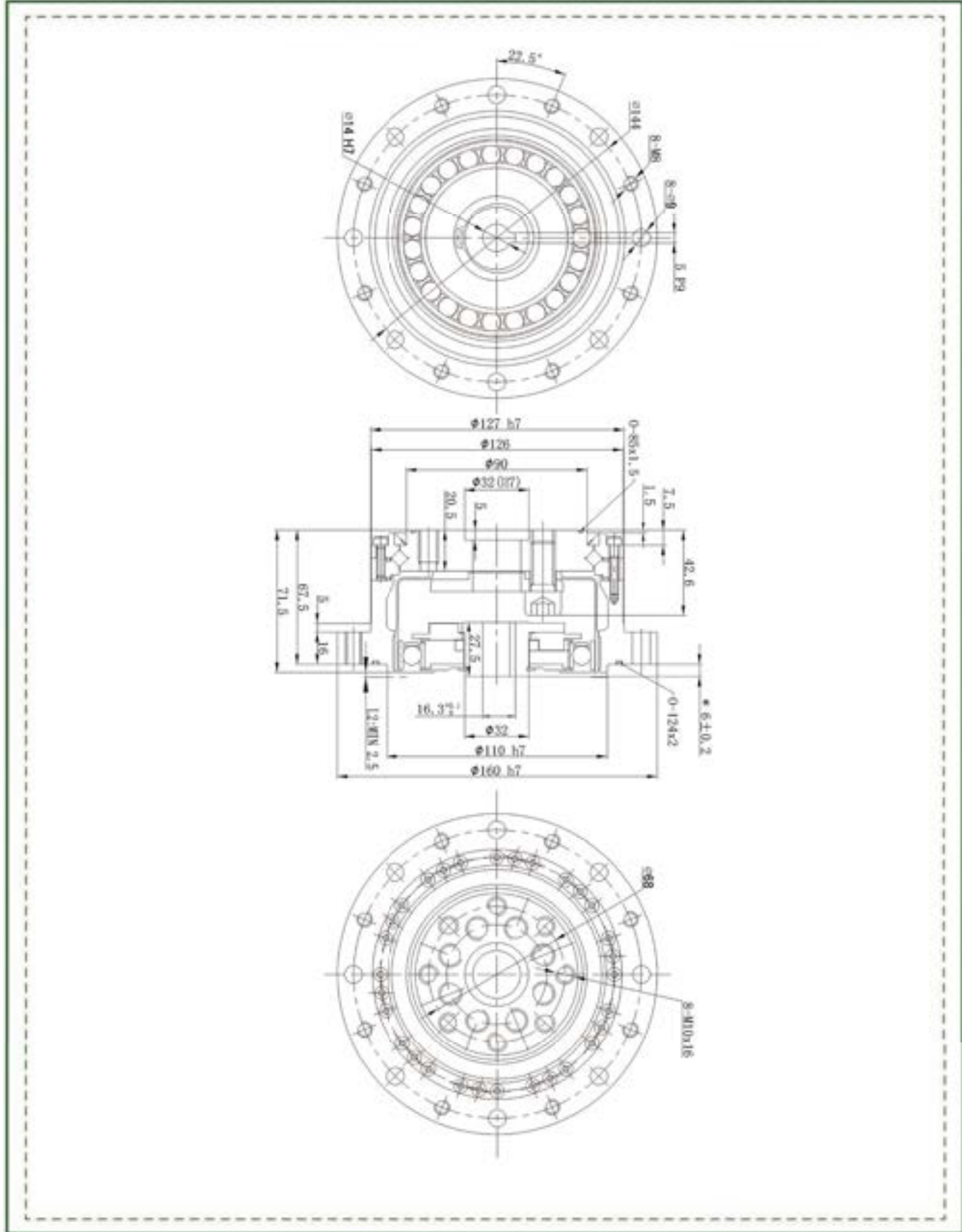












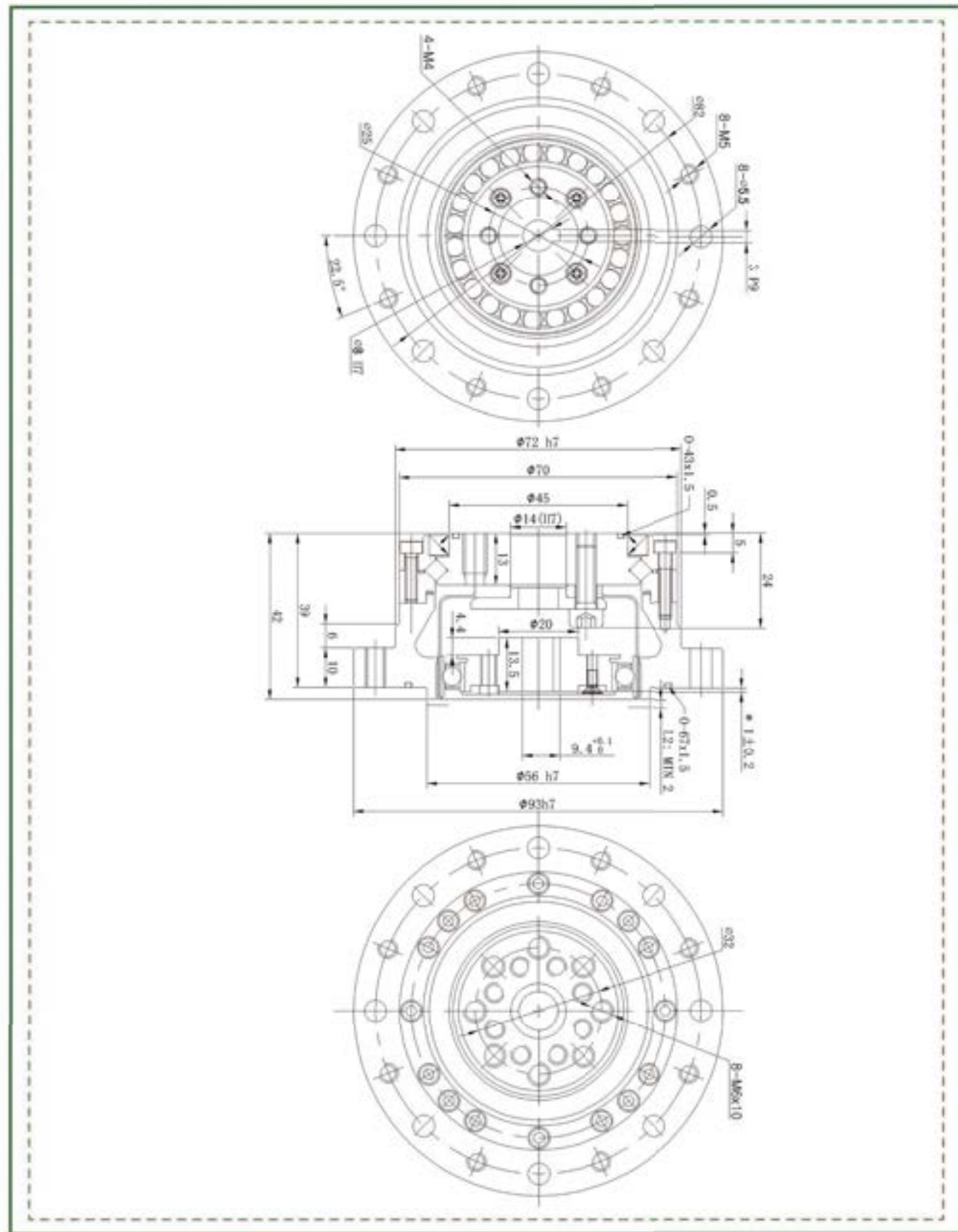
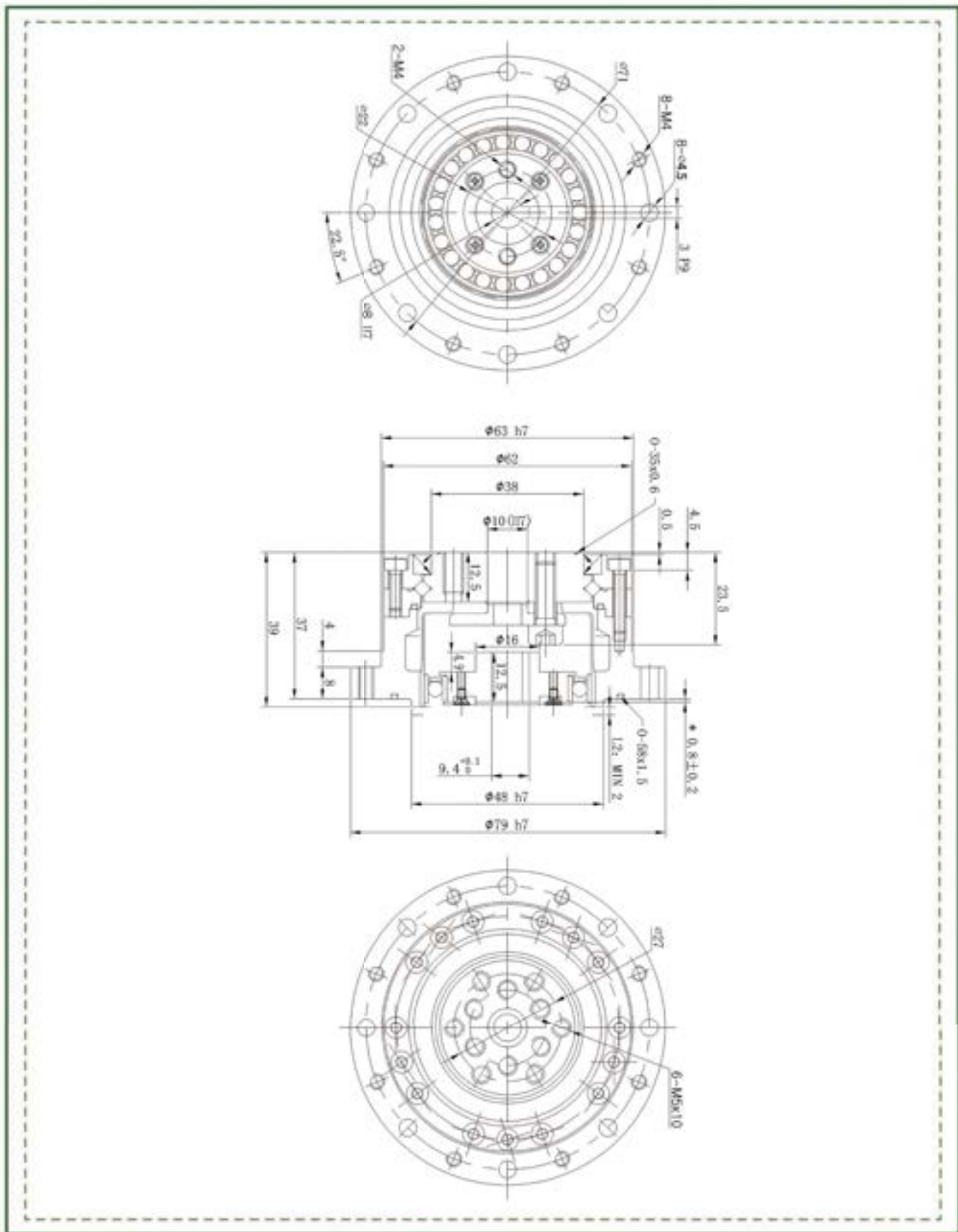
## LCSG-I series

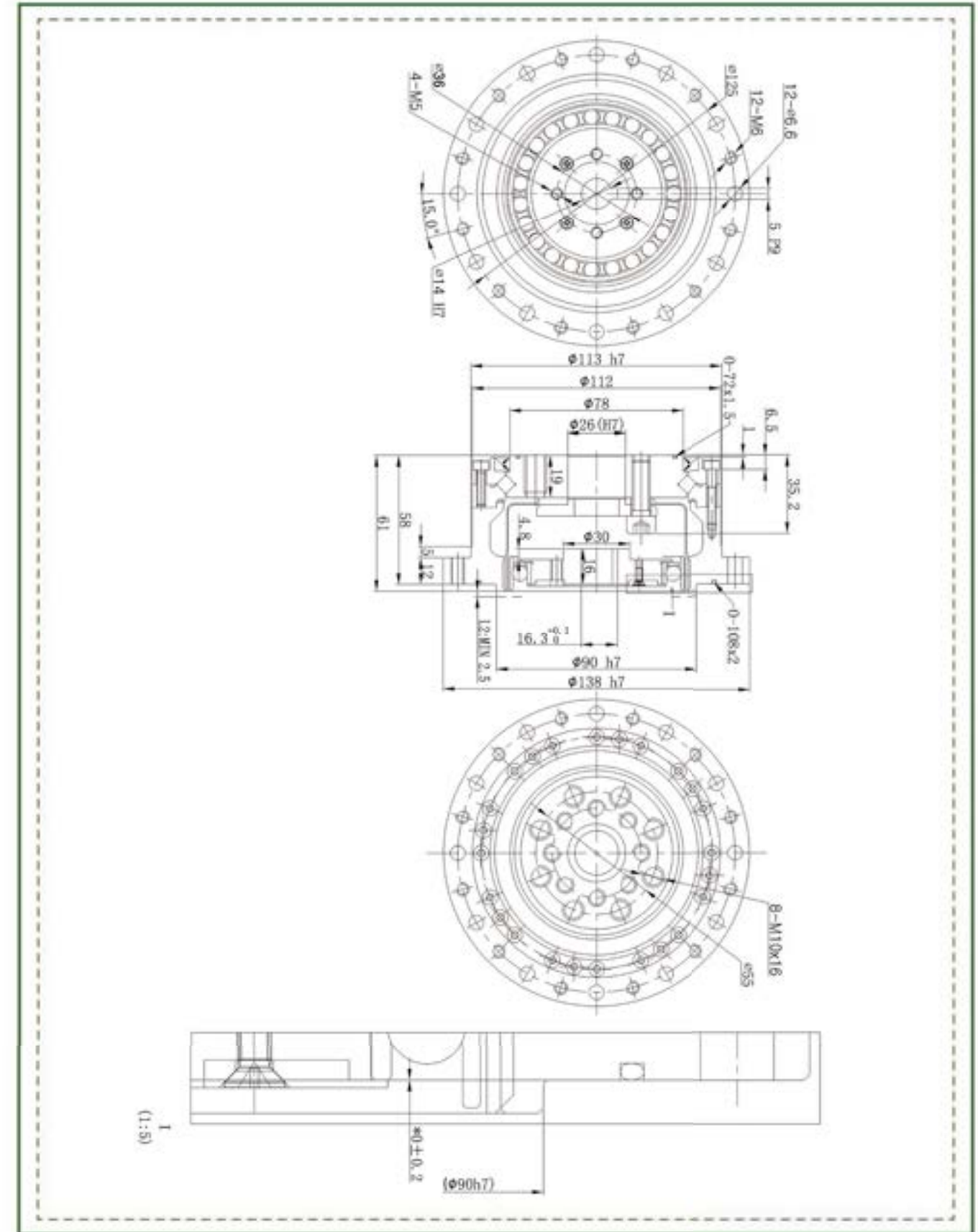
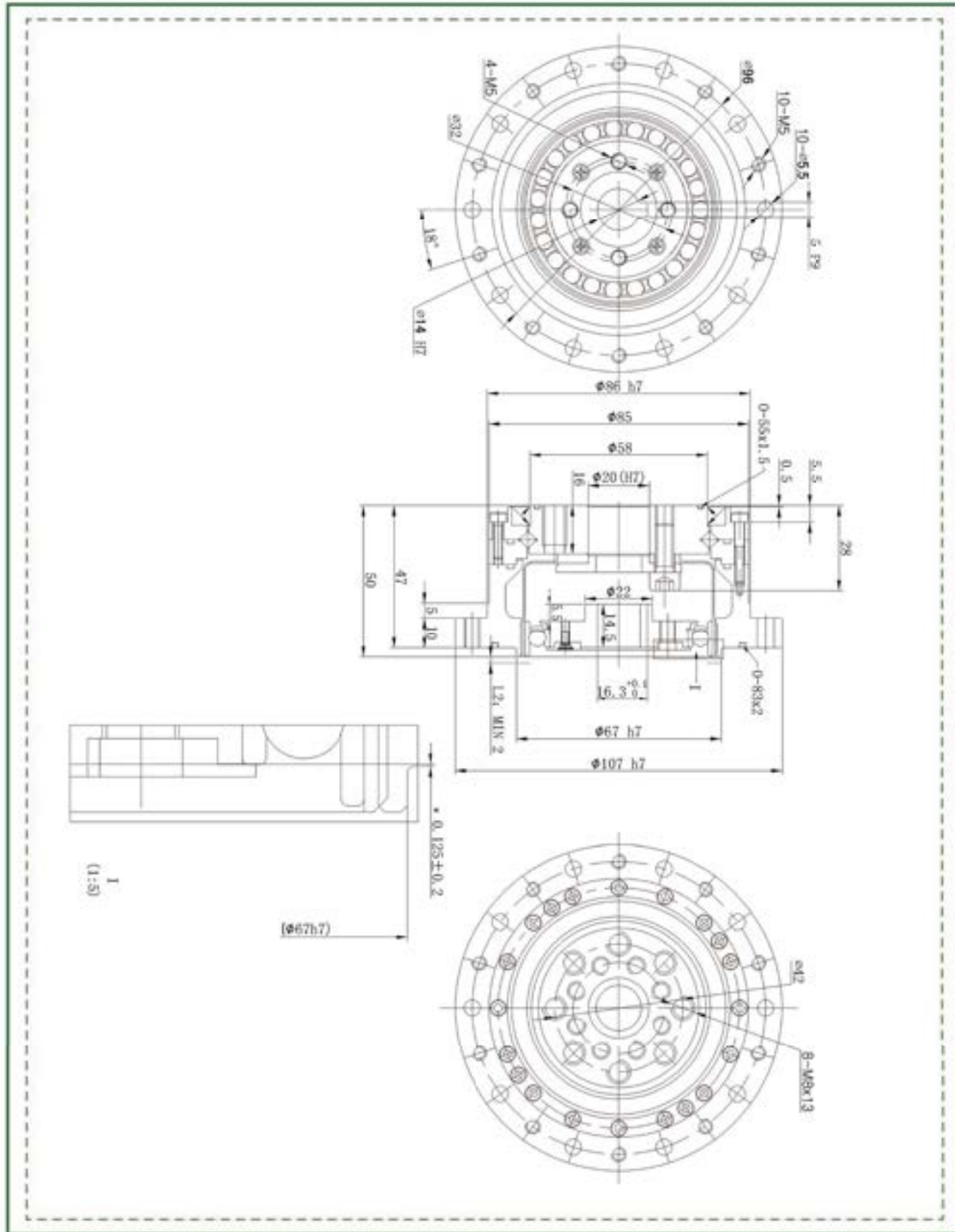


LCSG-I series are high-torque models which have the same structure, with LCS-I series. However, their torque bearing capacity is improved by 30% compared with LCS series.







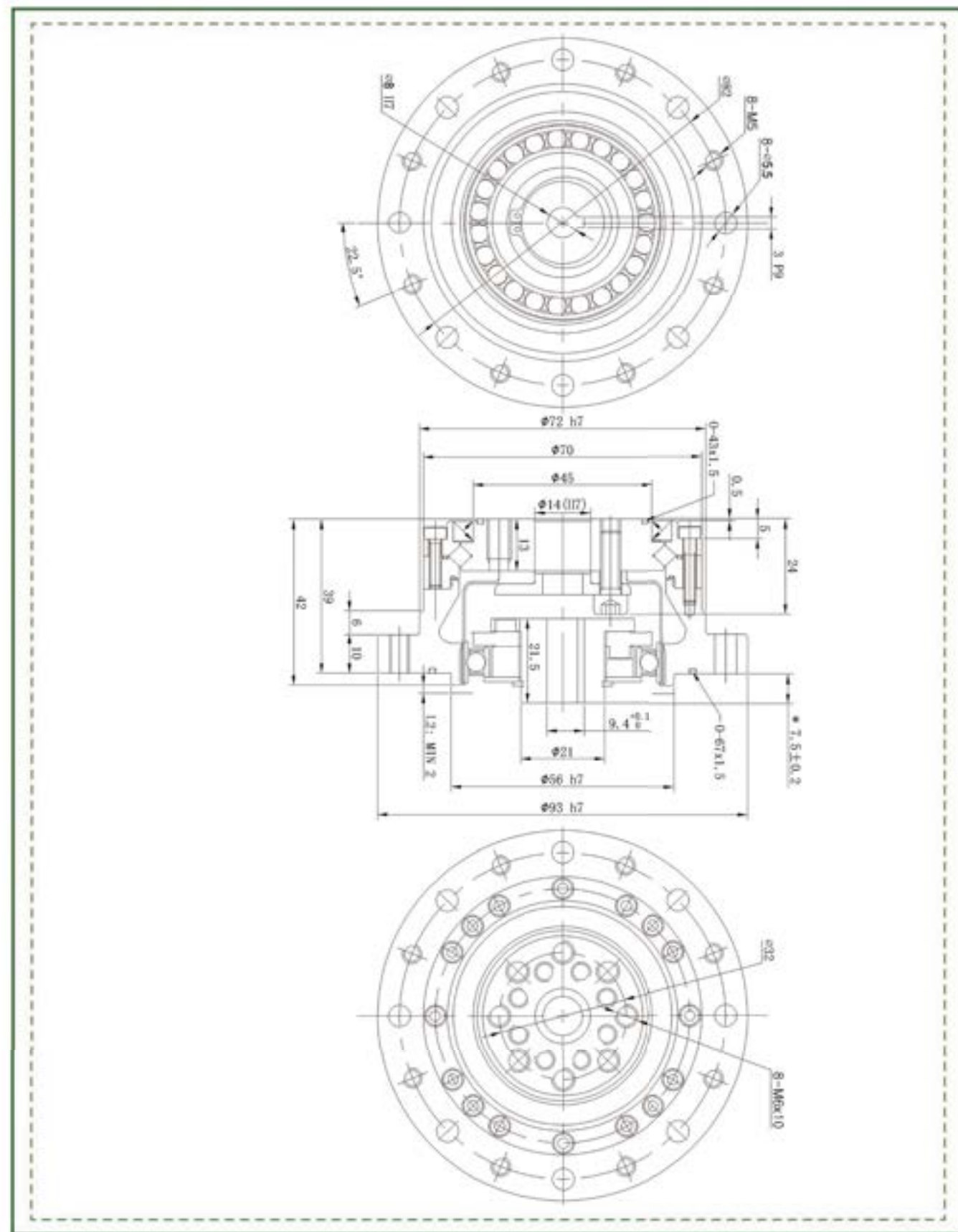
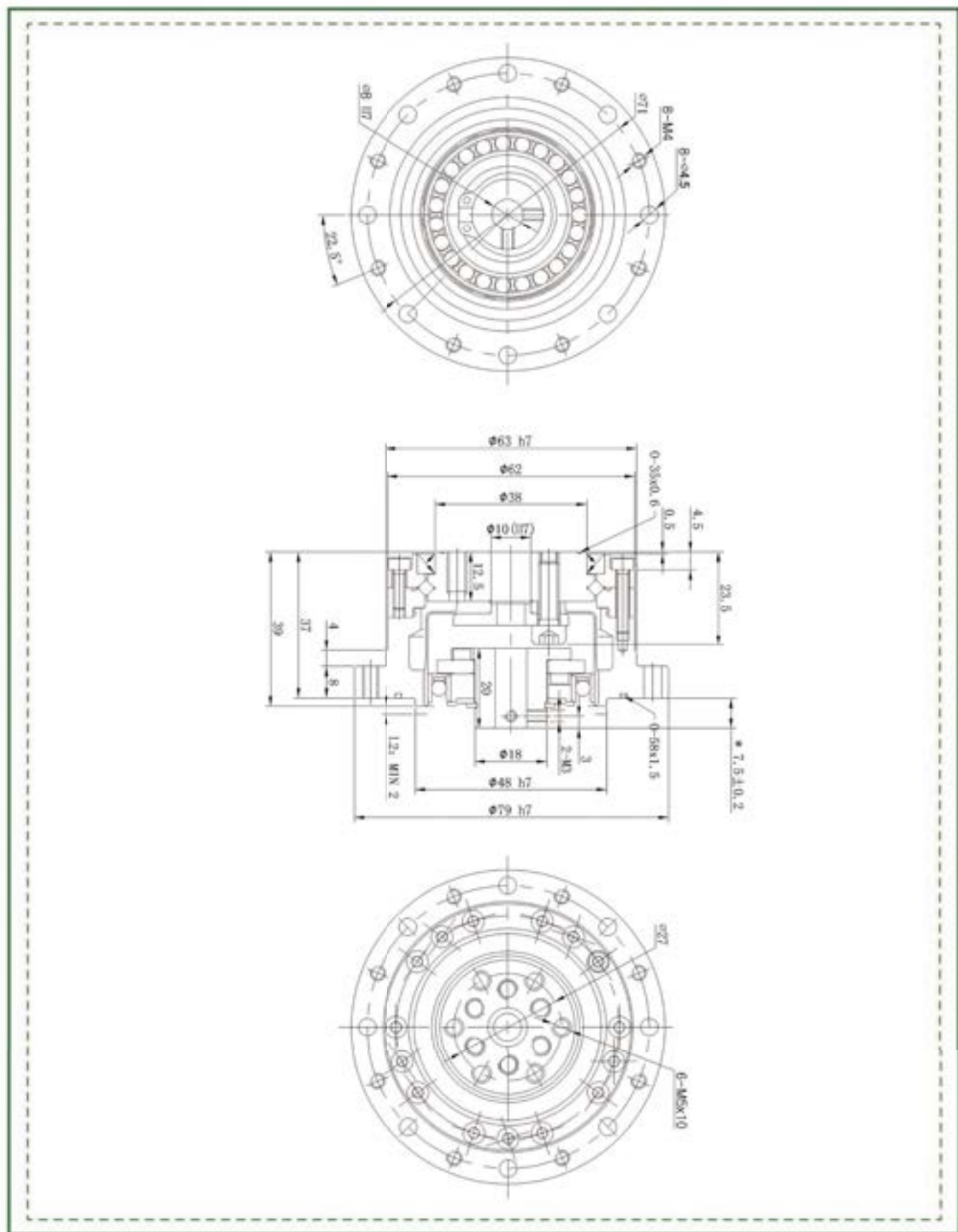






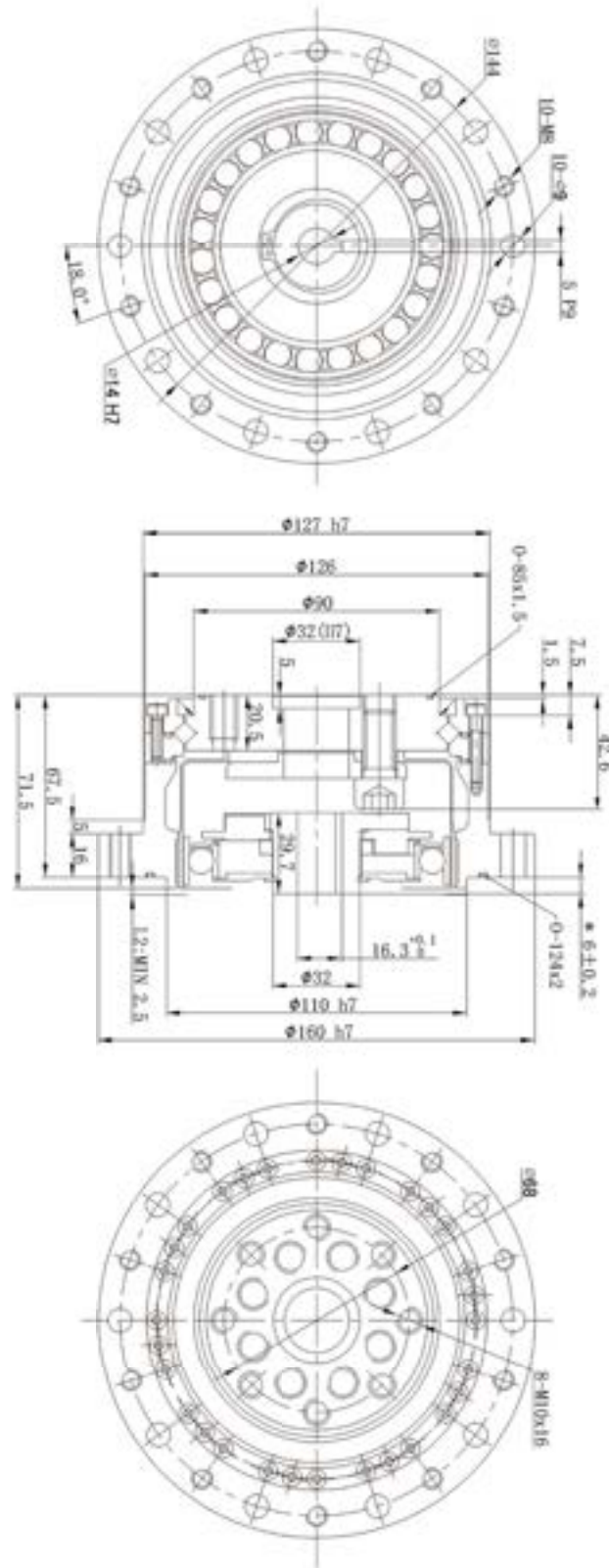












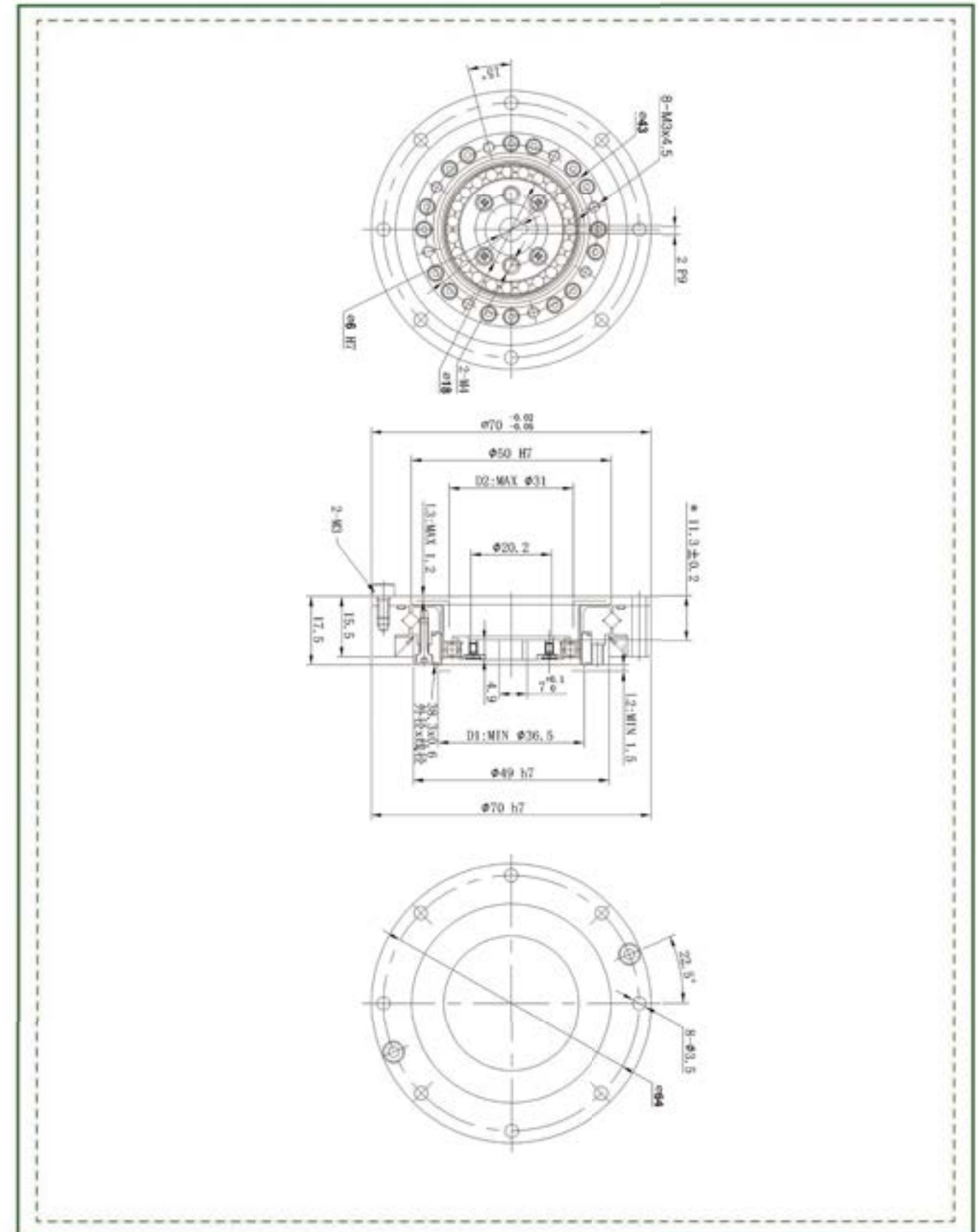
## LHD series



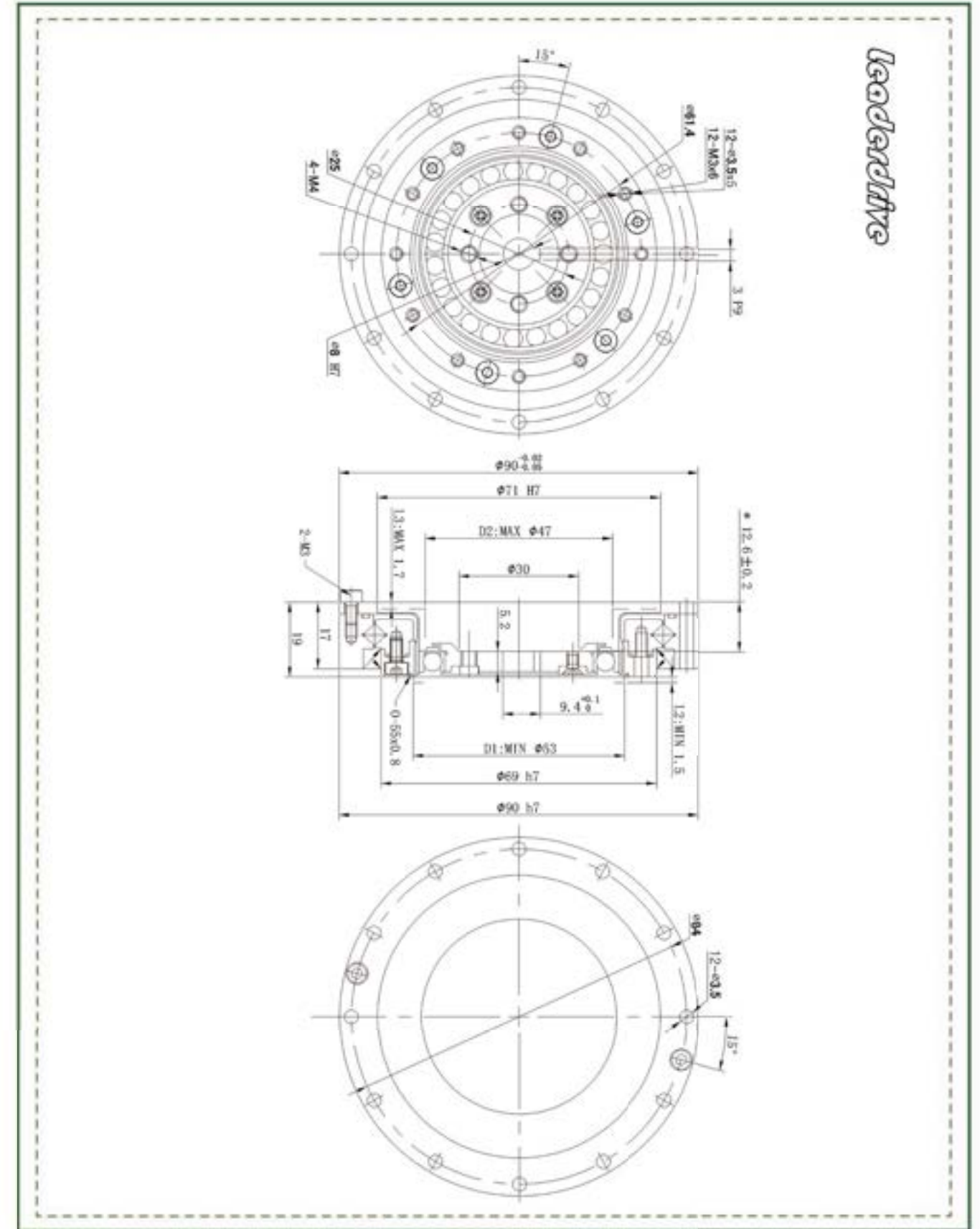
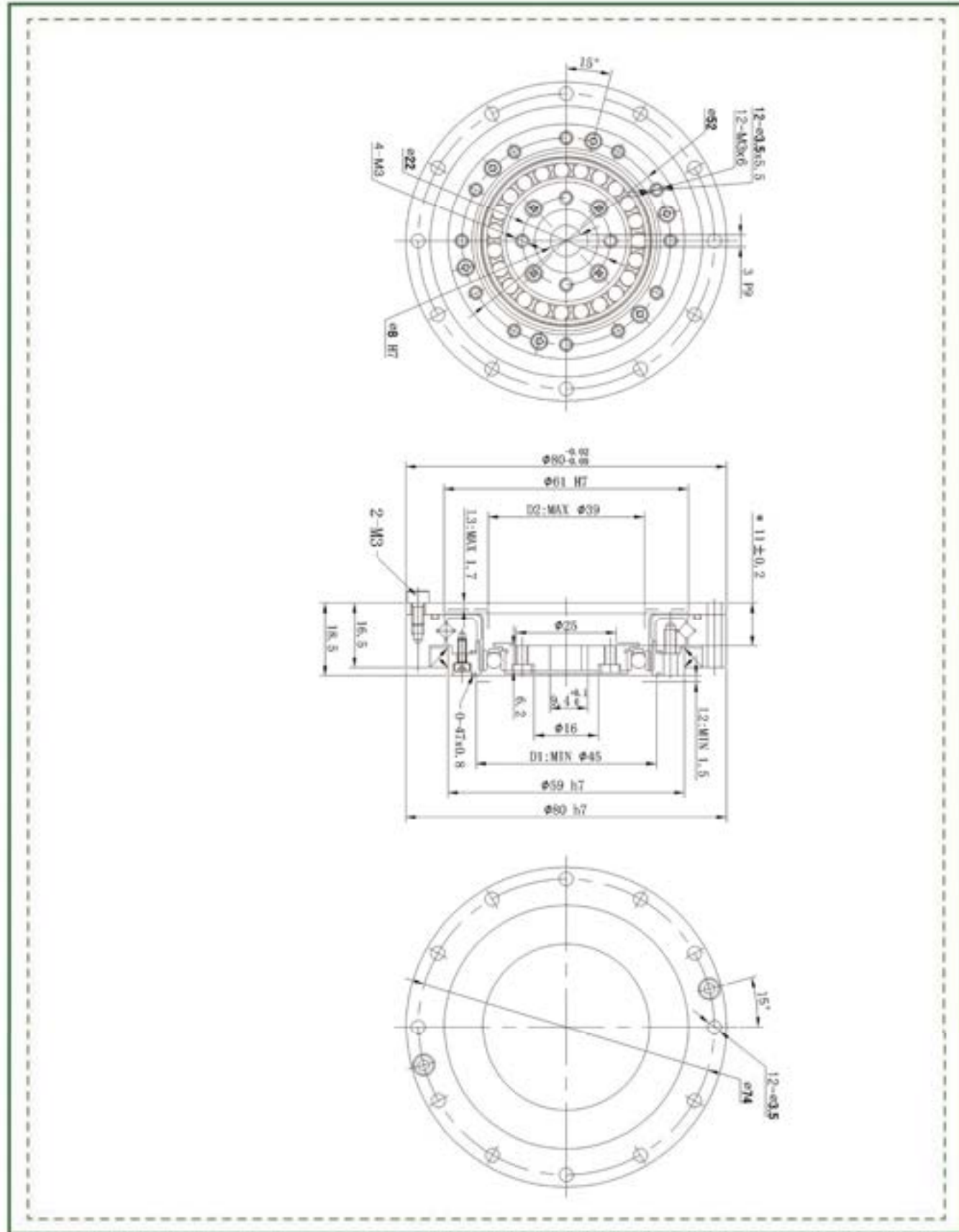
With a flexible gear in ultra-thin hollow and flange structure, the LHD series are designed as flat as possible, and are therefore very suitable for the occasions where harsh thickness requirements for reducers are posed.

### Parameter Table

| Item | Reduction Ratio | Rated Torque at 2000r/min | Allowable Peak Torque at Start and Stop | Allowable Average Torque | Allowable Maximum Momentary Torque | Maximum Input Speed | Allowable Average Input Speed | Back lash | Weight | Design Life |
|------|-----------------|---------------------------|---|--------------------------|------------------------------------|---------------------|-------------------------------|-----------|--------|-------------|
|      |                 | Nm                        | Nm                                      | Nm                       | Nm                                 | r/min               | r/min                         | Arc sec   | Kg     | Hour        |
| 14   | 50              | 3.5                       | 11.4                                    | 4.6                      | 23                                 | 8000                | 3500                          | ≤20       | 0.35   | 9000        |
|      | 80              | 5.1                       | 15                                      | 6.2                      | 29                                 |                     |                               | ≤20       |        | 10000       |
|      | 100             | 5.1                       | 18                                      | 7.3                      | 33                                 |                     |                               | ≤20       |        | 10000       |
| 17   | 50              | 10.4                      | 22                                      | 17                       | 46                                 | 7000                | 3500                          | ≤20       | 0.45   | 9000        |
|      | 80              | 14                        | 29                                      | 21                       | 54                                 |                     |                               | ≤20       |        | 10000       |
|      | 100             | 15.2                      | 35                                      | 26                       | 67                                 |                     |                               | ≤20       |        | 10000       |
| 20   | 50              | 16.1                      | 37                                      | 23                       | 66                                 | 6000                | 3500                          | ≤20       | 0.55   | 9000        |
|      | 80              | 23                        | 49                                      | 28                       | 78                                 |                     |                               | ≤20       |        | 10000       |
|      | 100             | 27                        | 54                                      | 32                       | 90                                 |                     |                               | ≤20       |        | 10000       |
| 25   | 50              | 26                        | 66                                      | 36                       | 121                                | 5500                | 3500                          | ≤20       | 0.95   | 9000        |
|      | 80              | 42                        | 91                                      | 62                       | 157                                |                     |                               | ≤20       |        | 10000       |
|      | 100             | 45                        | 105                                     | 71                       | 175                                |                     |                               | ≤20       |        | 10000       |
|      | 120             | 45                        | 111                                     | 71                       | 187                                |                     |                               | ≤20       |        | 10000       |
| 32   | 50              | 50                        | 143                                     | 71                       | 255                                | 4500                | 3500                          | ≤20       | 1.92   | 9000        |
|      | 80              | 79                        | 202                                     | 126                      | 350                                |                     |                               | ≤20       |        | 10000       |
|      | 100             | 91                        | 221                                     | 144                      | 399                                |                     |                               | ≤20       |        | 10000       |
|      | 120             | 91                        | 235                                     | 144                      | 423                                |                     |                               | ≤20       |        | 10000       |
| 40   | 50              | 91                        | 267                                     | 130                      | 456                                | 4000                | 3000                          | ≤20       | 3.15   | 9000        |
|      | 100             | 176                       | 378                                     | 247                      | 665                                |                     |                               | ≤20       |        | 10000       |
|      | 160             | 196                       | 430                                     | 300                      | 727                                |                     |                               | ≤20       |        | 10000       |

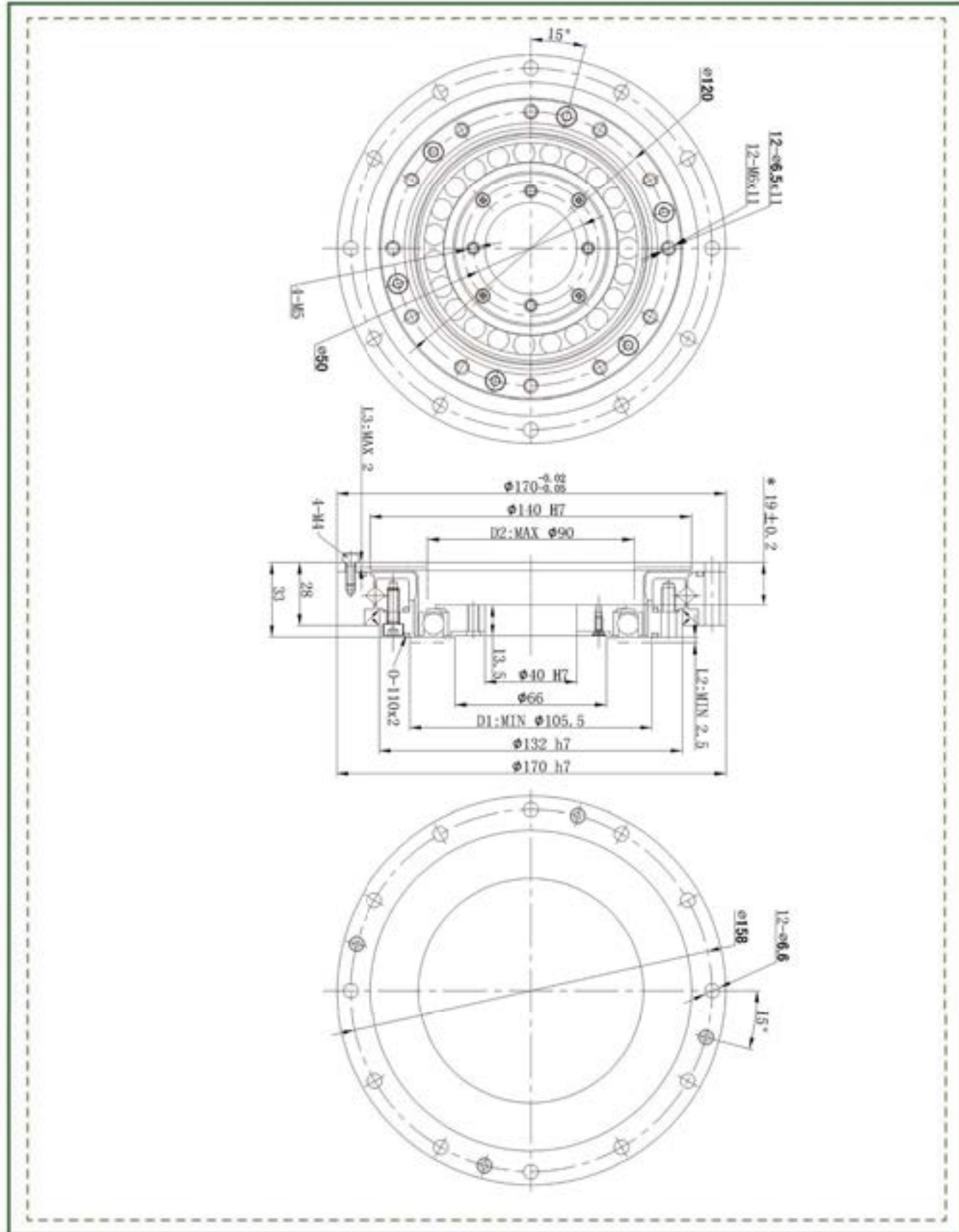












## LHD-III series

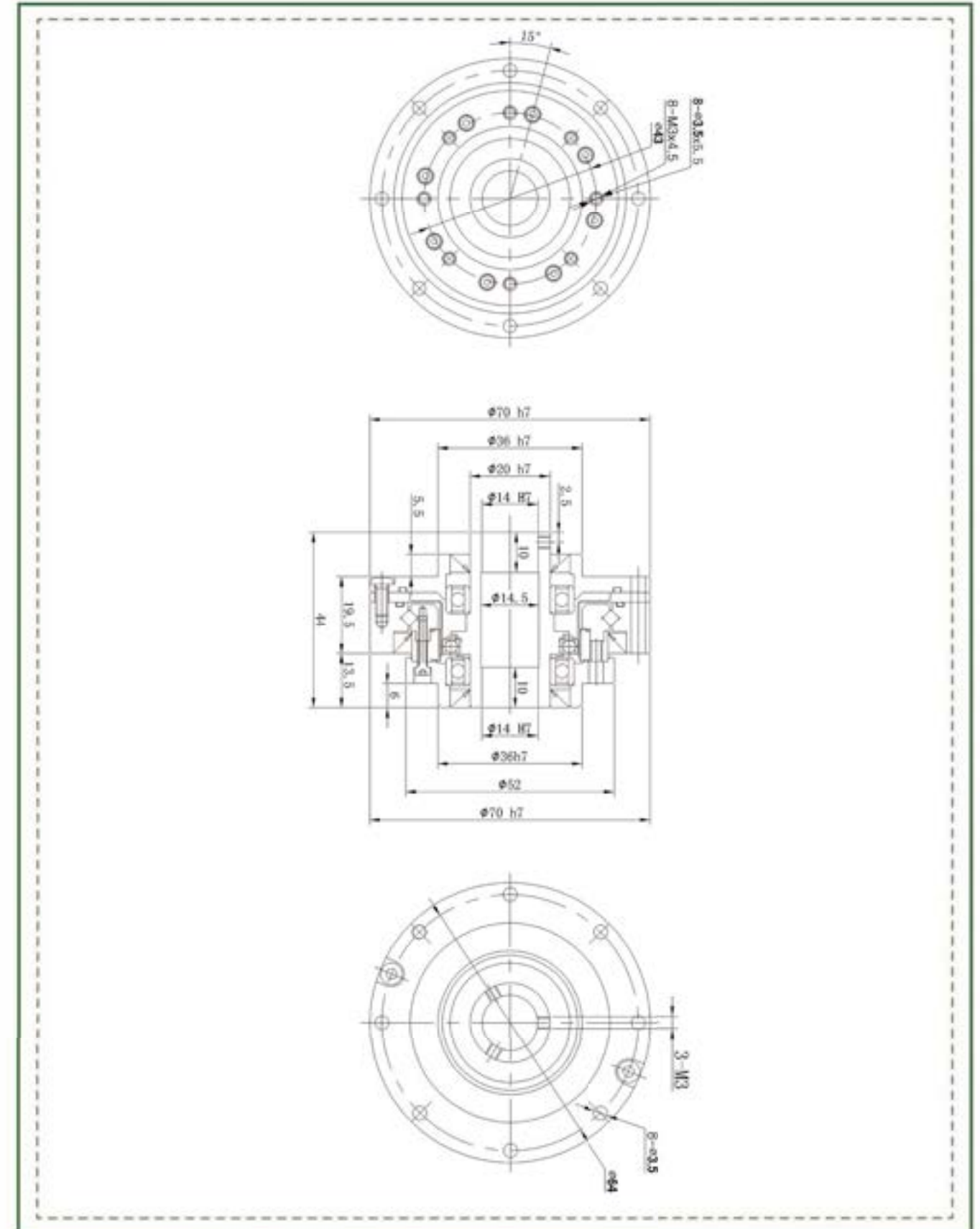


For LHD-III series, there is a large-aperture hollow shaft hole in the middle of the cam of their wave generator with a flexible gear in ultra-thin hollow and flange structure, the LHD series are designed as flat as possible, and are therefore very suitable for the occasions where harsh thickness requirements for reducers are posed.

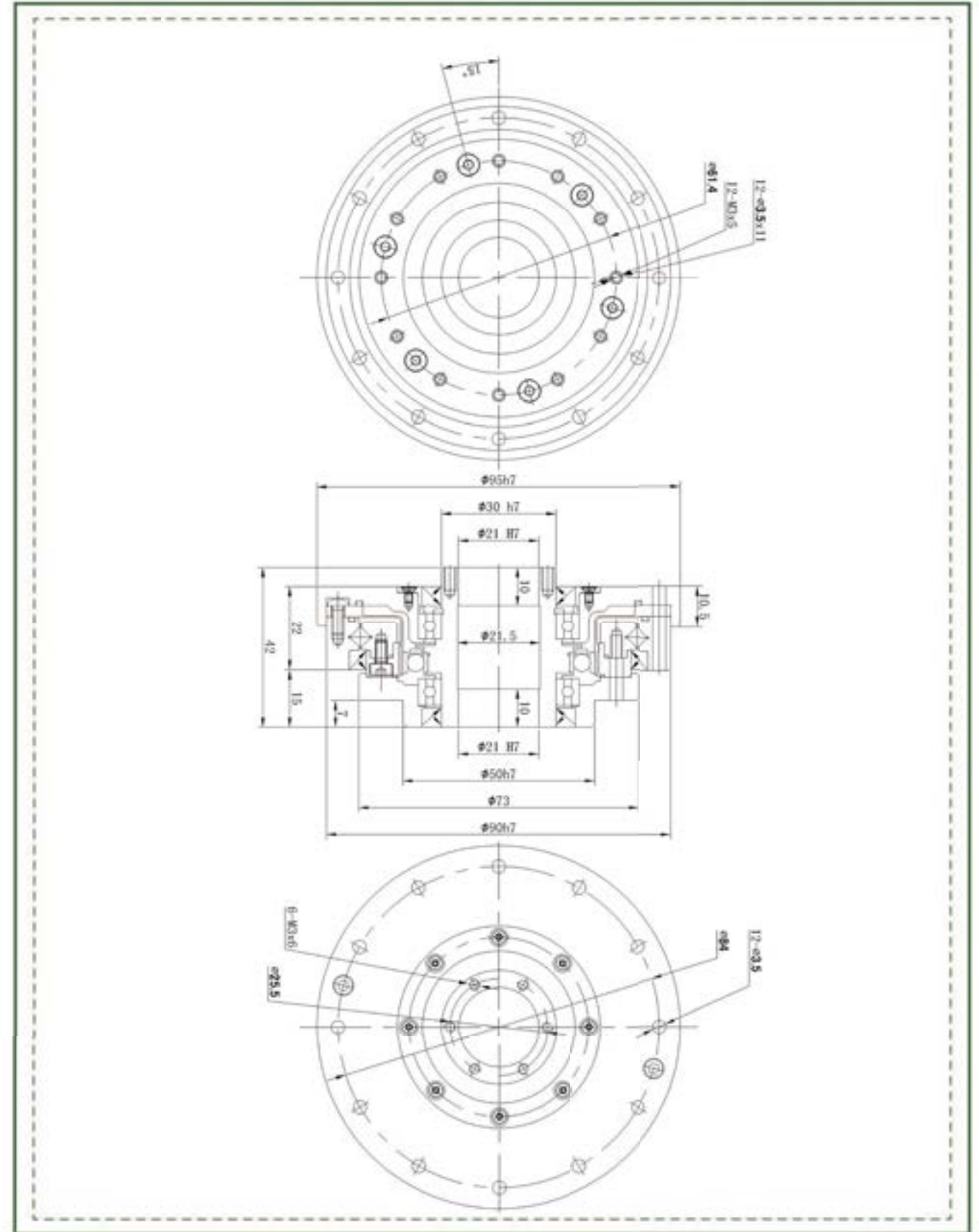
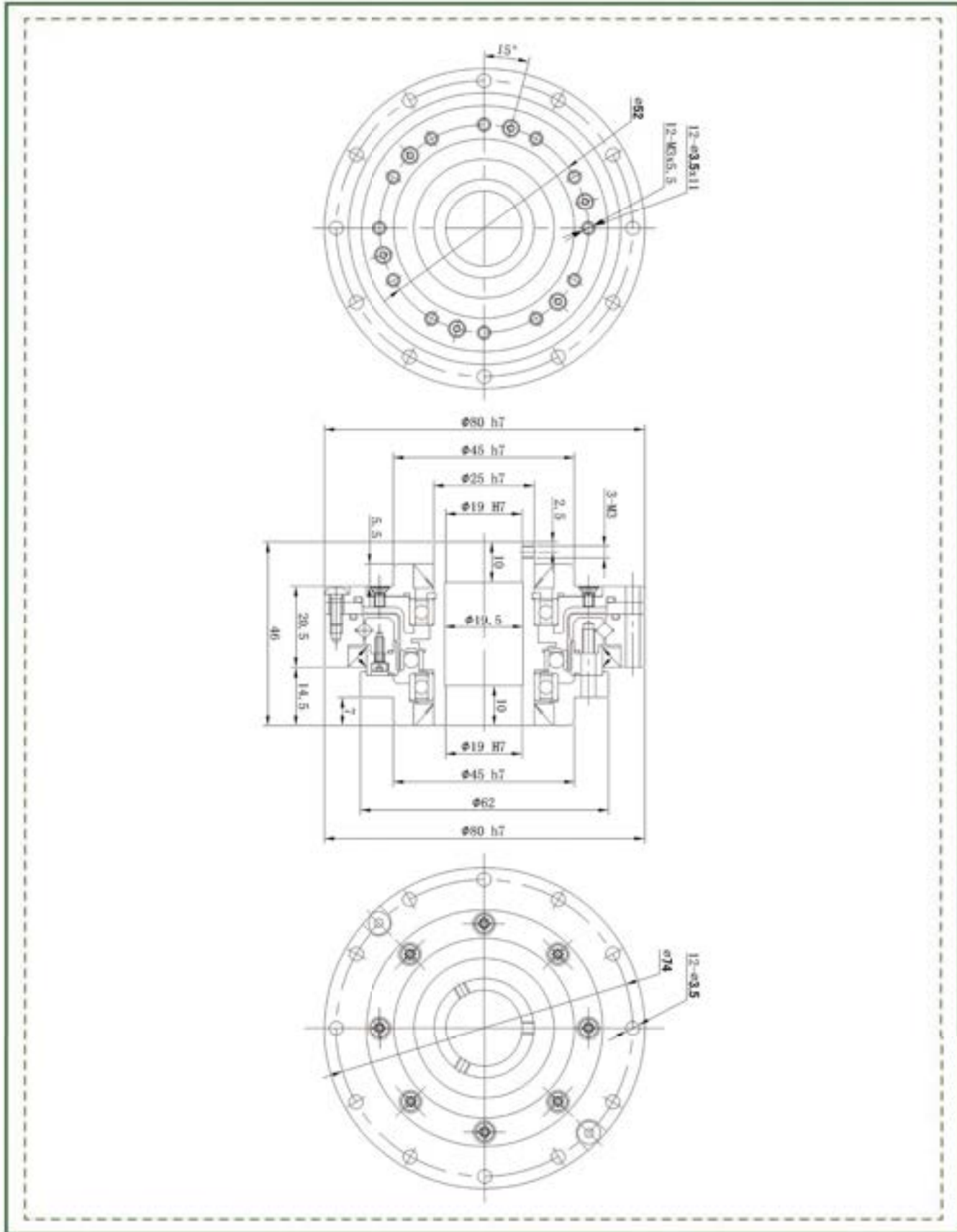
### Parameter Table

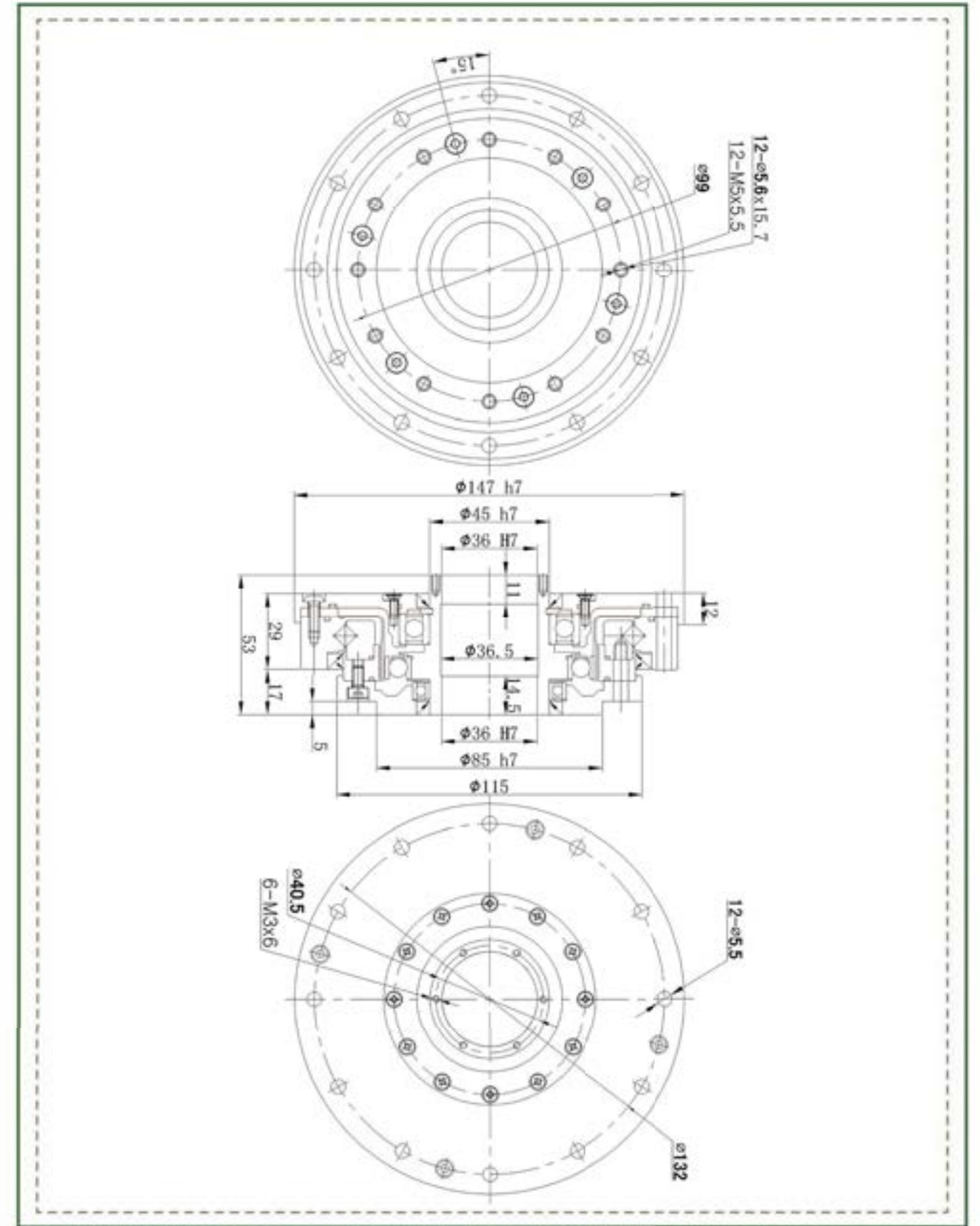
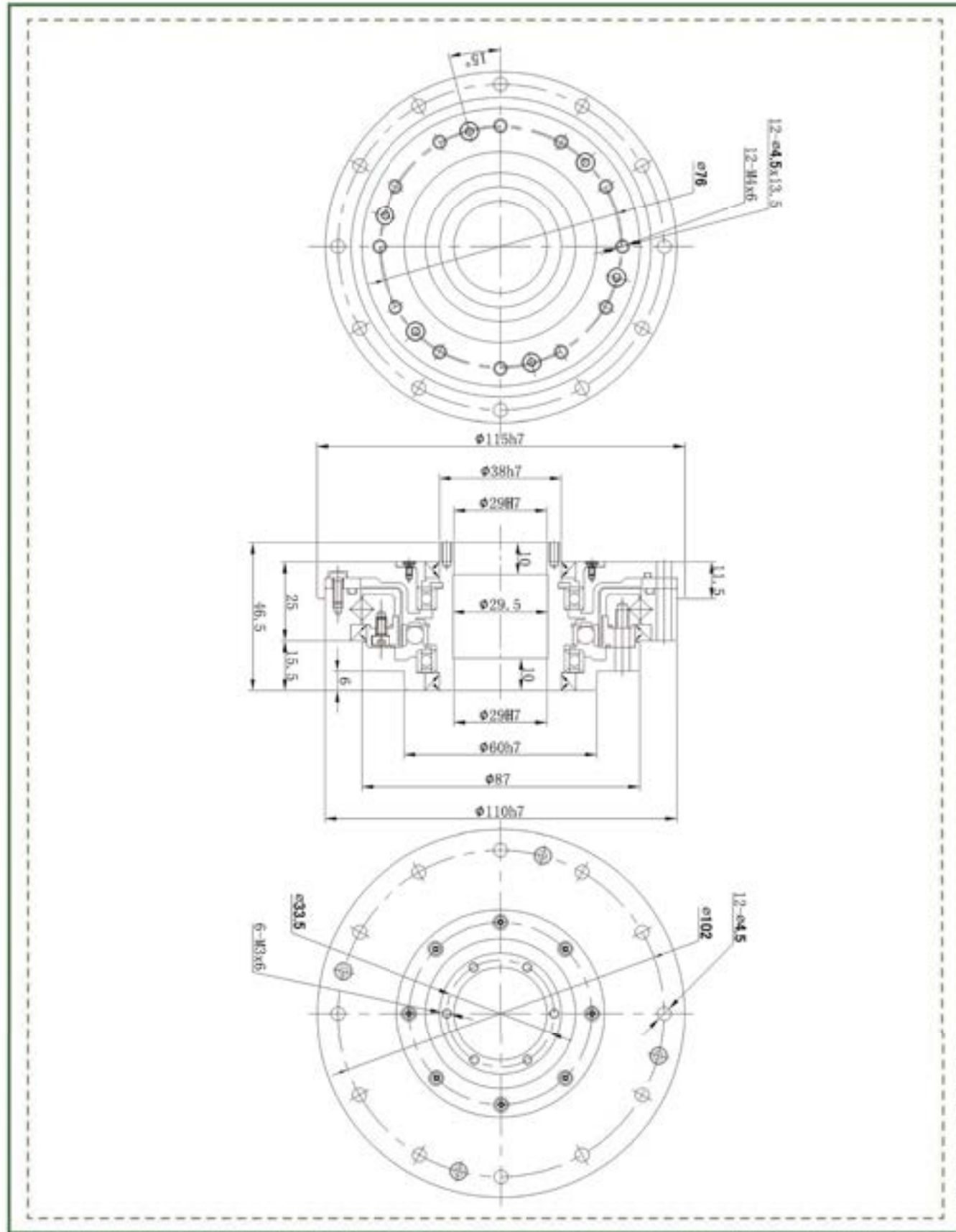
| Item | Reduction Ratio | Rated Torque at 2000r/min | Allowable Peak Torque at Start and Stop | Allowable Average Torque | Allowable Maximum Momentary Torque | Maximum Input Speed | Allowable Average Input Speed | Back lash | Weight | Design Life |
|------|-----------------|---------------------------|---|--------------------------|------------------------------------|---------------------|-------------------------------|-----------|--------|-------------|
|      |                 | Nm                        | Nm                                      | Nm                       | Nm                                 | r/min               | r/min                         | Arc sec   | Kg     | Hour        |
| 14   | 50              | 3.5                       | 11.4                                    | 4.6                      | 23                                 | 8000                | 3500                          | ≤20       | 0.35   | 9000        |
|      | 80              | 5.1                       | 15                                      | 6.2                      | 29                                 |                     |                               | ≤20       |        | 10000       |
|      | 100             | 5.1                       | 18                                      | 7.3                      | 33                                 |                     |                               | ≤20       |        | 10000       |
| 17   | 50              | 10.4                      | 22                                      | 17                       | 46                                 | 7000                | 3500                          | ≤20       | 0.45   | 9000        |
|      | 80              | 14                        | 29                                      | 21                       | 54                                 |                     |                               | ≤20       |        | 10000       |
|      | 100             | 15.2                      | 35                                      | 26                       | 67                                 |                     |                               | ≤20       |        | 10000       |
| 20   | 50              | 16.1                      | 37                                      | 23                       | 66                                 | 6000                | 3500                          | ≤20       | 0.55   | 9000        |
|      | 80              | 23                        | 49                                      | 28                       | 78                                 |                     |                               | ≤20       |        | 10000       |
|      | 100             | 27                        | 54                                      | 32                       | 90                                 |                     |                               | ≤20       |        | 10000       |
| 25   | 50              | 26                        | 66                                      | 36                       | 121                                | 5500                | 3500                          | ≤20       | 0.95   | 9000        |
|      | 80              | 42                        | 91                                      | 62                       | 157                                |                     |                               | ≤20       |        | 10000       |
|      | 100             | 45                        | 105                                     | 71                       | 175                                |                     |                               | ≤20       |        | 10000       |
|      | 120             | 45                        | 111                                     | 71                       | 187                                |                     |                               | ≤20       |        | 10000       |
| 32   | 50              | 50                        | 143                                     | 71                       | 255                                | 4500                | 3500                          | ≤20       | 1.92   | 9000        |
|      | 80              | 79                        | 202                                     | 126                      | 350                                |                     |                               | ≤20       |        | 10000       |
|      | 100             | 91                        | 221                                     | 144                      | 399                                |                     |                               | ≤20       |        | 10000       |
|      | 120             | 91                        | 235                                     | 144                      | 423                                |                     |                               | ≤20       |        | 10000       |
| 40*  | 50              | 91                        | 267                                     | 130                      | 456                                | 4000                | 3000                          | ≤20       | 3.15   | 9000        |
|      | 100             | 176                       | 378                                     | 247                      | 665                                |                     |                               | ≤20       |        | 10000       |
|      | 160             | 196                       | 430                                     | 300                      | 727                                |                     |                               | ≤20       |        | 10000       |

\* Consult factory











# LHS-I series



**LHS-I series**, which have a standard hollow and flange-shaped tube structure, are light in structure. Their input shaft matches with the inner hole of wave transformer directly and are connected by flat key. Alternatively, they can be used with the rigid gear end fixed and the flexible gear end outputting, or with the flexible gear end fixed and the rigid gear end outputting.

## LHS-I series

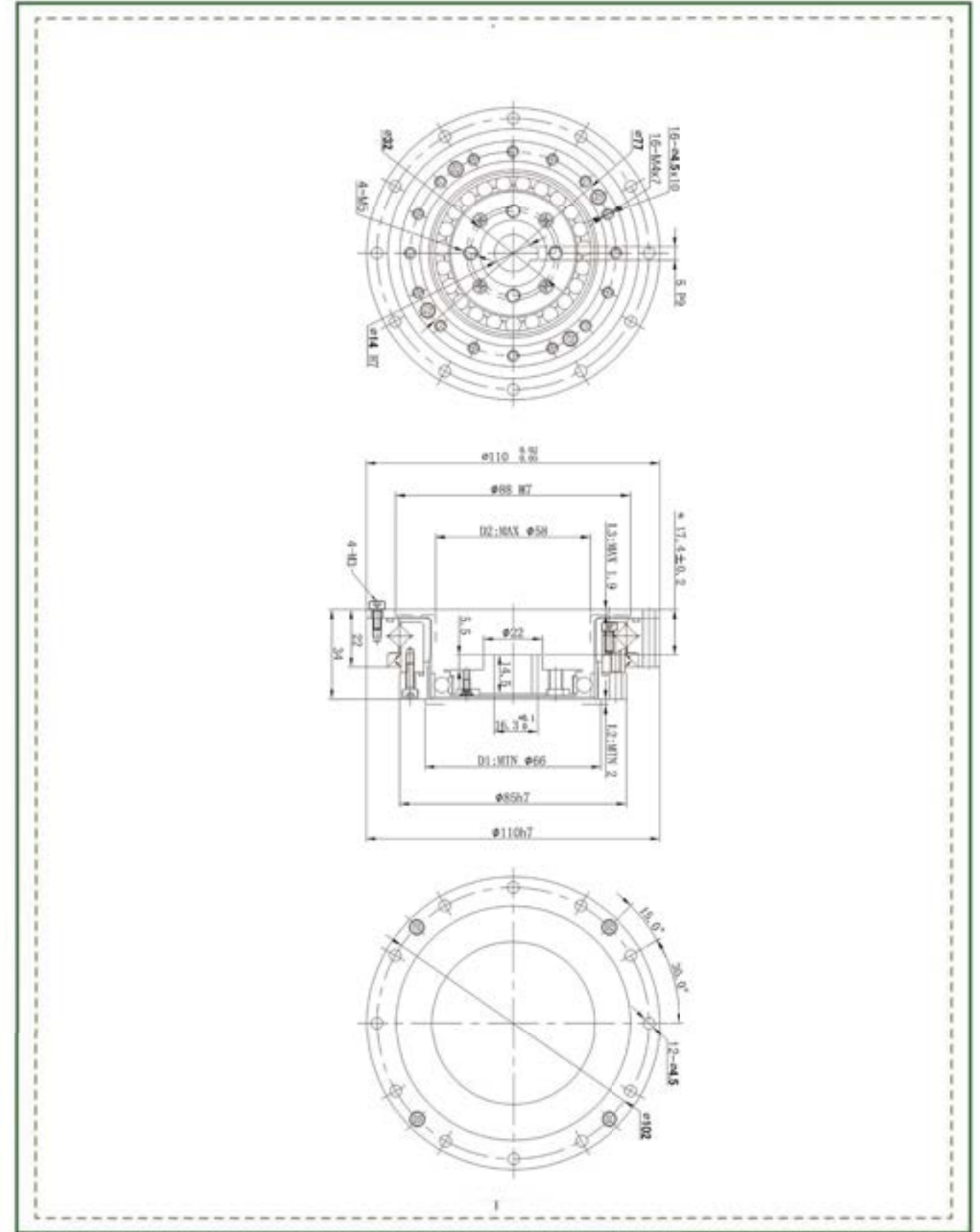
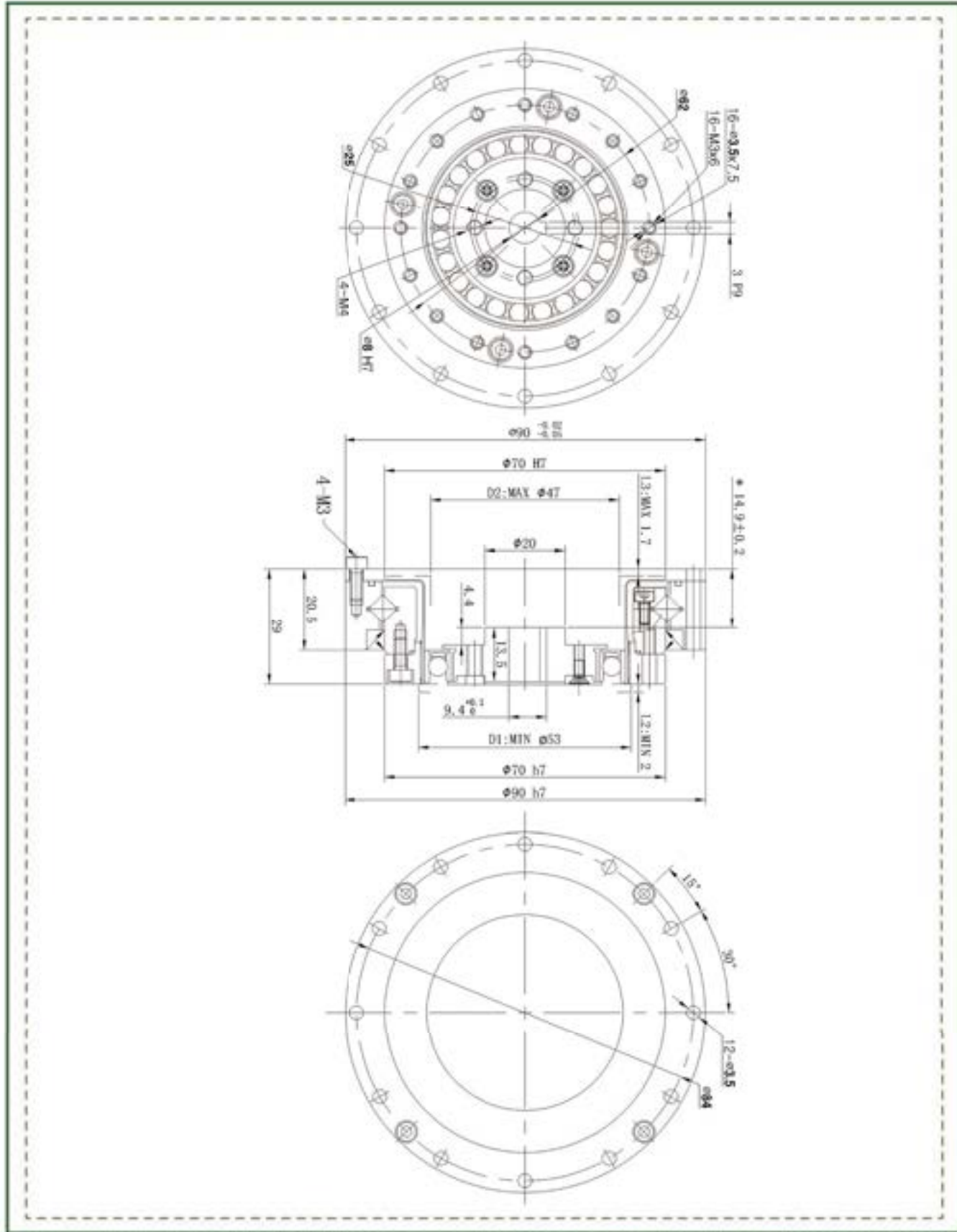
## Parameter Table

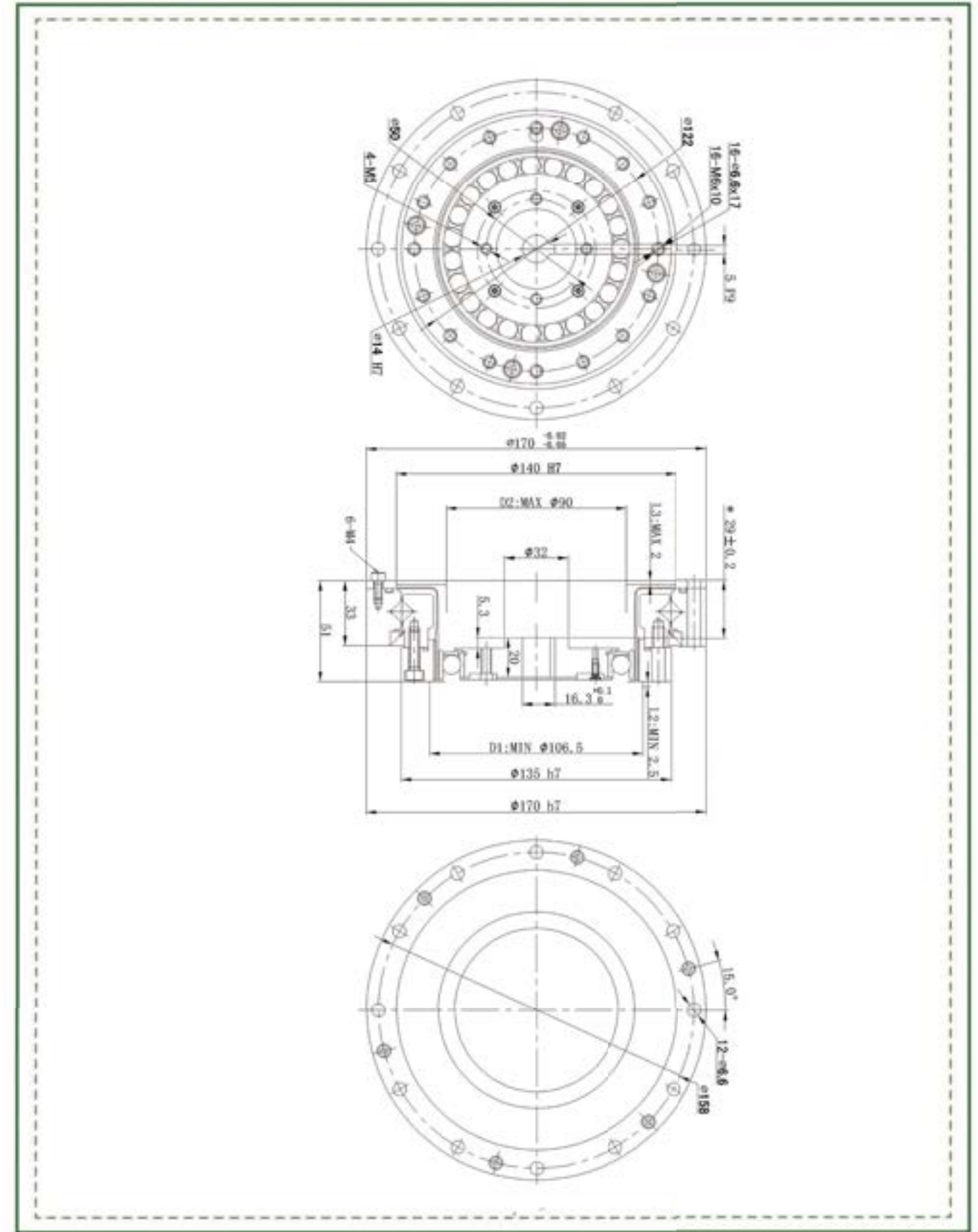
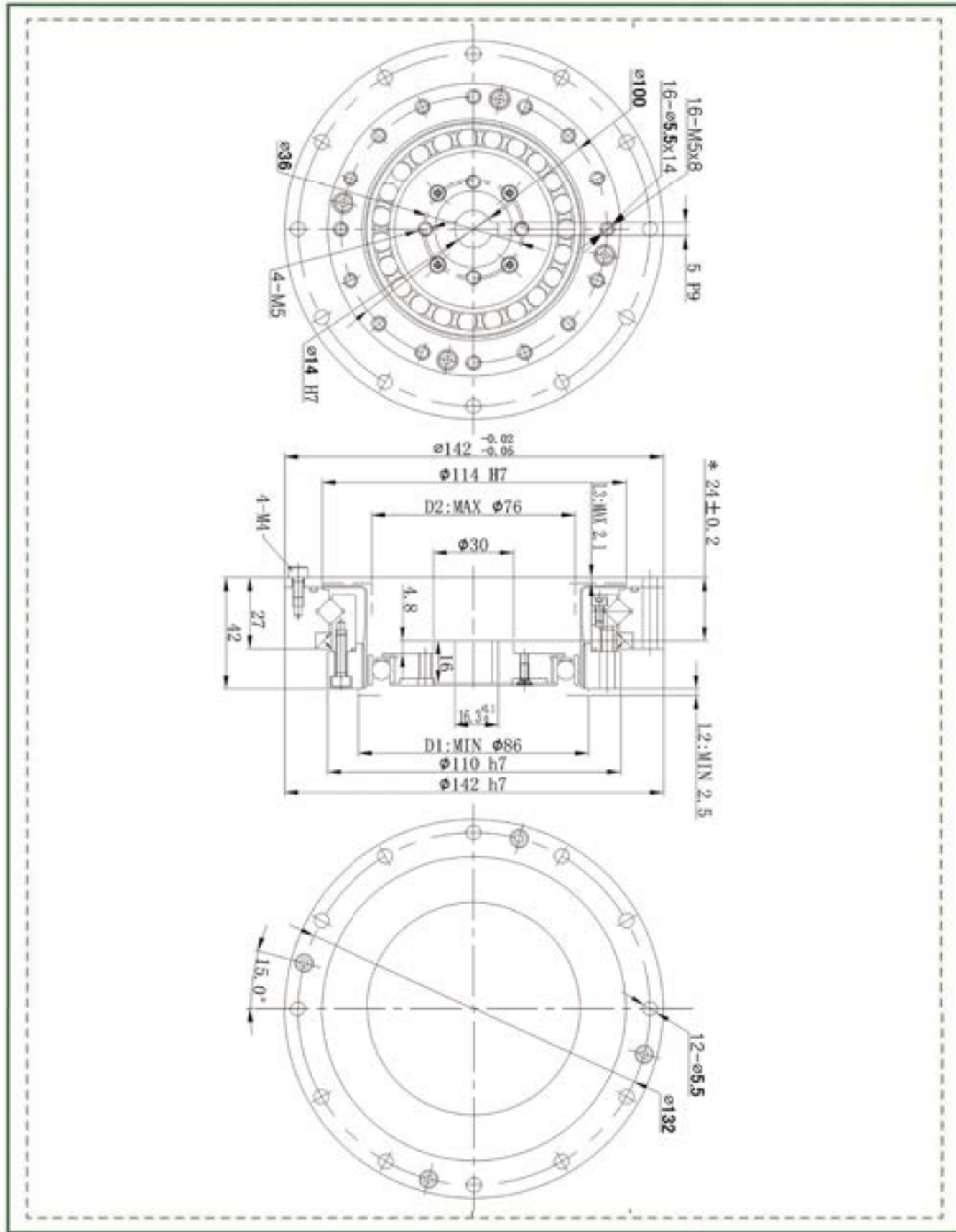
| Item<br>Model No | Reduction Ratio | Rated Torque at 2000r/min | Allowable Peak Torque at Start and Stop | Allowable Average Torque | Allowable Maximum Momentary Torque | Maximum Input Speed | Allowable Average Input Speed | Back lash | Weight | Design Life |
|------------------|-----------------|---------------------------|---|--------------------------|------------------------------------|---------------------|-------------------------------|-----------|--------|-------------|
|                  |                 | Nm                        | Nm                                      | Nm                       | Nm                                 | r/min               | r/min                         | Arc sec   | Kg     | Hour        |
| 14               | 30              | 3.8                       | 8.6                                     | 7.8                      | 16                                 | 8000                | 3500                          | ≤20       | 0.38   | 10000       |
|                  | 50              | 5.1                       | 17                                      | 6.6                      | 33                                 |                     |                               | ≤20       |        | 10000       |
|                  | 80              | 7.4                       | 22                                      | 10.5                     | 45                                 |                     |                               | ≤10       |        | 15000       |
|                  | 100             | 7.4                       | 27                                      | 10.5                     | 51                                 |                     |                               | ≤10       |        | 15000       |
| 17               | 30              | 8.4                       | 15.2                                    | 11.5                     | 29                                 | 7000                | 3500                          | ≤20       | 0.56   | 10000       |
|                  | 50              | 15.2                      | 32                                      | 25                       | 66                                 |                     |                               | ≤20       |        | 10000       |
|                  | 80              | 21                        | 41                                      | 26                       | 83                                 |                     |                               | ≤10       |        | 15000       |
|                  | 100             | 23                        | 51                                      | 37                       | 104                                |                     |                               | ≤10       |        | 15000       |
|                  | 120             | 23                        | 51                                      | 37                       | 82                                 |                     |                               | ≤10       |        | 15000       |
| 20               | 30              | 14                        | 26                                      | 19                       | 48                                 | 6000                | 3500                          | ≤20       | 0.76   | 10000       |
|                  | 50              | 24                        | 53                                      | 32                       | 93                                 |                     |                               | ≤20       |        | 10000       |
|                  | 80              | 32                        | 70                                      | 45                       | 121                                |                     |                               | ≤10       |        | 15000       |
|                  | 100             | 38                        | 78                                      | 47                       | 140                                |                     |                               | ≤10       |        | 15000       |
|                  | 120             | 38                        | 83                                      | 47                       | 140                                |                     |                               | ≤10       |        | 15000       |
|                  | 160             | 38                        | 87                                      | 47                       | 140                                |                     |                               | ≤10       |        | 15000       |
| 25               | 30              | 26                        | 48                                      | 36                       | 90                                 | 5500                | 3500                          | ≤20       | 1.24   | 10000       |
|                  | 50              | 37                        | 93                                      | 52                       | 177                                |                     |                               | ≤20       |        | 10000       |
|                  | 80              | 60                        | 130                                     | 83                       | 242                                |                     |                               | ≤10       |        | 15000       |
|                  | 100             | 64                        | 149                                     | 103                      | 270                                |                     |                               | ≤10       |        | 15000       |
|                  | 120             | 64                        | 159                                     | 103                      | 289                                |                     |                               | ≤10       |        | 15000       |
|                  | 160             | 64                        | 167                                     | 103                      | 298                                |                     |                               | ≤10       |        | 15000       |
| 32               | 30              | 51                        | 95                                      | 71                       | 190                                | 4500                | 3500                          | ≤20       | 2.6    | 10000       |
|                  | 50              | 72                        | 205                                     | 103                      | 363                                |                     |                               | ≤20       |        | 10000       |
|                  | 80              | 112                       | 289                                     | 159                      | 540                                |                     |                               | ≤10       |        | 15000       |
|                  | 100             | 130                       | 316                                     | 205                      | 615                                |                     |                               | ≤10       |        | 15000       |
|                  | 120             | 130                       | 335                                     | 205                      | 652                                |                     |                               | ≤10       |        | 15000       |
|                  | 160             | 130                       | 353                                     | 205                      | 652                                |                     |                               | ≤10       |        | 15000       |
| 40               | 50              | 130                       | 382                                     | 186                      | 652                                | 4000                | 3000                          | ≤20       | 5.0    | 10000       |
|                  | 80              | 196                       | 493                                     | 270                      | 931                                |                     |                               | ≤10       |        | 15000       |
|                  | 100             | 252                       | 540                                     | 353                      | 1026                               |                     |                               | ≤10       |        | 15000       |
|                  | 120             | 279                       | 586                                     | 428                      | 1121                               |                     |                               | ≤10       |        | 15000       |
|                  | 160             | 279                       | 615                                     | 428                      | 1121                               |                     |                               | ≤10       |        | 15000       |
| 50*              | 50              | 233                       | 679                                     | 333                      | 1358                               | 3000                | 2500                          | ≤20       | 9.5    | 10000       |
|                  | 80              | 353                       | 894                                     | 493                      | 1767                               |                     |                               | ≤10       |        | 15000       |
|                  | 100             | 446                       | 931                                     | 633                      | 1957                               |                     |                               | ≤10       |        | 15000       |
|                  | 120             | 502                       | 1026                                    | 772                      | 1957                               |                     |                               | ≤10       |        | 15000       |
|                  | 160             | 502                       | 1121                                    | 801                      | 2328                               |                     |                               | ≤10       |        | 15000       |
| 58*              | 80              | 522                       | 1406                                    | 732                      | 2328                               | 3000                | 2200                          | ≤10       | 13.6   | 15000       |
|                  | 100             | 661                       | 1511                                    | 1007                     | 3021                               |                     |                               | ≤10       |        | 15000       |
|                  | 120             | 708                       | 1634                                    | 1131                     | 3164                               |                     |                               | ≤10       |        | 15000       |
|                  | 160             | 708                       | 1748                                    | 1150                     | 3259                               |                     |                               | ≤10       |        | 15000       |

\* Consult factory











# LHS-II series



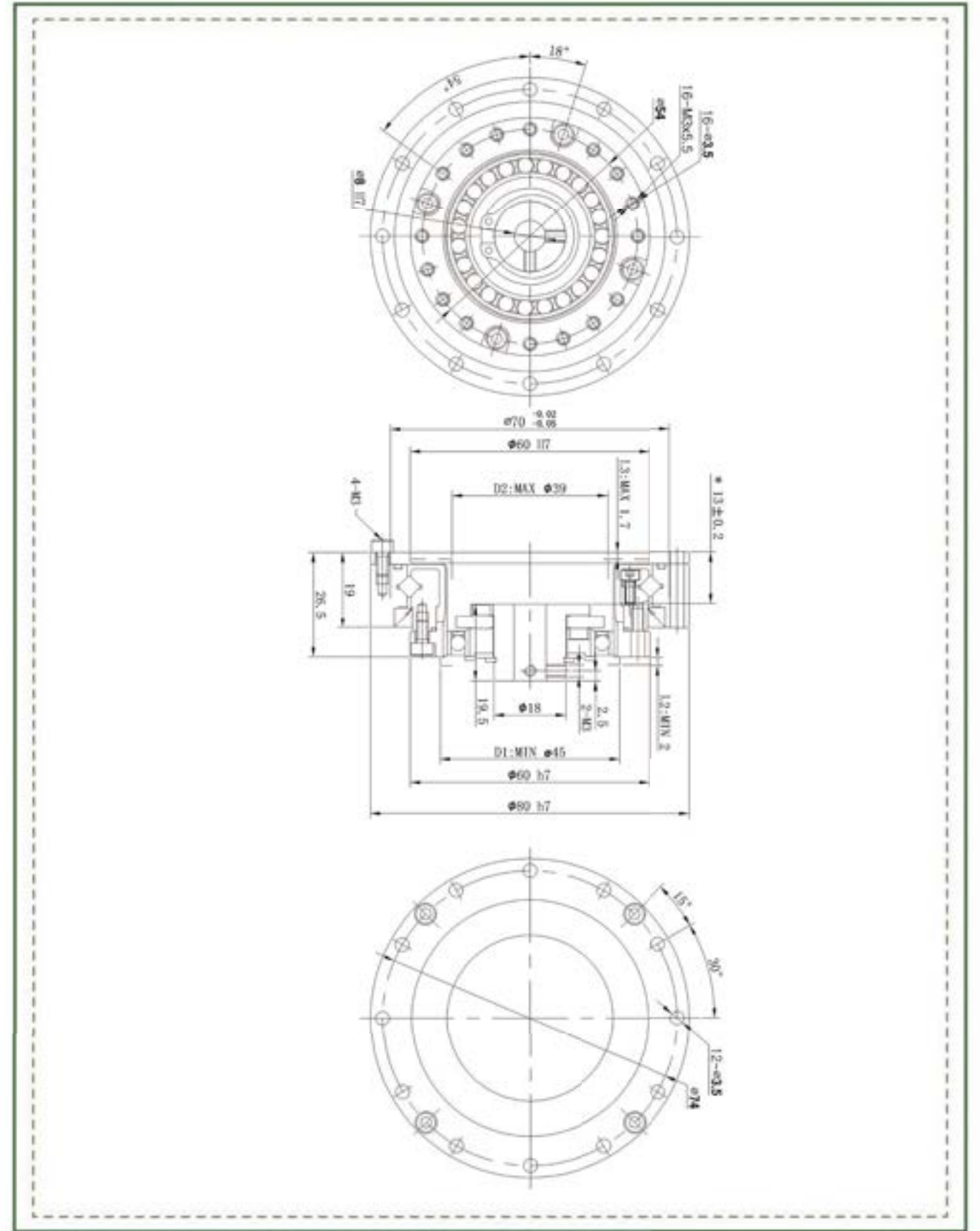
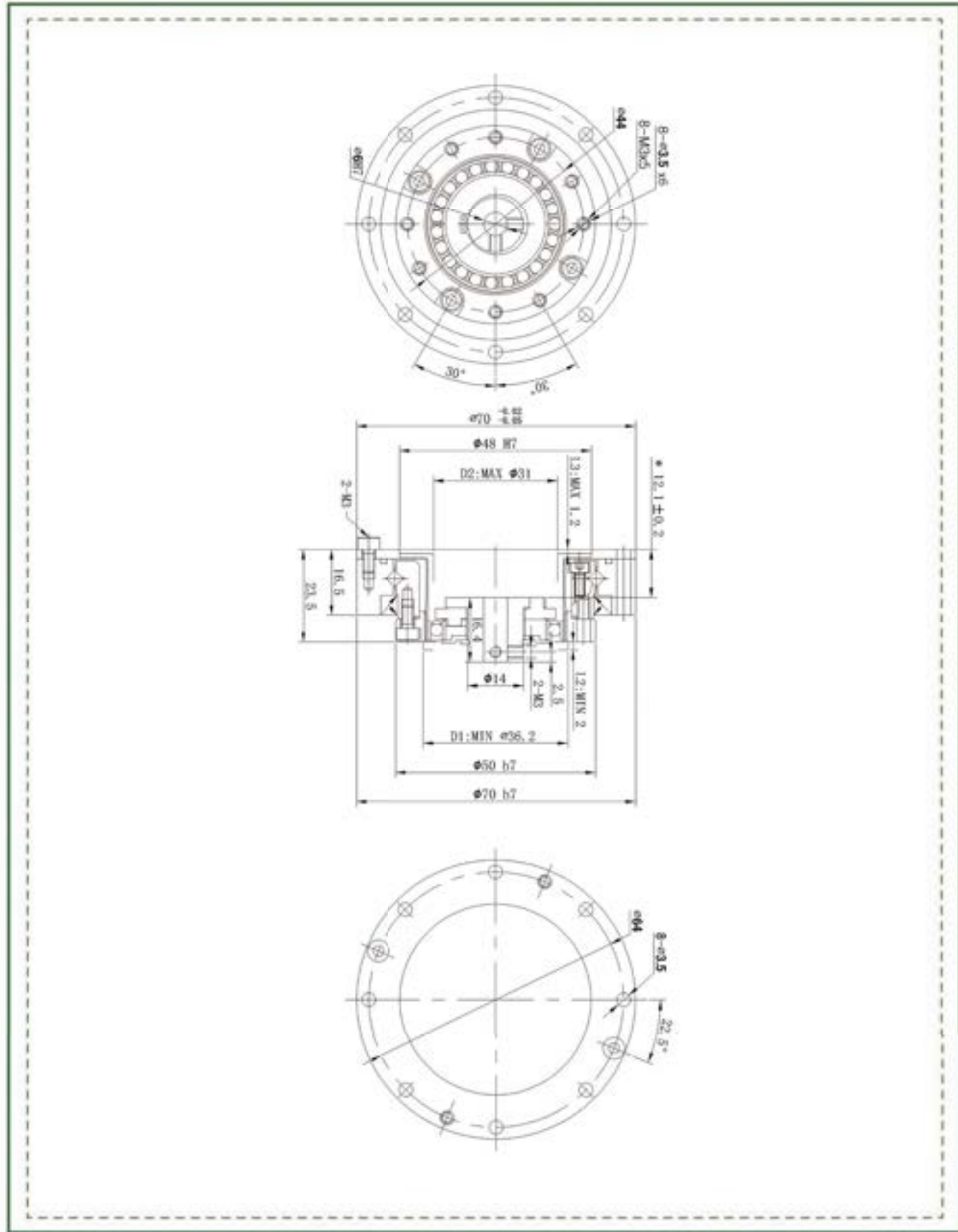
For LHS-II series, their input shaft is connected with the inner hole of wave transformer through a double slider coupling.

## Parameter Table

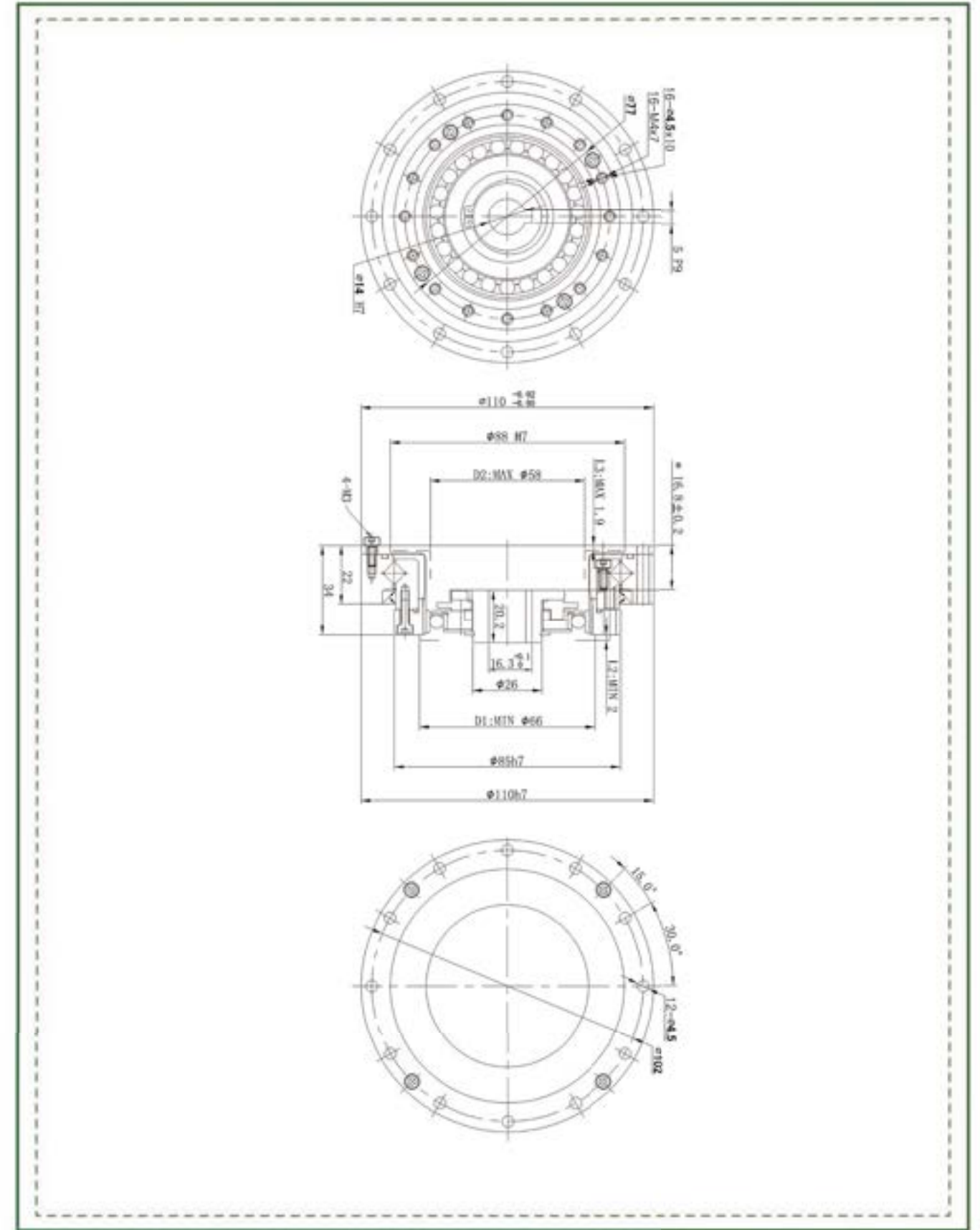
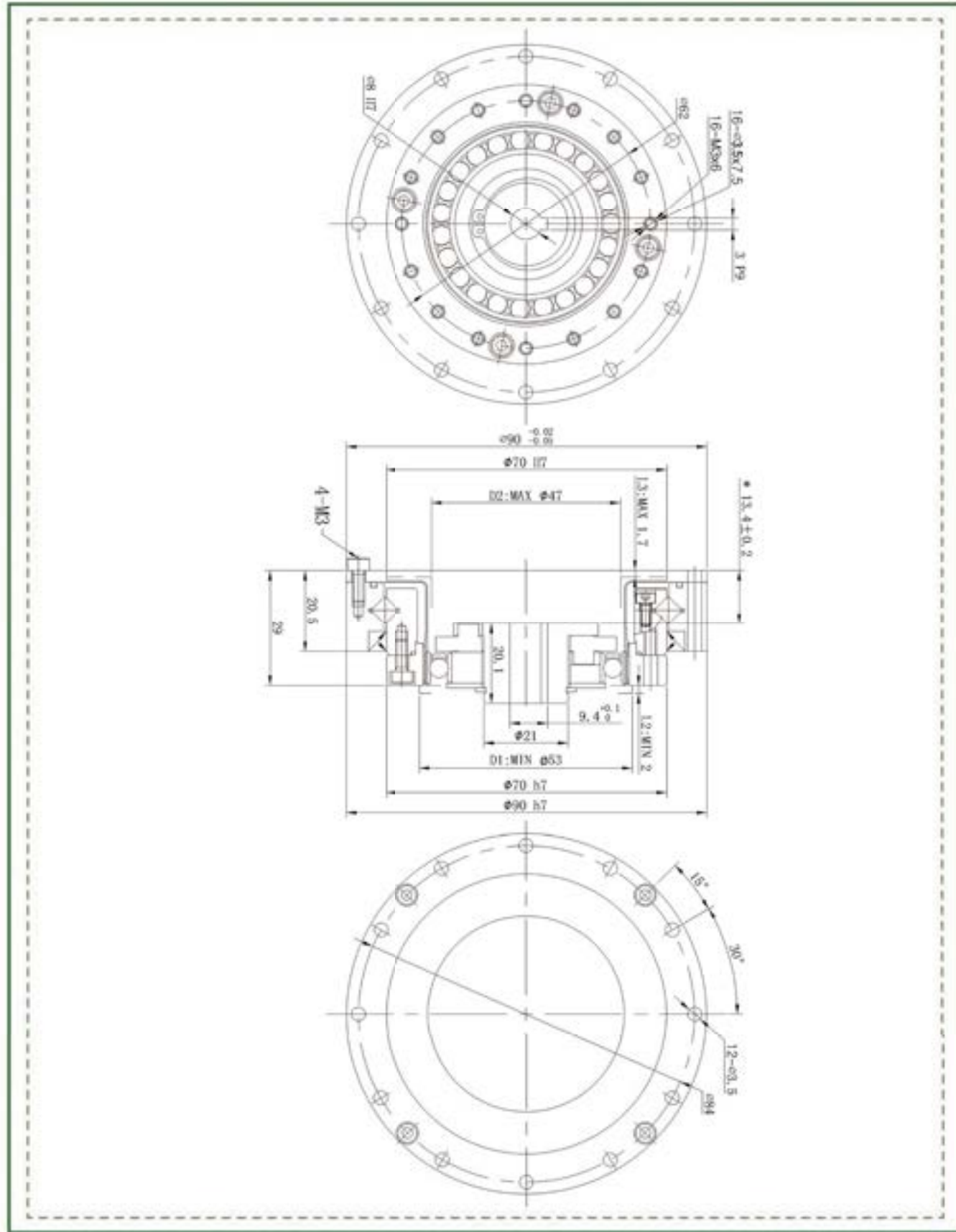
LHS-II series

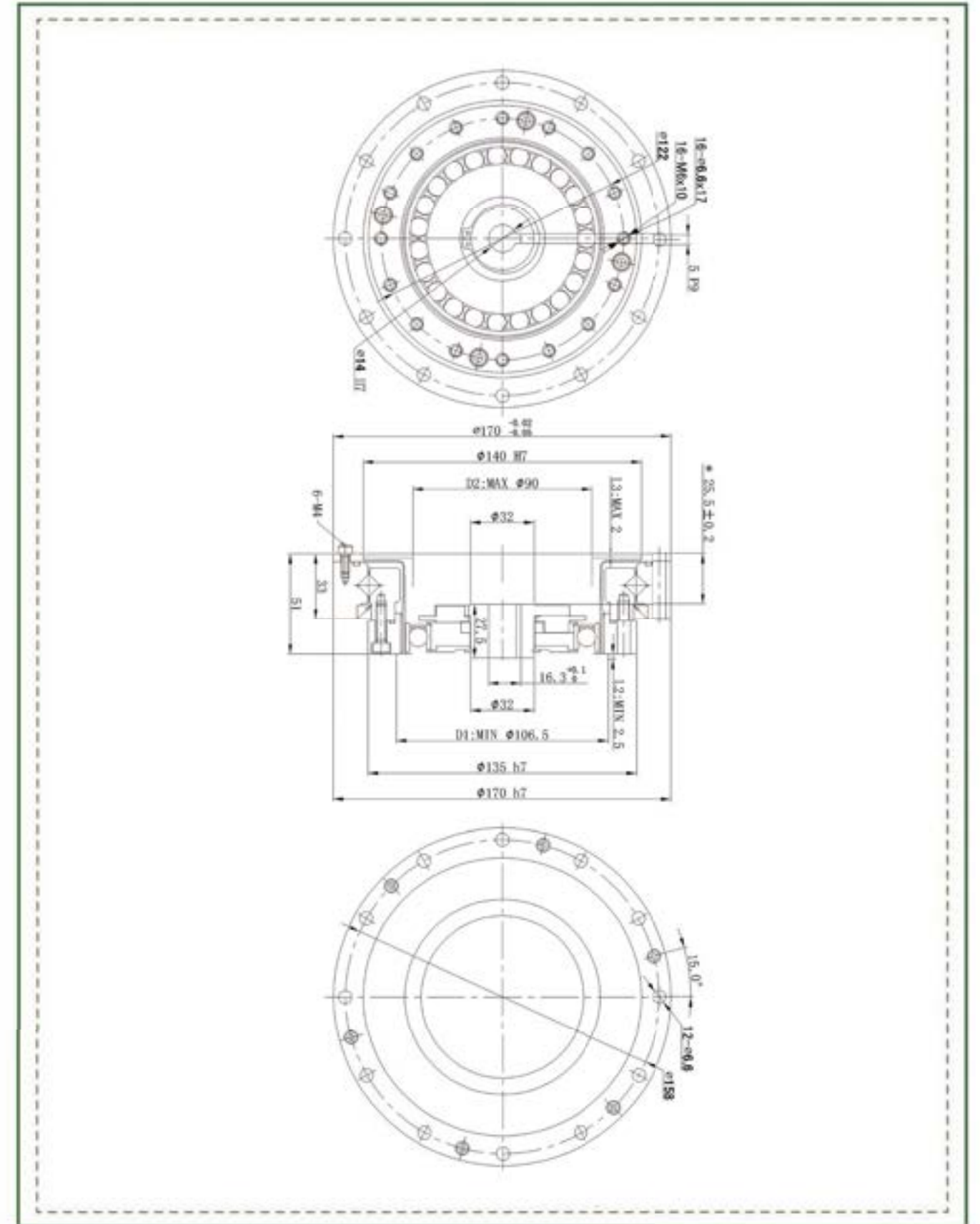
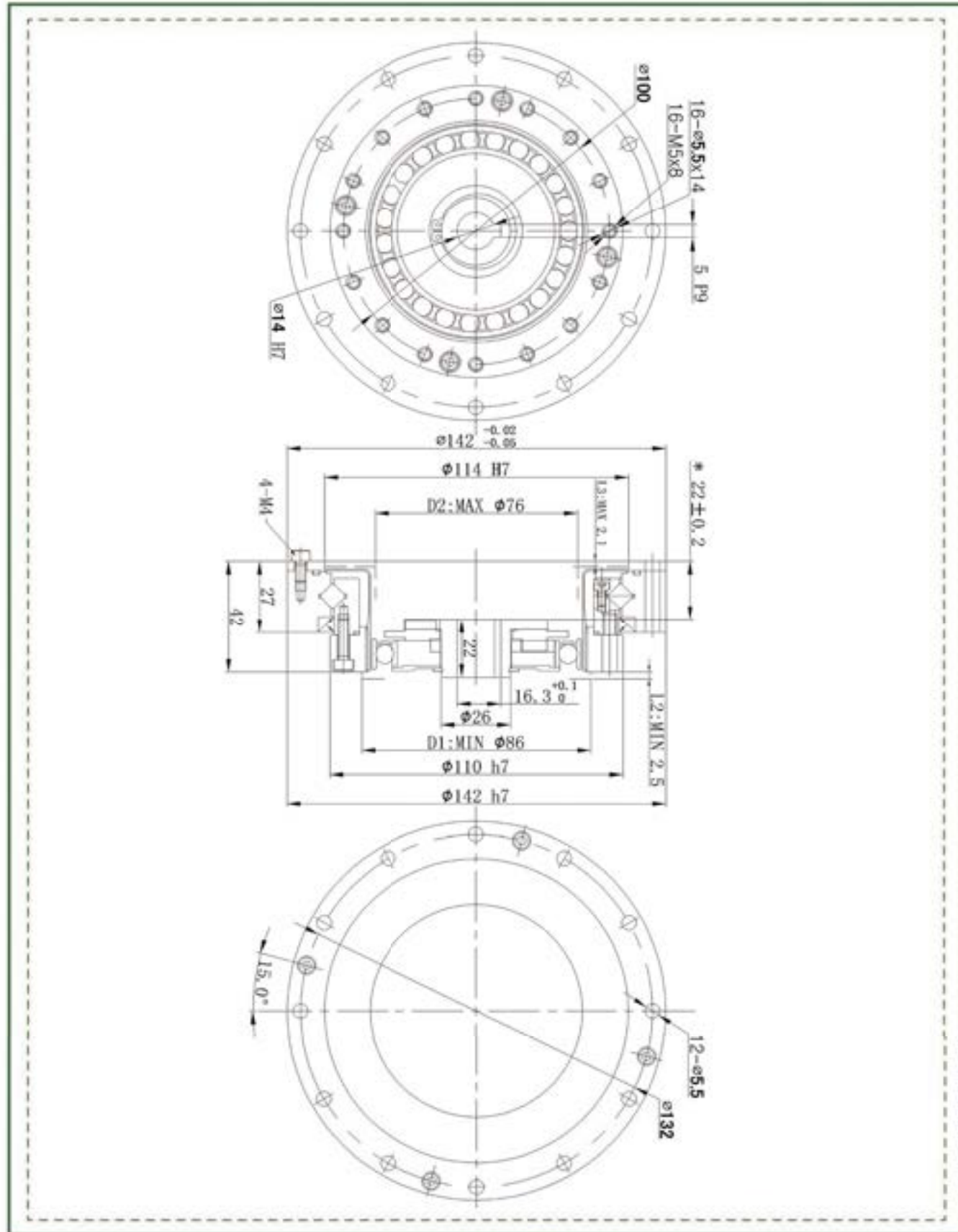
| Item<br>Model No | Reduction Ratio | Rated Torque at 2000r/min | Allowable Peak Torque at Start and Stop | Allowable Average Torque | Allowable Maximum Momentary Torque | Maximum Input Speed | Allowable Average Input Speed | Back lash | Weight | Design Life |
|------------------|-----------------|---------------------------|---|--------------------------|------------------------------------|---------------------|-------------------------------|-----------|--------|-------------|
|                  |                 | Nm                        | Nm                                      | Nm                       | Nm                                 | r/min               | r/min                         | Arc sec   | Kg     | Hour        |
| 14               | 30              | 3.8                       | 8.6                                     | 7.8                      | 16                                 | 8000                | 3500                          | ≤20       | 0.38   | 10000       |
|                  | 50              | 5.1                       | 17                                      | 6.6                      | 33                                 |                     |                               | 10000     |        |             |
|                  | 80              | 7.4                       | 22                                      | 10.5                     | 45                                 |                     |                               | 15000     |        |             |
|                  | 100             | 7.4                       | 27                                      | 10.5                     | 51                                 |                     |                               | 15000     |        |             |
| 17               | 30              | 8.4                       | 15.2                                    | 11.5                     | 29                                 | 7000                | 3500                          | ≤20       | 0.56   | 10000       |
|                  | 50              | 15.2                      | 32                                      | 25                       | 66                                 |                     |                               | 10000     |        |             |
|                  | 80              | 21                        | 41                                      | 26                       | 83                                 |                     |                               | 15000     |        |             |
|                  | 100             | 23                        | 51                                      | 37                       | 104                                |                     |                               | 15000     |        |             |
| 20               | 120             | 23                        | 51                                      | 37                       | 82                                 | 6000                | 3500                          | ≤20       | 0.76   | 15000       |
|                  | 30              | 14                        | 26                                      | 19                       | 48                                 |                     |                               | 10000     |        |             |
|                  | 50              | 24                        | 53                                      | 32                       | 93                                 |                     |                               | 10000     |        |             |
|                  | 80              | 32                        | 70                                      | 45                       | 121                                |                     |                               | 15000     |        |             |
| 25               | 100             | 38                        | 78                                      | 47                       | 140                                | 5500                | 3500                          | ≤20       | 1.24   | 15000       |
|                  | 120             | 38                        | 83                                      | 47                       | 140                                |                     |                               | 15000     |        |             |
|                  | 160             | 38                        | 87                                      | 47                       | 140                                |                     |                               | 15000     |        |             |
|                  | 30              | 26                        | 48                                      | 36                       | 90                                 |                     |                               | 10000     |        |             |
| 32               | 50              | 37                        | 93                                      | 52                       | 177                                | 4500                | 3500                          | ≤20       | 2.6    | 10000       |
|                  | 80              | 60                        | 130                                     | 83                       | 242                                |                     |                               | 15000     |        |             |
|                  | 100             | 64                        | 149                                     | 103                      | 270                                |                     |                               | 15000     |        |             |
|                  | 120             | 64                        | 159                                     | 103                      | 289                                |                     |                               | 15000     |        |             |
| 40               | 160             | 64                        | 167                                     | 103                      | 298                                | 4000                | 3000                          | ≤20       | 5.0    | 15000       |
|                  | 50              | 130                       | 382                                     | 186                      | 652                                |                     |                               | 10000     |        |             |
|                  | 80              | 196                       | 493                                     | 270                      | 931                                |                     |                               | 15000     |        |             |
|                  | 100             | 252                       | 540                                     | 353                      | 1026                               |                     |                               | 15000     |        |             |
| 50*              | 120             | 279                       | 586                                     | 428                      | 1121                               | 3000                | 2500                          | ≤20       | 9.5    | 15000       |
|                  | 160             | 279                       | 615                                     | 428                      | 1121                               |                     |                               | 15000     |        |             |
|                  | 50              | 233                       | 679                                     | 333                      | 1358                               |                     |                               | 10000     |        |             |
|                  | 80              | 353                       | 894                                     | 493                      | 1767                               |                     |                               | 15000     |        |             |
| 58*              | 100             | 446                       | 931                                     | 633                      | 1957                               | 3000                | 2200                          | ≤20       | 13.6   | 15000       |
|                  | 120             | 502                       | 1026                                    | 772                      | 1957                               |                     |                               | 15000     |        |             |
|                  | 160             | 502                       | 1121                                    | 801                      | 2328                               |                     |                               | 15000     |        |             |
|                  | 80              | 522                       | 1406                                    | 732                      | 2328                               |                     |                               | 15000     |        |             |
| 58*              | 100             | 661                       | 1511                                    | 1007                     | 3021                               | 3000                | 2200                          | ≤10       | 13.6   | 15000       |
|                  | 120             | 708                       | 1634                                    | 1131                     | 3164                               |                     |                               | 15000     |        |             |
|                  | 160             | 708                       | 1748                                    | 1150                     | 3259                               |                     |                               | 15000     |        |             |

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# LHS-III series

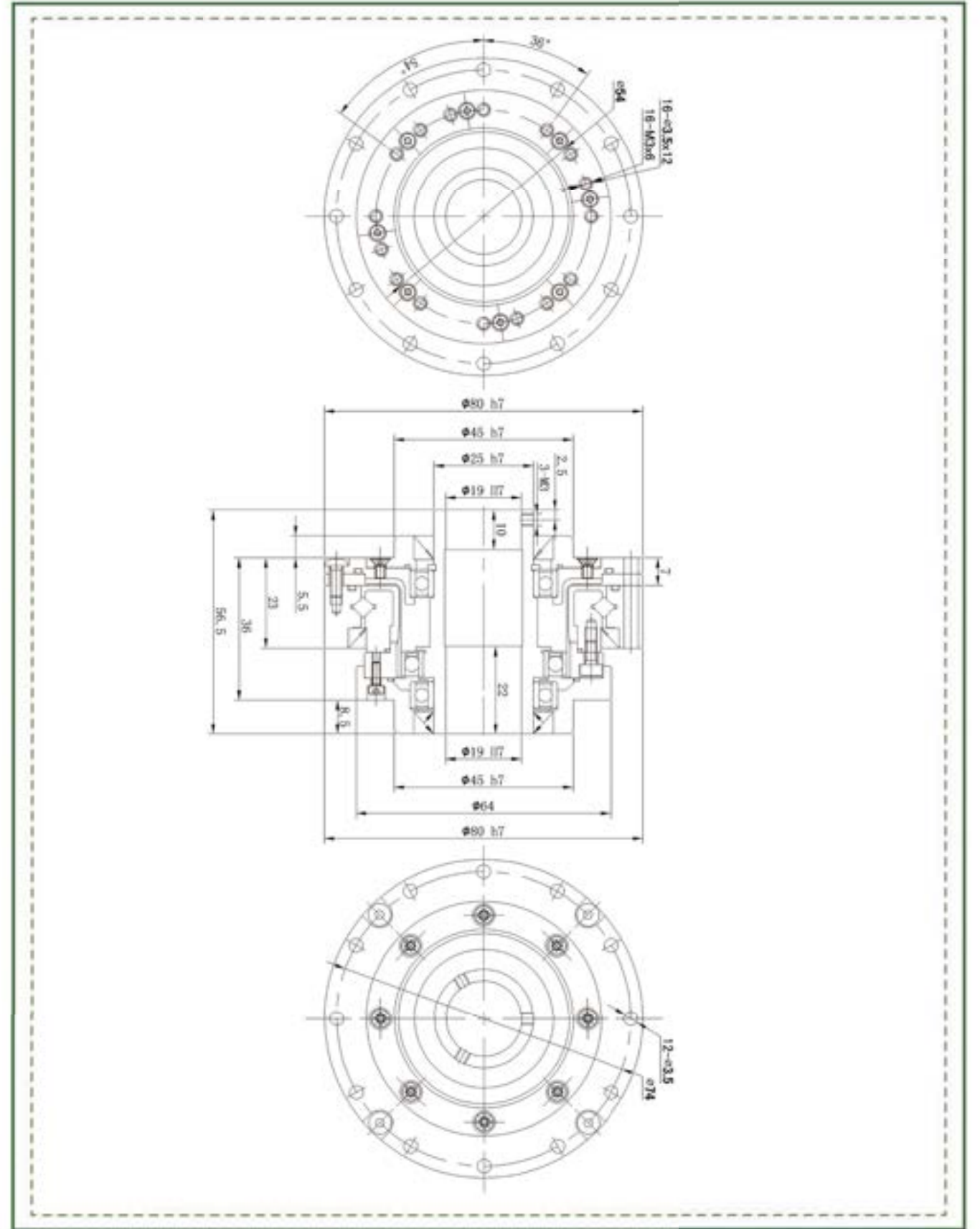
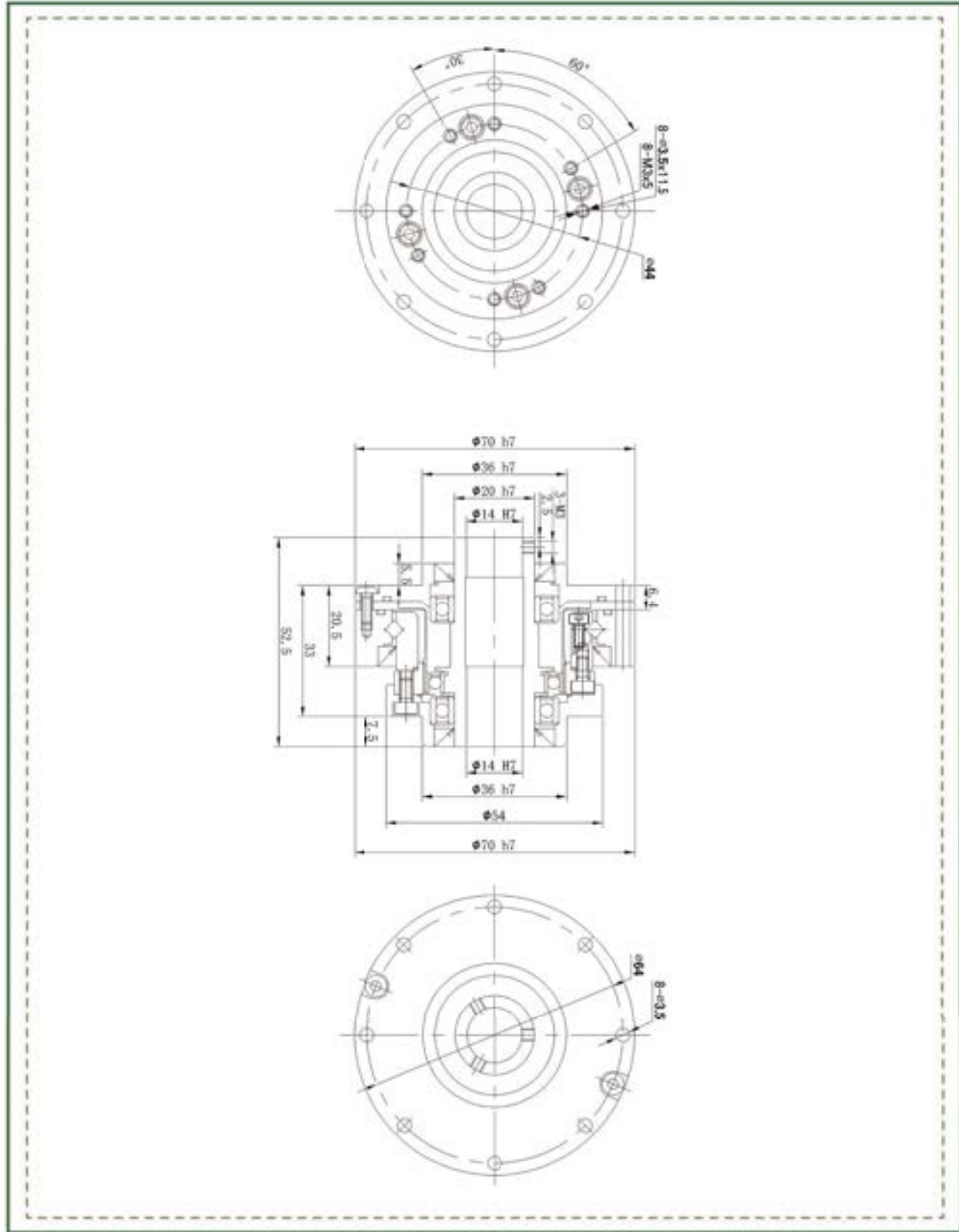


For LHS-III series, there is a large-aperture hollow shaft hole in the middle of the cam of their wave generator, and a supporting bearing designed inside reducer. Characterized by full-sealing structure and easy installation, the series are very suitable for the occasions where threading needs running through the center of reducer.

## Parameter Table

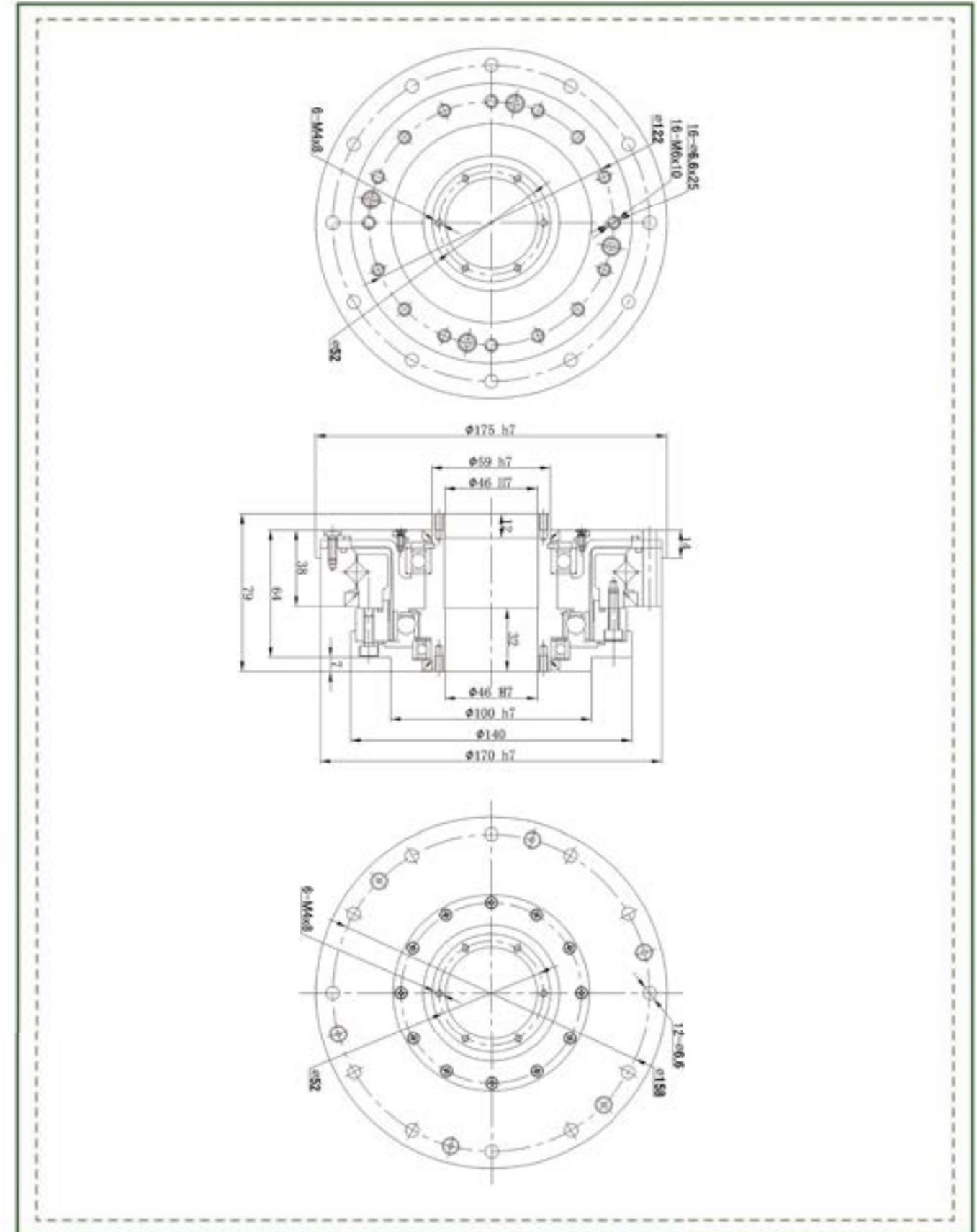
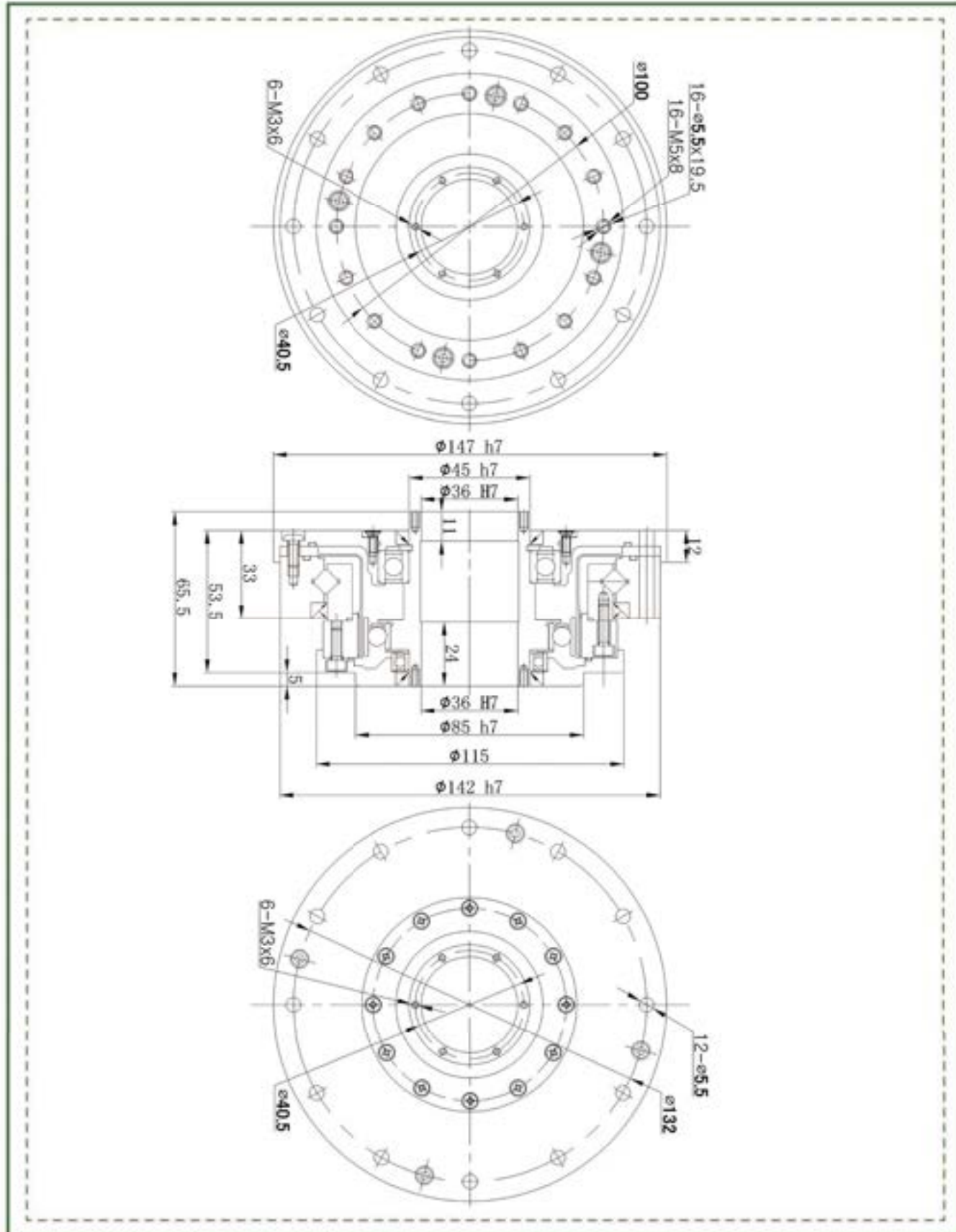
| Item | Reduction Ratio | Rated Torque at 2000r/min | Allowable Peak Torque at Start and Stop | Allowable Average Torque | Allowable Maximum Momentary Torque | Maximum Input Speed | Allowable Average Input Speed | Back lash | With Maximum Tension | Weight | Design Life |
|------|-----------------|---------------------------|---|--------------------------|------------------------------------|---------------------|-------------------------------|-----------|----------------------|--------|-------------|
|      |                 | Nm                        | Nm                                      | Nm                       | Nm                                 | r/min               | r/min                         | Arc sec   | N                    | Kg     | Hour        |
| 14   | 30              | 3.8                       | 8.6                                     | 7.8                      | 16                                 | 8000                | 3500                          | ≤20       | ≤77                  | 0.72   | 10000       |
|      | 50              | 5.1                       | 17                                      | 6.6                      | 33                                 |                     |                               | ≤20       |                      |        | 10000       |
|      | 80              | 7.4                       | 22                                      | 10.5                     | 45                                 |                     |                               | ≤10       |                      |        | 15000       |
|      | 100             | 7.4                       | 27                                      | 10.5                     | 51                                 |                     |                               | ≤10       |                      |        | 15000       |
| 17   | 30              | 8.4                       | 15.2                                    | 11.5                     | 29                                 | 7000                | 3500                          | ≤20       | ≤92                  | 1.0    | 10000       |
|      | 50              | 15.2                      | 32                                      | 25                       | 66                                 |                     |                               | ≤20       |                      |        | 10000       |
|      | 80              | 21                        | 41                                      | 26                       | 83                                 |                     |                               | ≤10       |                      |        | 15000       |
|      | 100             | 23                        | 51                                      | 37                       | 104                                |                     |                               | ≤10       |                      |        | 15000       |
|      | 120             | 23                        | 51                                      | 37                       | 82                                 |                     |                               | ≤10       |                      |        | 15000       |
| 20   | 30              | 14                        | 26                                      | 19                       | 48                                 | 6000                | 3500                          | ≤20       | ≤136                 | 1.38   | 10000       |
|      | 50              | 24                        | 53                                      | 32                       | 93                                 |                     |                               | ≤20       |                      |        | 10000       |
|      | 80              | 32                        | 70                                      | 45                       | 121                                |                     |                               | ≤10       |                      |        | 15000       |
|      | 100             | 38                        | 78                                      | 47                       | 140                                |                     |                               | ≤10       |                      |        | 15000       |
|      | 120             | 38                        | 83                                      | 47                       | 140                                |                     |                               | ≤10       |                      |        | 15000       |
|      | 160             | 38                        | 87                                      | 47                       | 140                                |                     |                               | ≤10       |                      |        | 15000       |
| 25   | 30              | 26                        | 48                                      | 36                       | 90                                 | 5500                | 3500                          | ≤20       | ≤147                 | 2.15   | 10000       |
|      | 50              | 37                        | 93                                      | 52                       | 177                                |                     |                               | ≤20       |                      |        | 10000       |
|      | 80              | 60                        | 130                                     | 83                       | 242                                |                     |                               | ≤10       |                      |        | 15000       |
|      | 100             | 64                        | 149                                     | 103                      | 270                                |                     |                               | ≤10       |                      |        | 15000       |
|      | 120             | 64                        | 159                                     | 103                      | 289                                |                     |                               | ≤10       |                      |        | 15000       |
|      | 160             | 64                        | 167                                     | 103                      | 298                                |                     |                               | ≤10       |                      |        | 15000       |
| 32   | 30              | 51                        | 95                                      | 71                       | 190                                | 4500                | 3500                          | ≤20       | ≤154                 | 4.3    | 10000       |
|      | 50              | 72                        | 205                                     | 103                      | 363                                |                     |                               | ≤20       |                      |        | 10000       |
|      | 80              | 112                       | 289                                     | 159                      | 540                                |                     |                               | ≤10       |                      |        | 15000       |
|      | 100             | 130                       | 316                                     | 205                      | 615                                |                     |                               | ≤10       |                      |        | 15000       |
|      | 120             | 130                       | 335                                     | 205                      | 652                                |                     |                               | ≤10       |                      |        | 15000       |
|      | 160             | 130                       | 353                                     | 205                      | 652                                |                     |                               | ≤10       |                      |        | 15000       |
| 40   | 50              | 130                       | 382                                     | 186                      | 652                                | 4000                | 3000                          | ≤20       | ≤294                 | 7.8    | 10000       |
|      | 80              | 196                       | 493                                     | 270                      | 931                                |                     |                               | ≤10       |                      |        | 15000       |
|      | 100             | 252                       | 540                                     | 353                      | 1026                               |                     |                               | ≤10       |                      |        | 15000       |
|      | 120             | 279                       | 586                                     | 428                      | 1121                               |                     |                               | ≤10       |                      |        | 15000       |
|      | 160             | 279                       | 615                                     | 428                      | 1121                               |                     |                               | ≤10       |                      |        | 15000       |
| 50*  | 50              | 233                       | 679                                     | 333                      | 1358                               | 3000                | 2500                          | ≤20       | ≤373                 | 14.5   | 10000       |
|      | 80              | 353                       | 894                                     | 493                      | 1767                               |                     |                               | ≤10       |                      |        | 15000       |
|      | 100             | 446                       | 931                                     | 633                      | 1957                               |                     |                               | ≤10       |                      |        | 15000       |
|      | 120             | 502                       | 1026                                    | 772                      | 1957                               |                     |                               | ≤10       |                      |        | 15000       |
|      | 160             | 502                       | 1121                                    | 801                      | 2328                               |                     |                               | ≤10       |                      |        | 15000       |
| 58*  | 80              | 678                       | 1828                                    | 951                      | 3026                               | 3000                | 2200                          | ≤10       | ≤1300                | 20.0   | 15000       |
|      | 100             | 860                       | 1964                                    | 1309                     | 3927                               |                     |                               | ≤10       |                      |        | 15000       |
|      | 120             | 921                       | 2124                                    | 1470                     | 4113                               |                     |                               | ≤10       |                      |        | 15000       |
|      | 160             | 921                       | 2272                                    | 1494                     | 4236                               |                     |                               | ≤10       |                      |        | 15000       |

\* Consult factory











# LHS-CL-III series

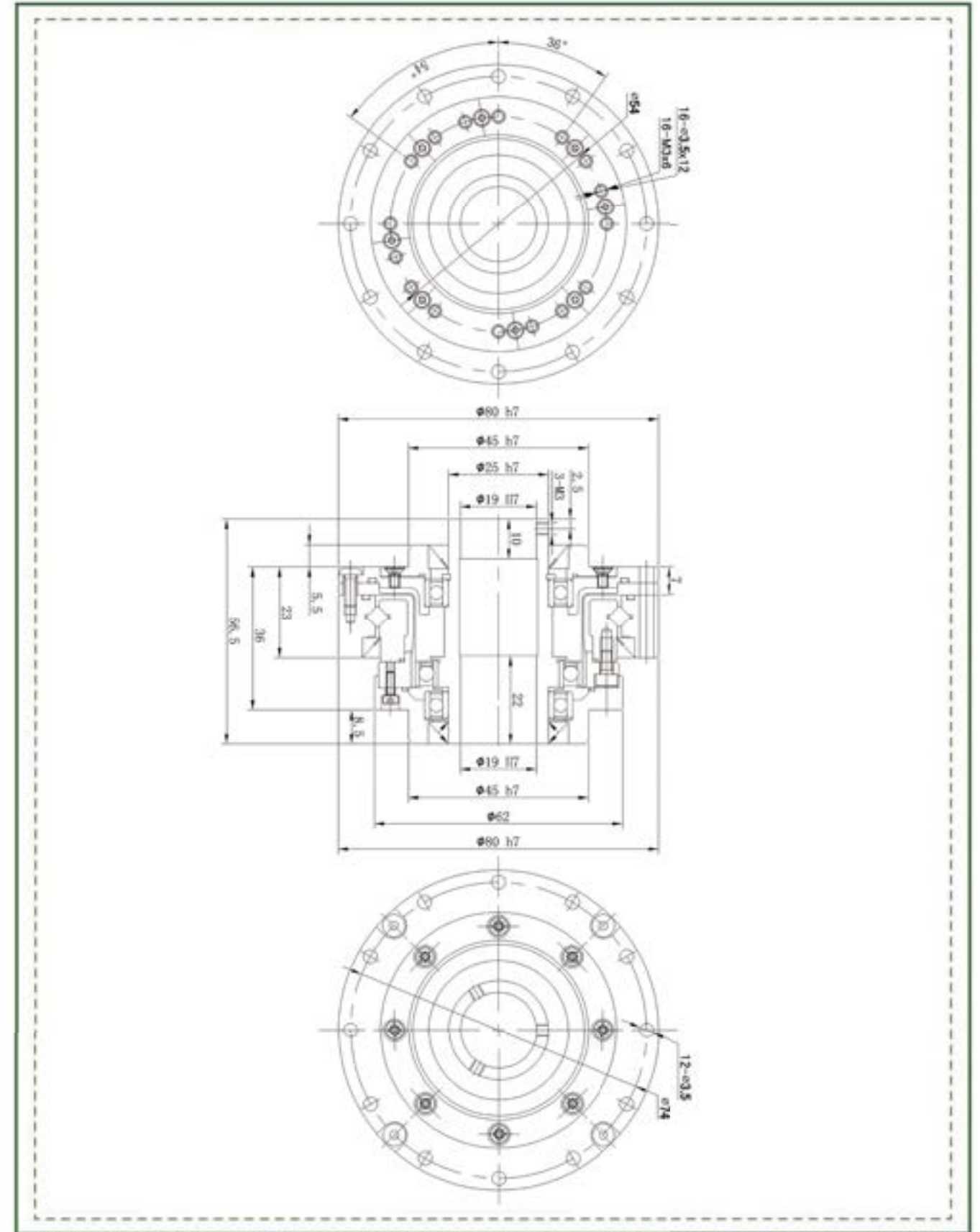
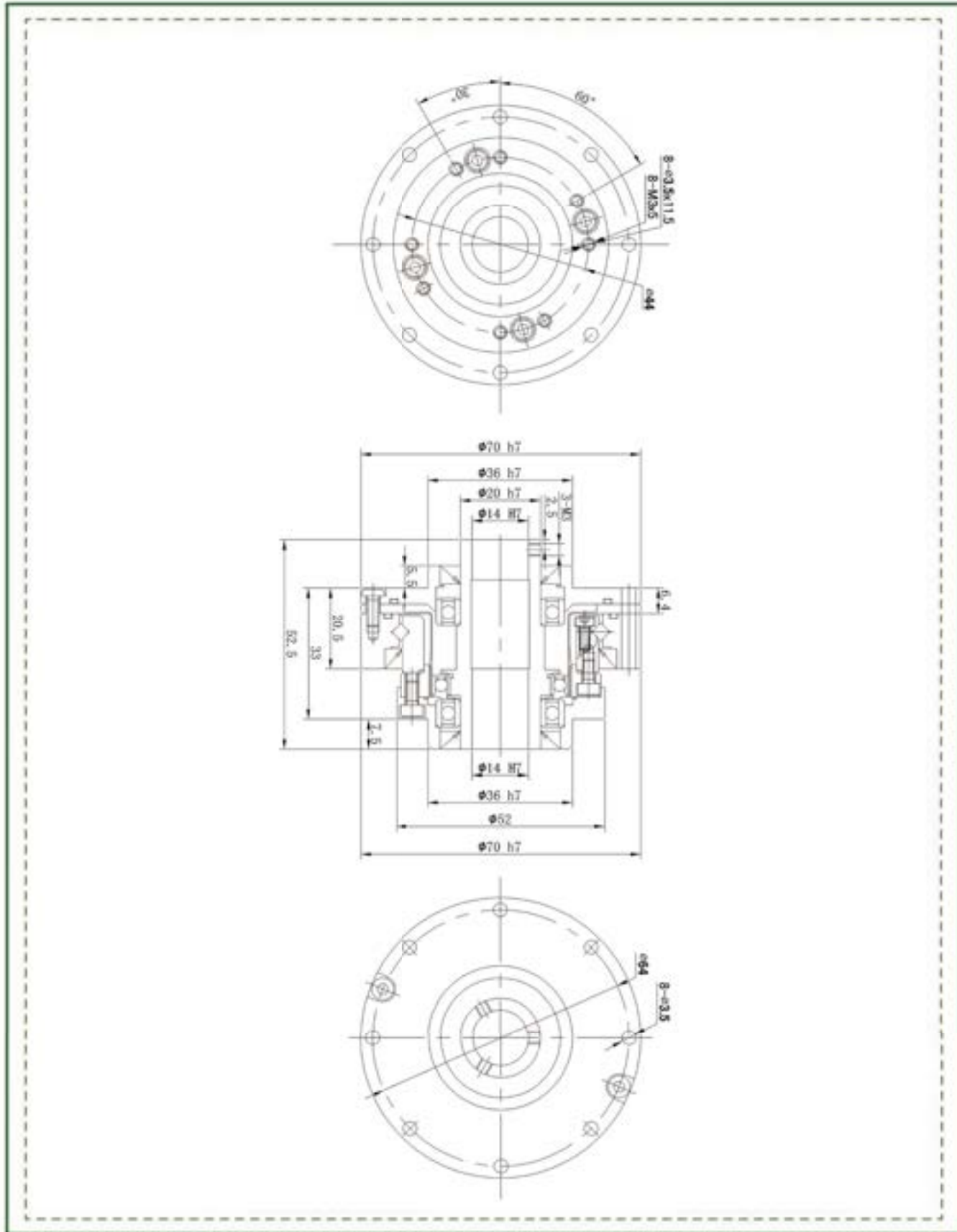


For **LHS-CL-III** series, there is a large-aperture hollow shaft hole in the middle of the cam of their wave generator, and a supporting bearing designed inside reducer. Characterized by full-sealing structure and easy installation, the series are very suitable for the occasions where threading needs running through the center of reducer.

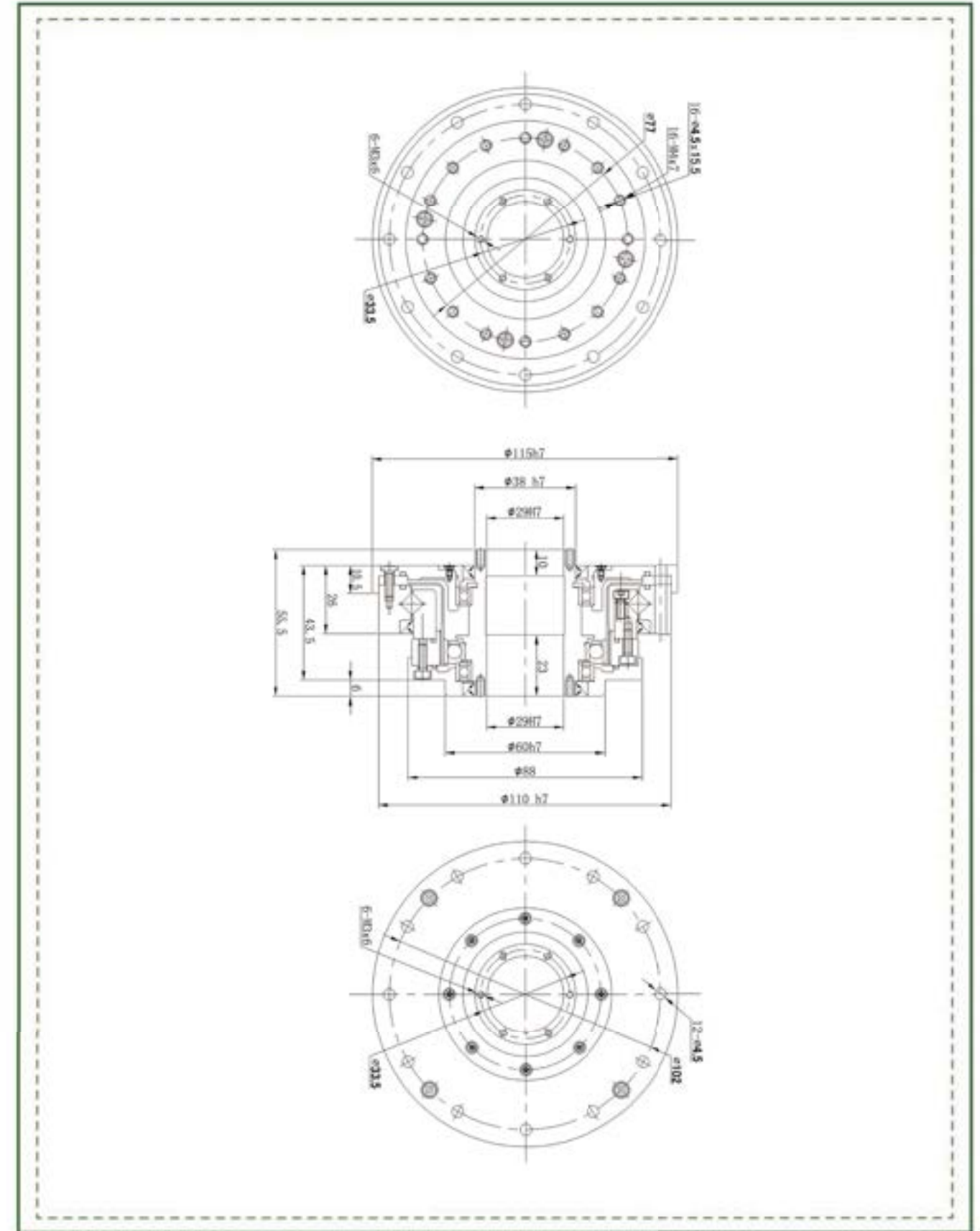
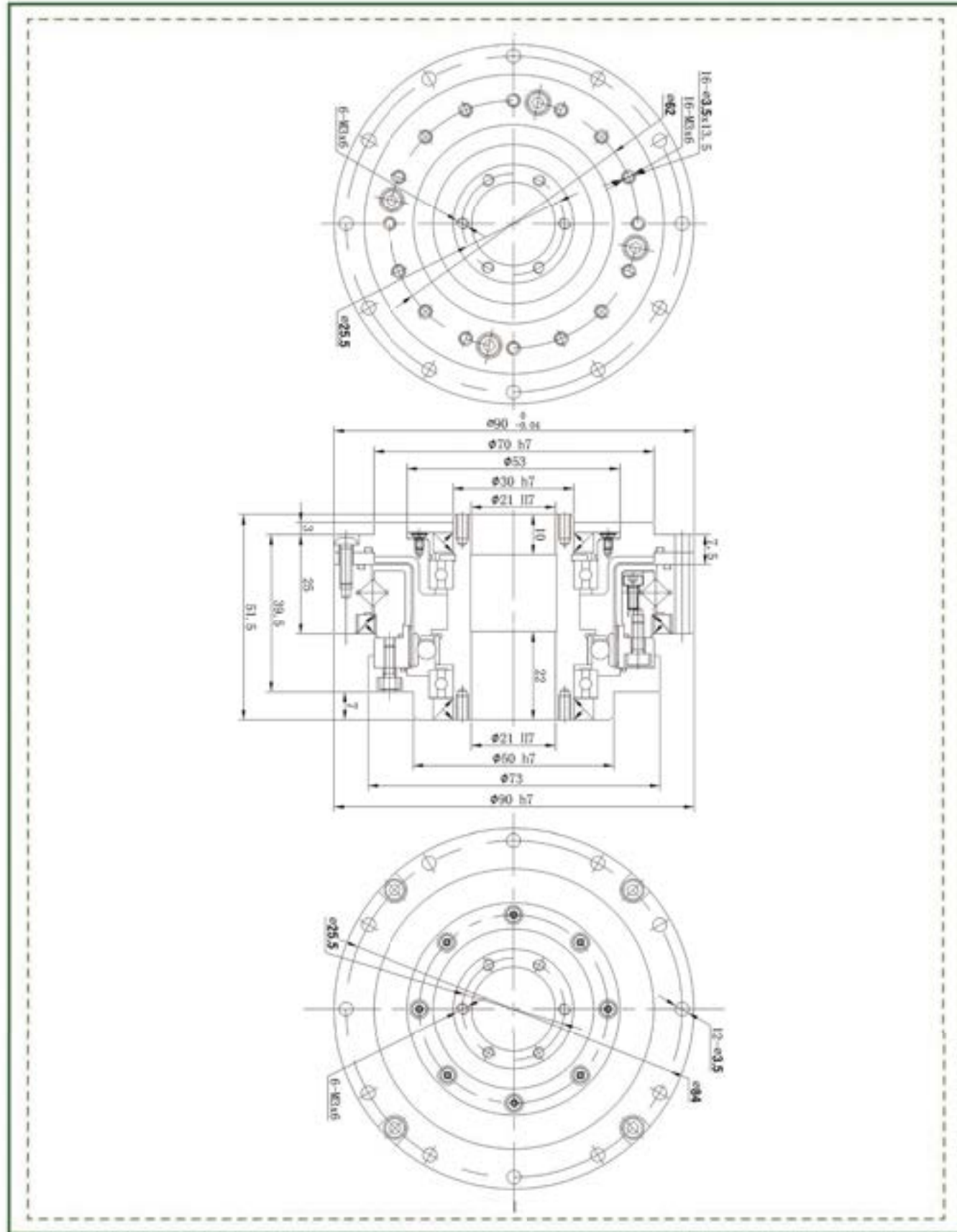
## Parameter Table

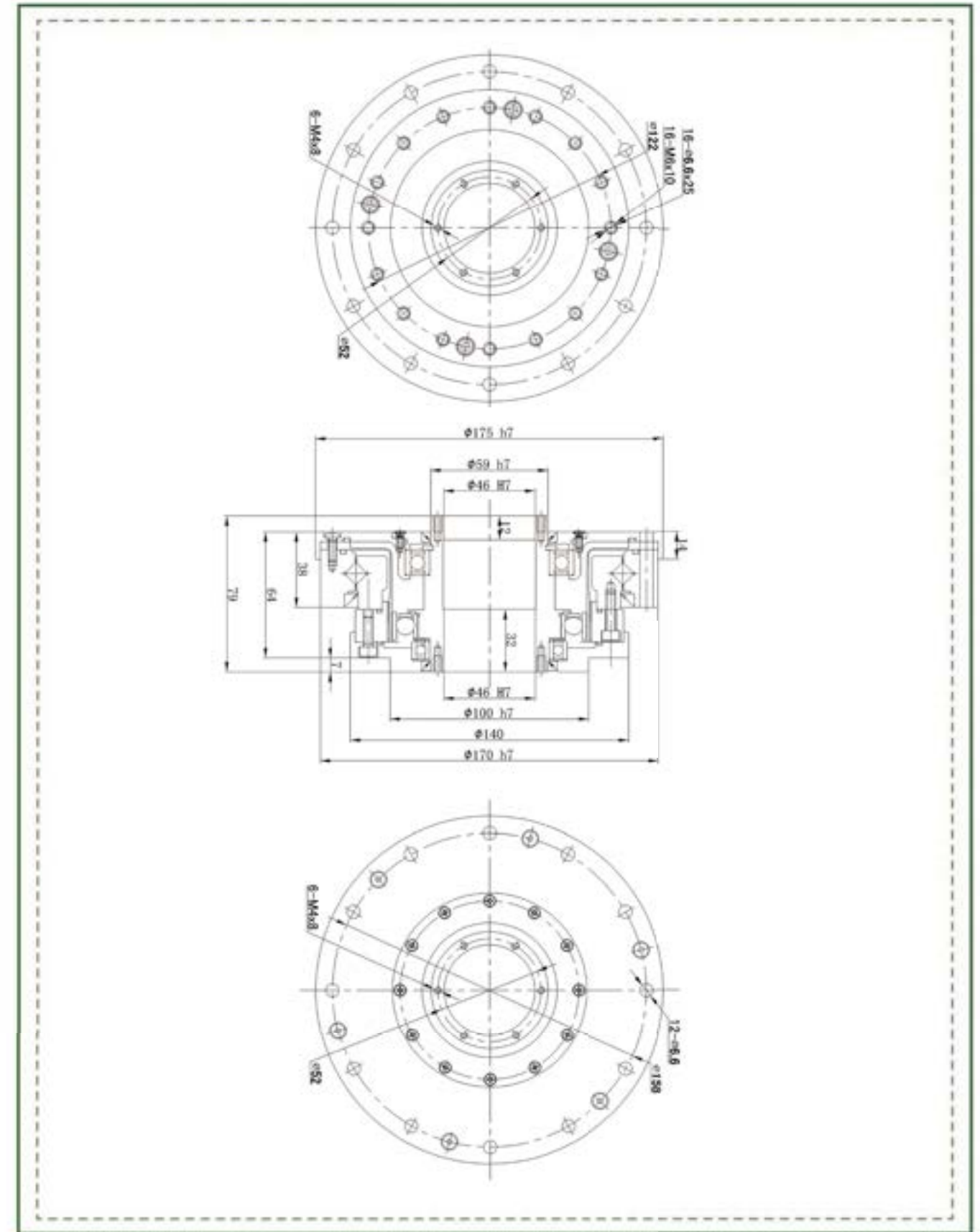
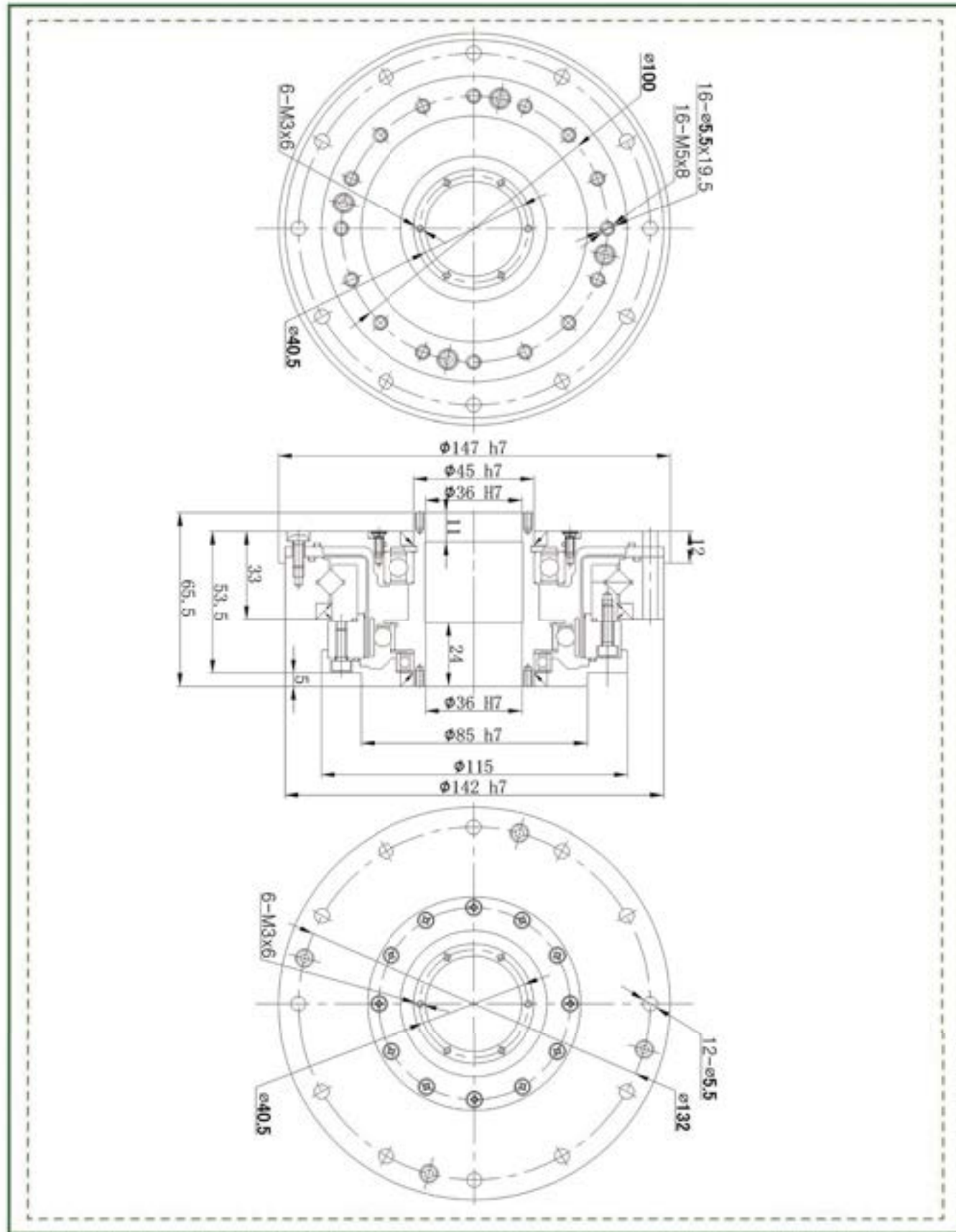
| Item<br>Model No | Reduction Ratio | Rated Torque at 2000r/min | Allowable Peak Torque at Start and Stop | Allowable Average Torque | Allowable Maximum Momentary Torque | Maximum Input Speed | Allowable Average Input Speed | Backlash | With Maximum Tension | Weight | Design Life |
|------------------|-----------------|---------------------------|---|--------------------------|------------------------------------|---------------------|-------------------------------|----------|----------------------|--------|-------------|
|                  |                 | Nm                        | Nm                                      | Nm                       | Nm                                 | r/min               | r/min                         | Arc sec  | N                    | Kg     | Hour        |
| 14               | 30              | 3.8                       | 8.6                                     | 7.8                      | 16                                 | 8000                | 3500                          | ≤20      | ≤77                  | 0.56   | 10000       |
|                  | 50              | 5.1                       | 17                                      | 6.6                      | 33                                 |                     |                               | ≤20      |                      |        | 10000       |
|                  | 80              | 7.4                       | 22                                      | 10.5                     | 45                                 |                     |                               | ≤10      |                      |        | 15000       |
|                  | 100             | 7.4                       | 27                                      | 10.5                     | 51                                 |                     |                               | ≤10      |                      |        | 15000       |
| 17               | 30              | 8.4                       | 15.2                                    | 11.5                     | 29                                 | 7000                | 3500                          | ≤20      | ≤92                  | 0.80   | 10000       |
|                  | 50              | 15.2                      | 32                                      | 25                       | 66                                 |                     |                               | ≤20      |                      |        | 10000       |
|                  | 80              | 21                        | 41                                      | 26                       | 83                                 |                     |                               | ≤10      |                      |        | 15000       |
|                  | 100             | 23                        | 51                                      | 37                       | 104                                |                     |                               | ≤10      |                      |        | 15000       |
|                  | 120             | 23                        | 51                                      | 37                       | 82                                 |                     |                               | ≤10      |                      |        | 15000       |
| 20               | 30              | 14                        | 26                                      | 19                       | 48                                 | 6000                | 3500                          | ≤20      | ≤136                 | 1.09   | 10000       |
|                  | 50              | 24                        | 53                                      | 32                       | 93                                 |                     |                               | ≤20      |                      |        | 10000       |
|                  | 80              | 32                        | 70                                      | 45                       | 121                                |                     |                               | ≤10      |                      |        | 15000       |
|                  | 100             | 38                        | 78                                      | 47                       | 140                                |                     |                               | ≤10      |                      |        | 15000       |
|                  | 120             | 38                        | 83                                      | 47                       | 140                                |                     |                               | ≤10      |                      |        | 15000       |
|                  | 160             | 38                        | 87                                      | 47                       | 140                                |                     |                               | ≤10      |                      |        | 15000       |
| 25               | 30              | 26                        | 48                                      | 36                       | 90                                 | 5500                | 3500                          | ≤20      | ≤147                 | 1.70   | 10000       |
|                  | 50              | 37                        | 93                                      | 52                       | 177                                |                     |                               | ≤20      |                      |        | 10000       |
|                  | 80              | 60                        | 130                                     | 83                       | 242                                |                     |                               | ≤10      |                      |        | 15000       |
|                  | 100             | 64                        | 149                                     | 103                      | 270                                |                     |                               | ≤10      |                      |        | 15000       |
|                  | 120             | 64                        | 159                                     | 103                      | 289                                |                     |                               | ≤10      |                      |        | 15000       |
|                  | 160             | 64                        | 167                                     | 103                      | 298                                |                     |                               | ≤10      |                      |        | 15000       |
| 32               | 30              | 51                        | 95                                      | 71                       | 190                                | 4500                | 3500                          | ≤20      | ≤154                 | 3.50   | 10000       |
|                  | 50              | 72                        | 205                                     | 103                      | 363                                |                     |                               | ≤20      |                      |        | 10000       |
|                  | 80              | 112                       | 289                                     | 159                      | 540                                |                     |                               | ≤10      |                      |        | 15000       |
|                  | 100             | 130                       | 316                                     | 205                      | 615                                |                     |                               | ≤10      |                      |        | 15000       |
|                  | 120             | 130                       | 335                                     | 205                      | 652                                |                     |                               | ≤10      |                      |        | 15000       |
|                  | 160             | 130                       | 353                                     | 205                      | 652                                |                     |                               | ≤10      |                      |        | 15000       |
| 40               | 50              | 130                       | 382                                     | 186                      | 652                                | 4000                | 3000                          | ≤20      | ≤294                 | 6.35   | 10000       |
|                  | 80              | 196                       | 493                                     | 270                      | 931                                |                     |                               | ≤10      |                      |        | 15000       |
|                  | 100             | 252                       | 540                                     | 353                      | 1026                               |                     |                               | ≤10      |                      |        | 15000       |
|                  | 120             | 279                       | 586                                     | 428                      | 1121                               |                     |                               | ≤10      |                      |        | 15000       |
|                  | 160             | 279                       | 615                                     | 428                      | 1121                               |                     |                               | ≤10      |                      |        | 15000       |
| 50*              | 50              | 233                       | 679                                     | 333                      | 1358                               | 3000                | 2500                          | ≤20      | ≤373                 | 12.0   | 10000       |
|                  | 80              | 353                       | 894                                     | 493                      | 1767                               |                     |                               | ≤10      |                      |        | 15000       |
|                  | 100             | 446                       | 931                                     | 633                      | 1957                               |                     |                               | ≤10      |                      |        | 15000       |
|                  | 120             | 502                       | 1026                                    | 772                      | 1957                               |                     |                               | ≤10      |                      |        | 15000       |
|                  | 160             | 502                       | 1121                                    | 801                      | 2328                               |                     |                               | ≤10      |                      |        | 15000       |
| 58*              | 80              | 678                       | 1828                                    | 951                      | 3026                               | 3000                | 2200                          | ≤10      | ≤1300                | 16.5   | 15000       |
|                  | 100             | 860                       | 1964                                    | 1309                     | 3927                               |                     |                               | ≤10      |                      |        | 15000       |
|                  | 120             | 921                       | 2124                                    | 1470                     | 4113                               |                     |                               | ≤10      |                      |        | 15000       |
|                  | 160             | 921                       | 2272                                    | 1494                     | 4236                               |                     |                               | ≤10      |                      |        | 15000       |

\* Consult factory











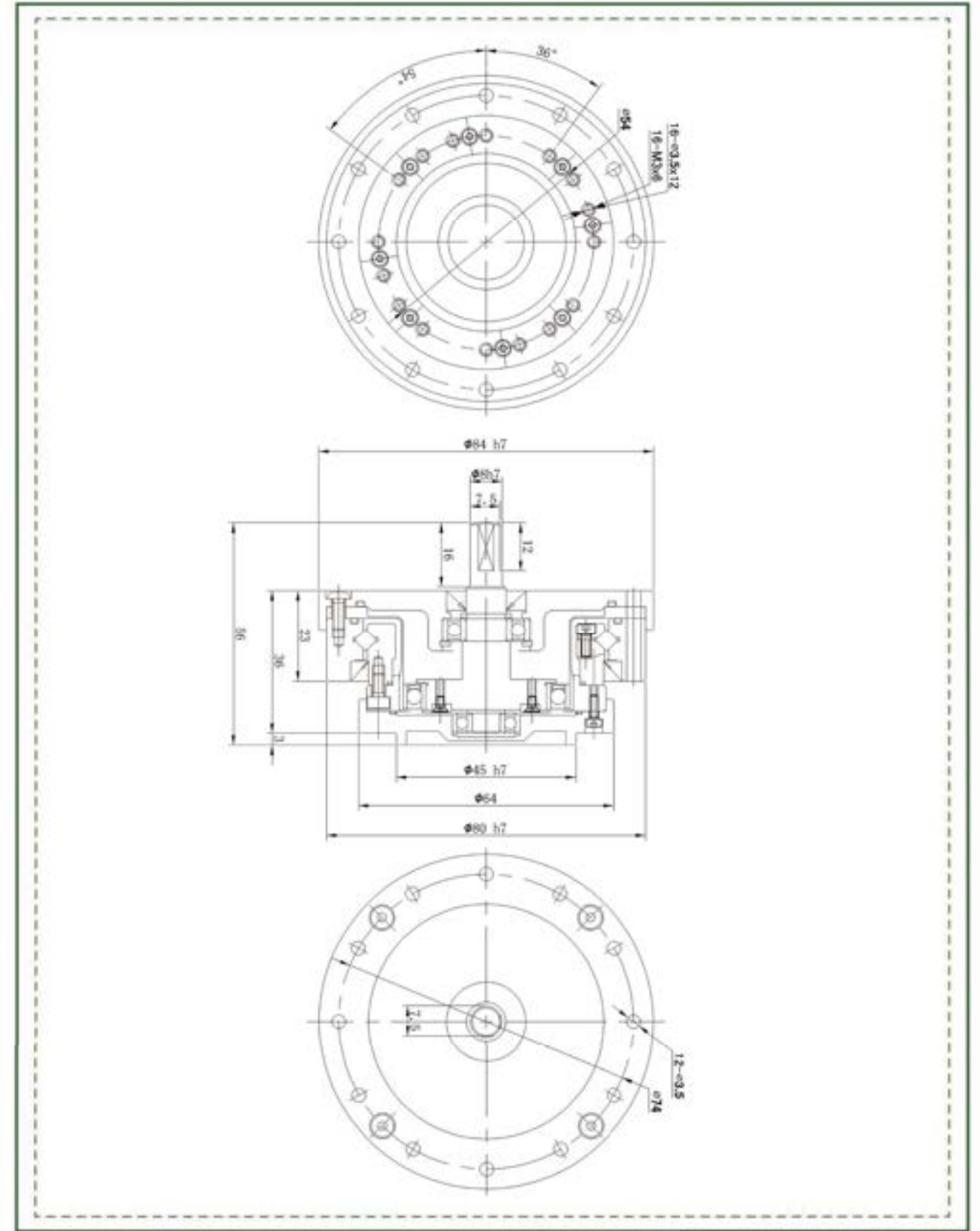
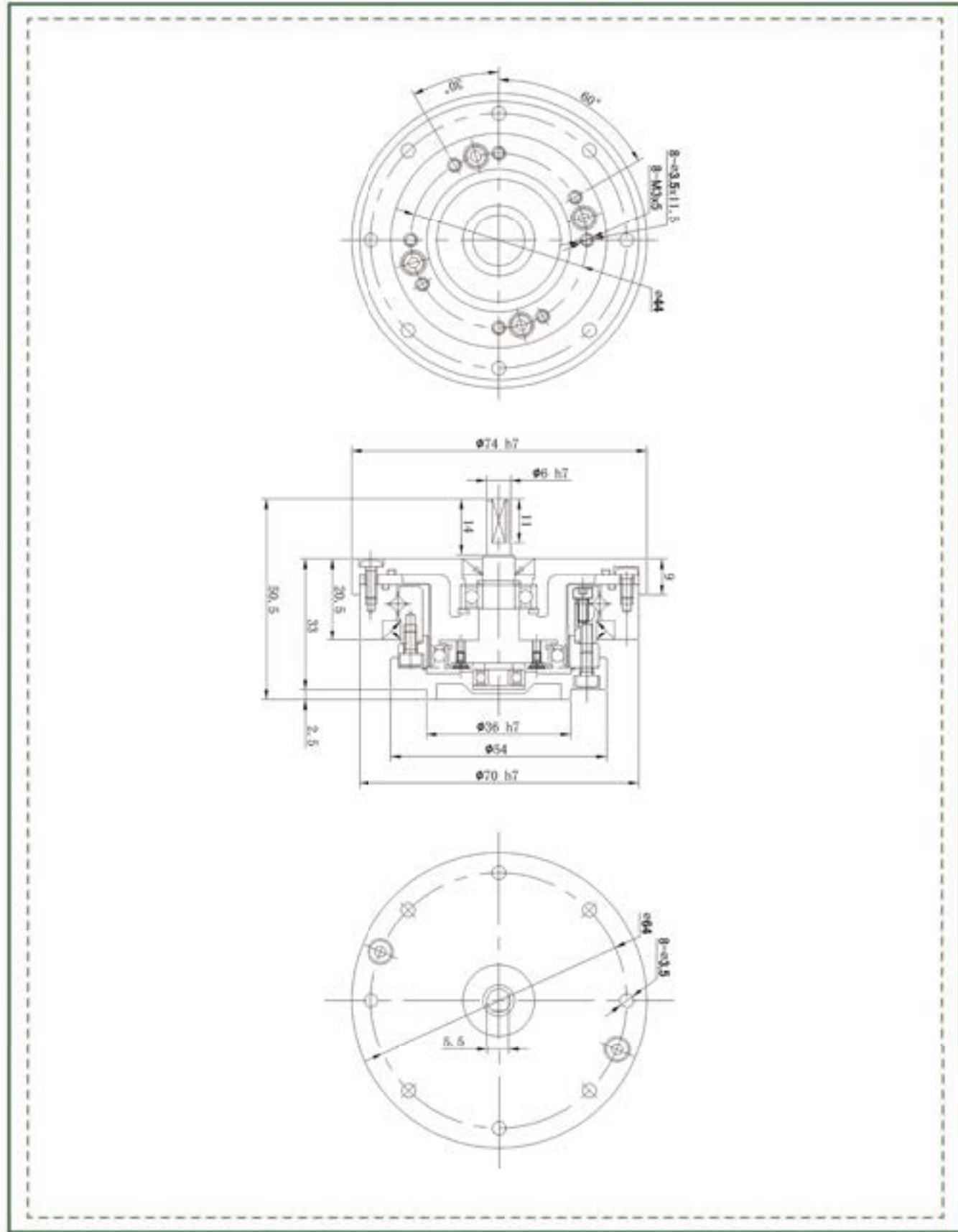
# LHS-IV series



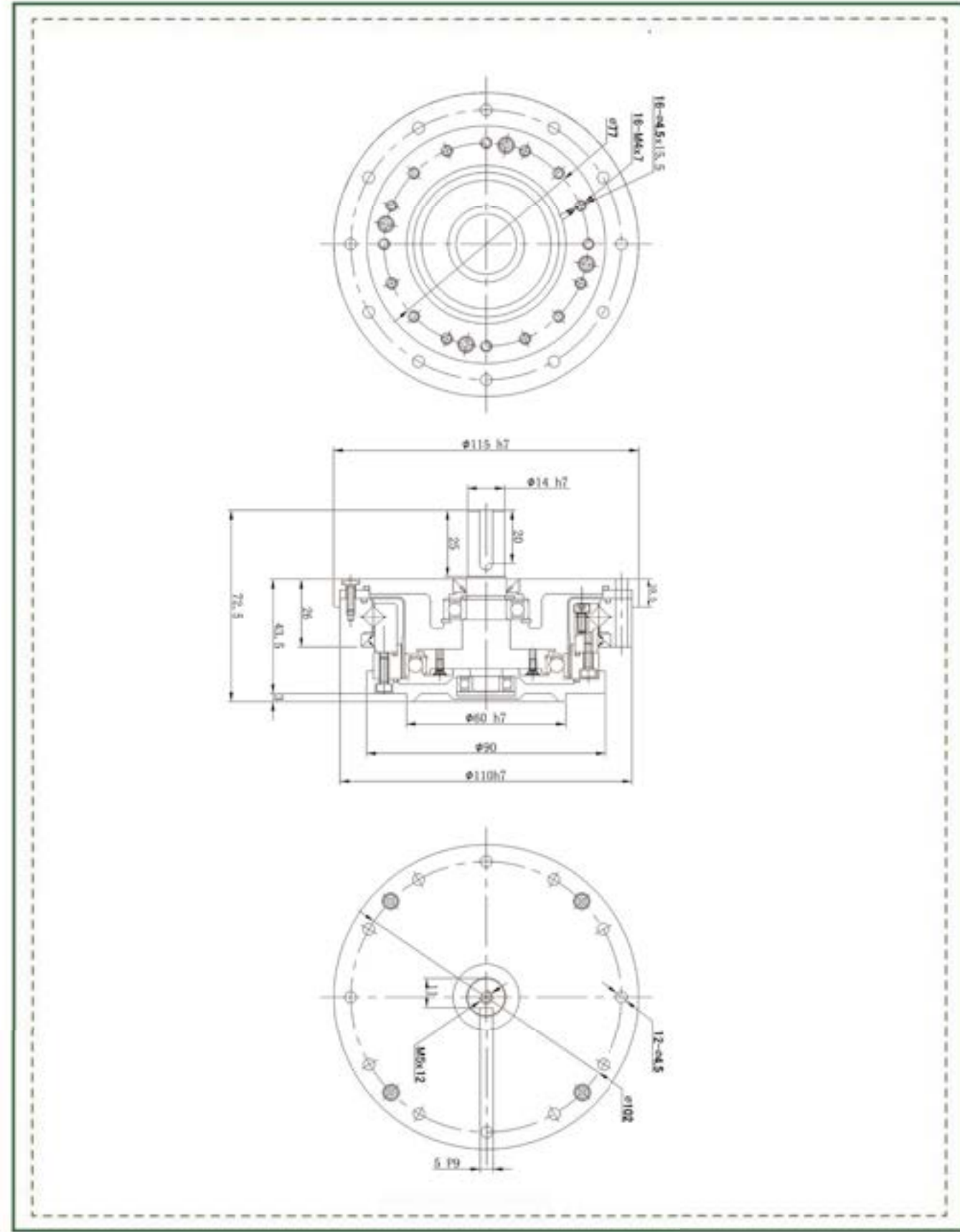
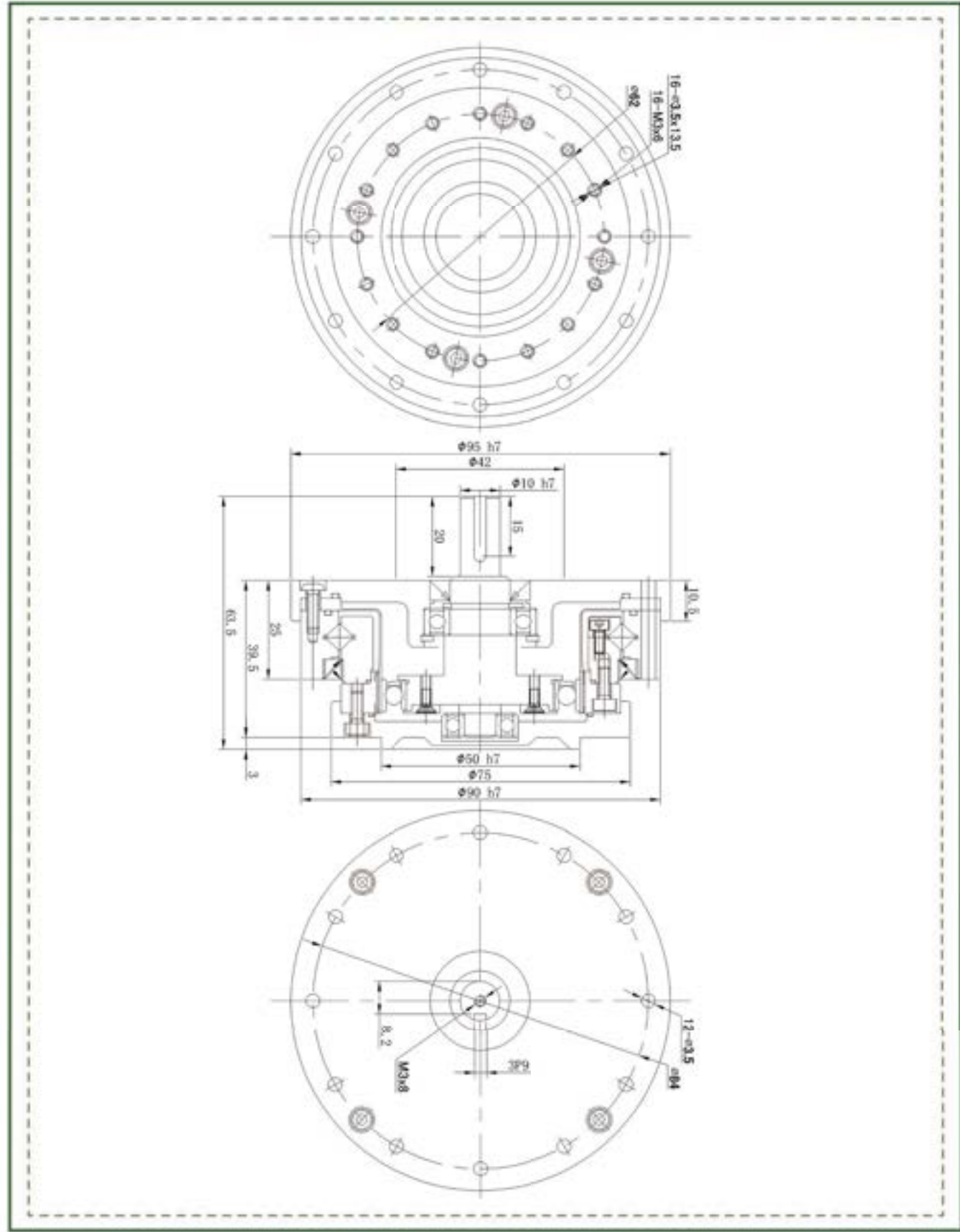
For LHS-IV series, the cam of their wave generator is provided with an input shaft; therefore, the series are very suitable for occasions where bevel gear or synchronous belt drive is needed at the input end.

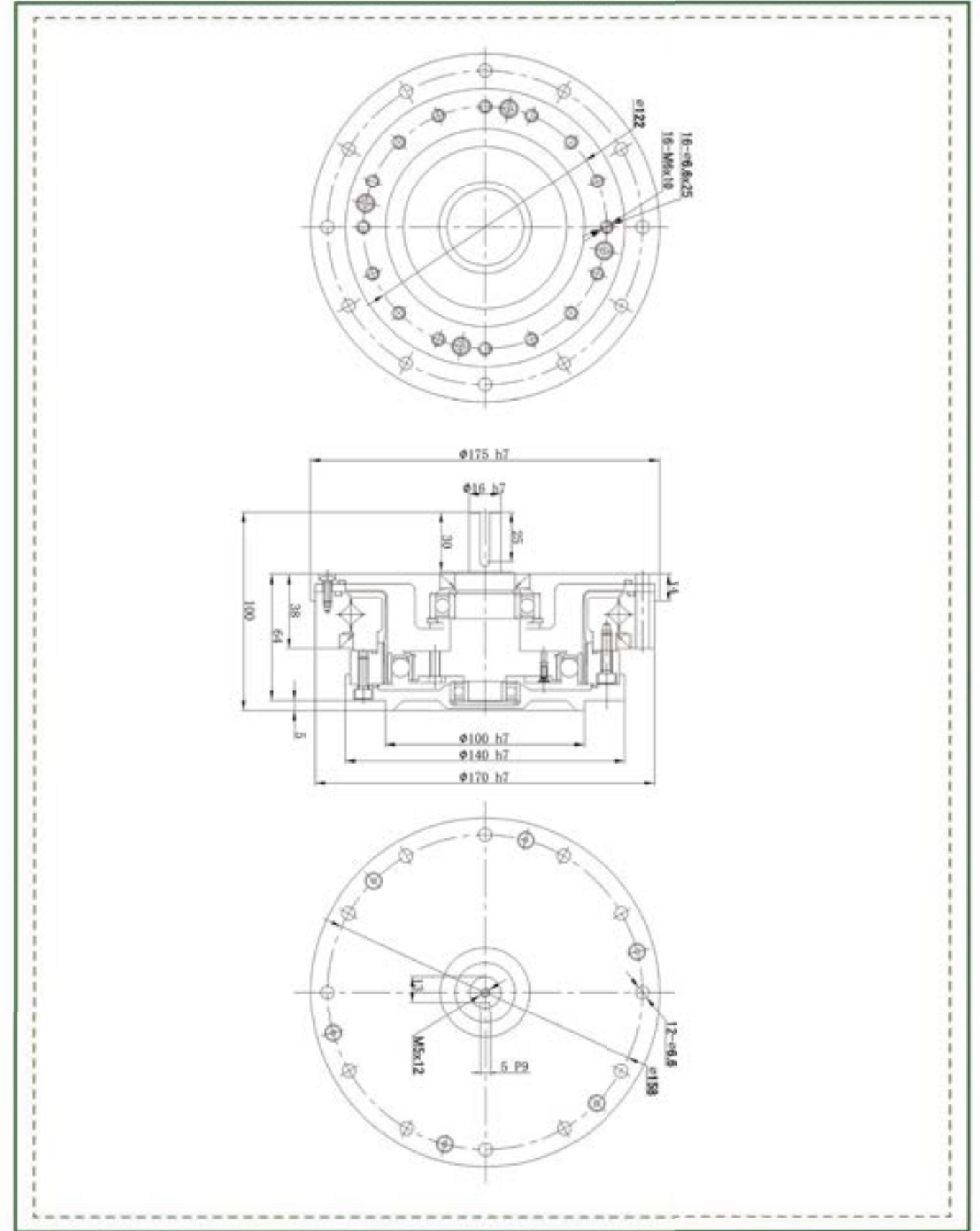
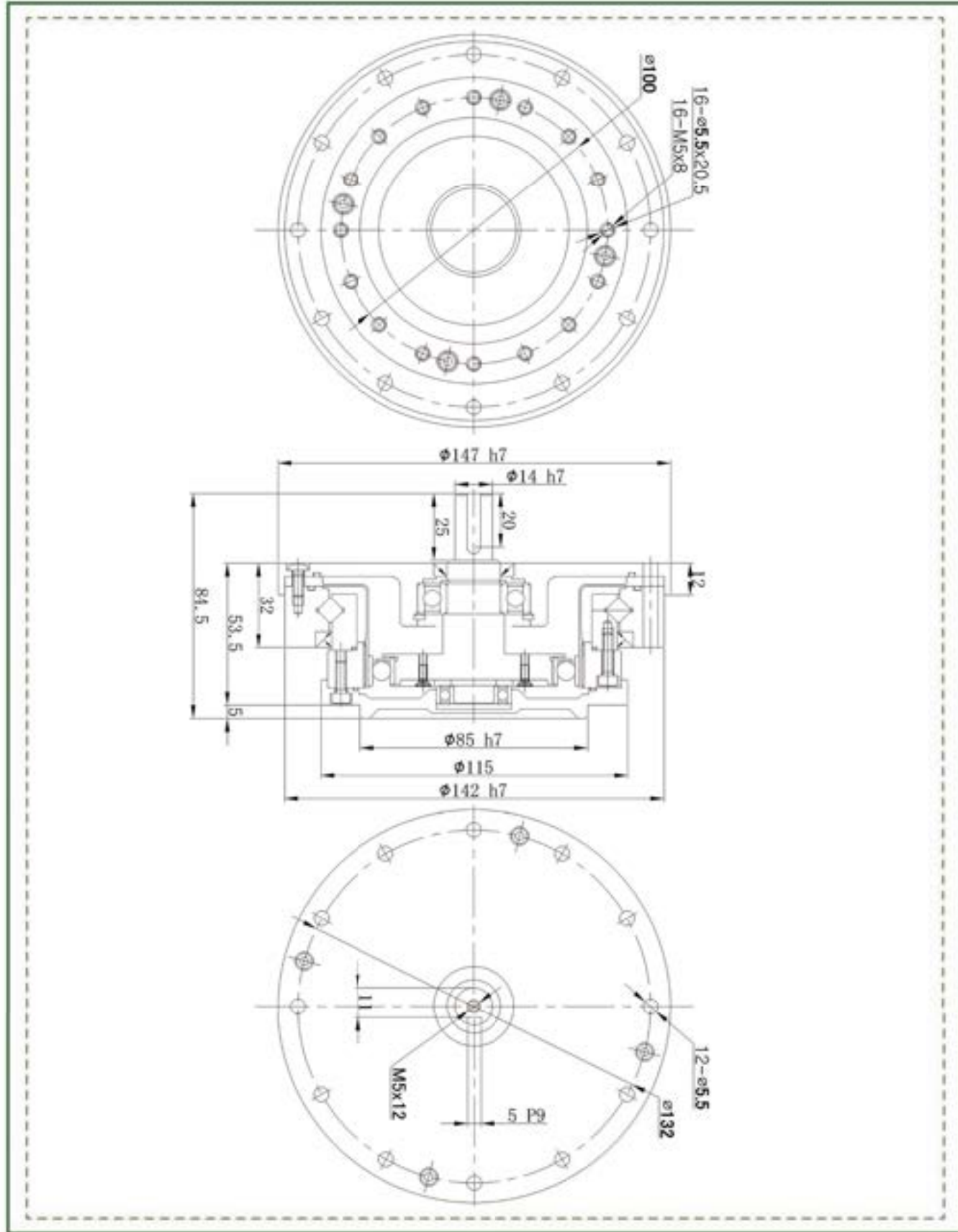
## Parameter Table

| Item | Reduction Ratio | Rated Torque at 2000r/min | Allowable Peak Torque at Start and Stop | Allowable Average Torque | Allowable Maximum Momentary Torque | Maximum Input Speed | Allowable Average Input Speed | Back lash | With Maximum Tension | Weight | Design Life |
|------|-----------------|---------------------------|---|--------------------------|------------------------------------|---------------------|-------------------------------|-----------|----------------------|--------|-------------|
|      |                 | Nm                        | Nm                                      | Nm                       | Nm                                 | r/min               | r/min                         | Arc sec   | N                    | Kg     | Hour        |
| 14   | 30              | 3.8                       | 8.6                                     | 7.8                      | 16                                 | 8000                | 3500                          | ≤20       | ≤26                  | 0.65   | 10000       |
|      | 50              | 5.1                       | 17                                      | 6.6                      | 33                                 |                     |                               | ≤20       |                      |        | 10000       |
|      | 80              | 7.4                       | 22                                      | 10.5                     | 45                                 |                     |                               | ≤10       |                      |        | 15000       |
|      | 100             | 7.4                       | 27                                      | 10.5                     | 51                                 |                     |                               | ≤10       |                      |        | 15000       |
| 17   | 30              | 8.4                       | 15.2                                    | 11.5                     | 29                                 | 7000                | 3500                          | ≤20       | ≤32                  | 0.92   | 10000       |
|      | 50              | 15.2                      | 32                                      | 25                       | 66                                 |                     |                               | ≤20       |                      |        | 10000       |
|      | 80              | 21                        | 41                                      | 26                       | 83                                 |                     |                               | ≤10       |                      |        | 15000       |
|      | 100             | 23                        | 51                                      | 37                       | 104                                |                     |                               | ≤10       |                      |        | 15000       |
|      | 120             | 23                        | 51                                      | 37                       | 82                                 |                     |                               | ≤10       |                      |        | 15000       |
| 20   | 30              | 14                        | 26                                      | 19                       | 48                                 | 6000                | 3500                          | ≤20       | ≤58                  | 1.36   | 10000       |
|      | 50              | 24                        | 53                                      | 32                       | 93                                 |                     |                               | ≤20       |                      |        | 10000       |
|      | 80              | 32                        | 70                                      | 45                       | 121                                |                     |                               | ≤10       |                      |        | 15000       |
|      | 100             | 38                        | 78                                      | 47                       | 140                                |                     |                               | ≤10       |                      |        | 15000       |
|      | 120             | 38                        | 83                                      | 47                       | 140                                |                     |                               | ≤10       |                      |        | 15000       |
|      | 160             | 38                        | 87                                      | 47                       | 140                                |                     |                               | ≤10       |                      |        | 15000       |
| 25   | 30              | 26                        | 48                                      | 36                       | 90                                 | 5500                | 3500                          | ≤20       | ≤71                  | 2.05   | 10000       |
|      | 50              | 37                        | 93                                      | 52                       | 177                                |                     |                               | ≤20       |                      |        | 10000       |
|      | 80              | 60                        | 130                                     | 83                       | 242                                |                     |                               | ≤10       |                      |        | 15000       |
|      | 100             | 64                        | 149                                     | 103                      | 270                                |                     |                               | ≤10       |                      |        | 15000       |
|      | 120             | 64                        | 159                                     | 103                      | 289                                |                     |                               | ≤10       |                      |        | 15000       |
|      | 160             | 64                        | 167                                     | 103                      | 298                                |                     |                               | ≤10       |                      |        | 15000       |
| 32   | 30              | 51                        | 95                                      | 71                       | 190                                | 4500                | 3500                          | ≤20       | ≤114                 | 4.35   | 10000       |
|      | 50              | 72                        | 205                                     | 103                      | 363                                |                     |                               | ≤20       |                      |        | 10000       |
|      | 80              | 112                       | 289                                     | 159                      | 540                                |                     |                               | ≤10       |                      |        | 15000       |
|      | 100             | 130                       | 316                                     | 205                      | 615                                |                     |                               | ≤10       |                      |        | 15000       |
|      | 120             | 130                       | 335                                     | 205                      | 652                                |                     |                               | ≤10       |                      |        | 15000       |
|      | 160             | 130                       | 353                                     | 205                      | 652                                |                     |                               | ≤10       |                      |        | 15000       |
| 40   | 50              | 130                       | 382                                     | 186                      | 652                                | 4000                | 3000                          | ≤20       | ≤294                 | 6.45   | 10000       |
|      | 80              | 196                       | 493                                     | 270                      | 931                                |                     |                               | ≤10       |                      |        | 15000       |
|      | 100             | 252                       | 540                                     | 353                      | 1026                               |                     |                               | ≤10       |                      |        | 15000       |
|      | 120             | 279                       | 586                                     | 428                      | 1121                               |                     |                               | ≤10       |                      |        | 15000       |
|      | 160             | 279                       | 615                                     | 428                      | 1121                               |                     |                               | ≤10       |                      |        | 15000       |











# LHSG-I series

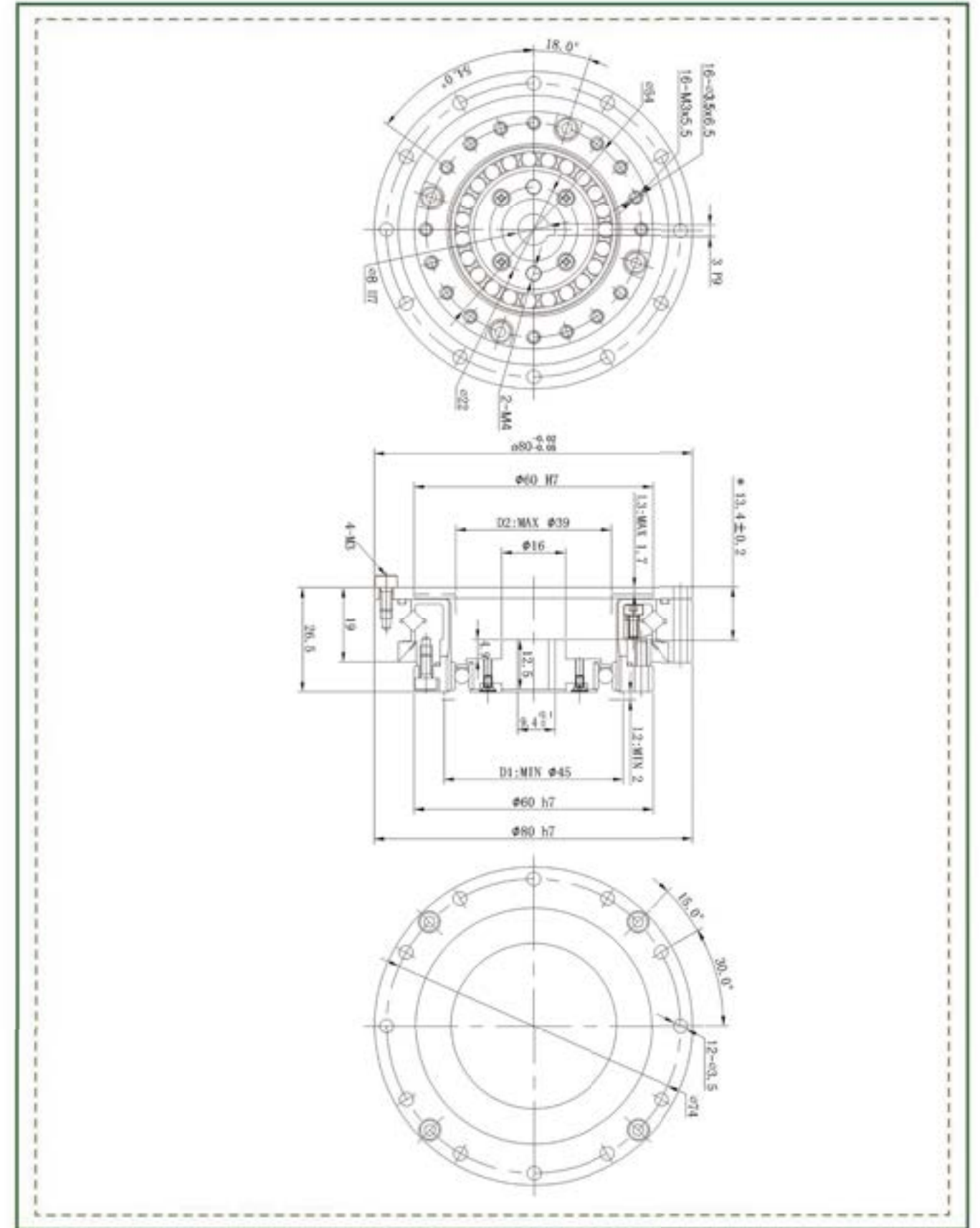
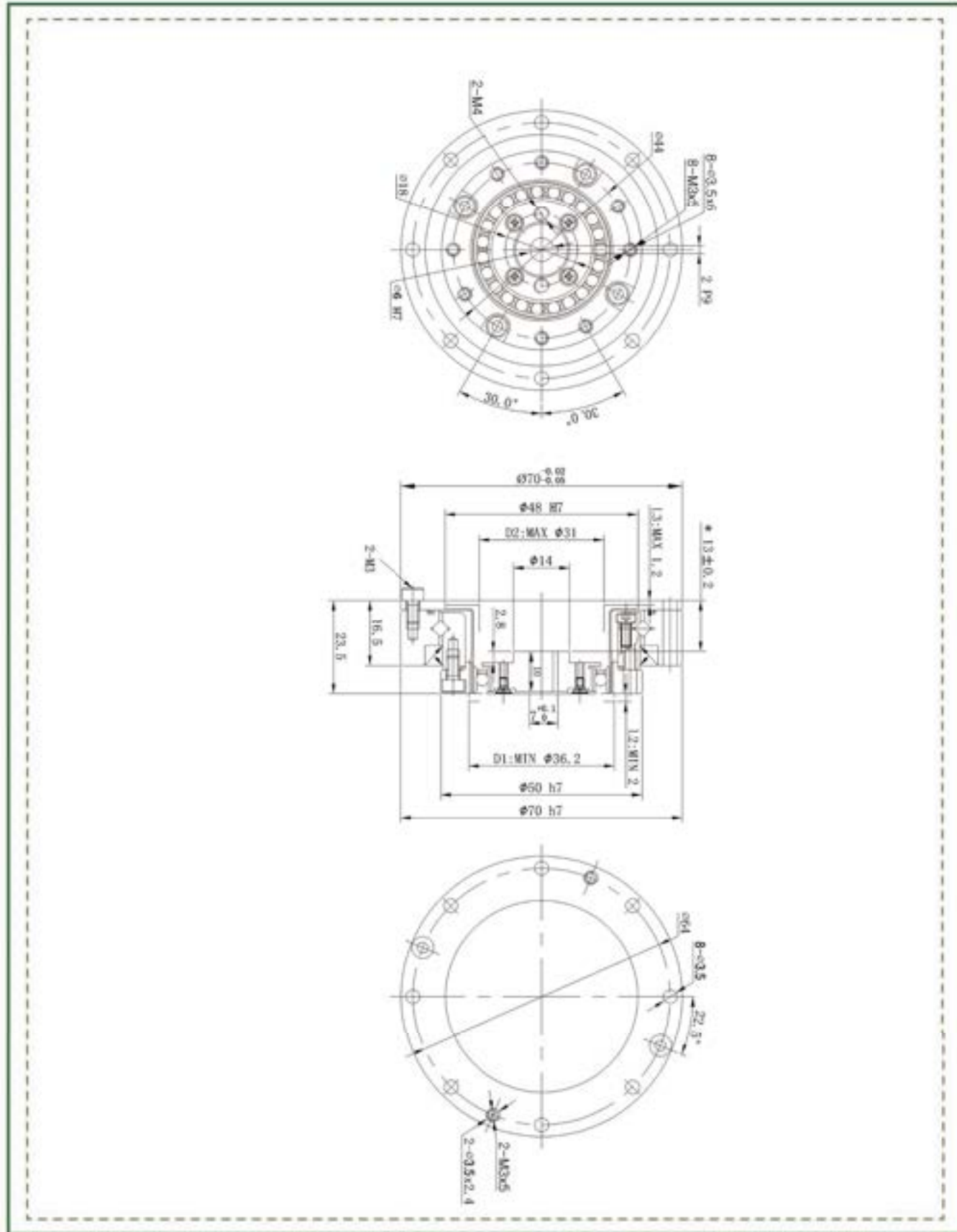


LHSG-I series are high-torque models which have the same structure, with LHS-I series. However, their torque bearing capacity is improved by 30% compared with LHS series.

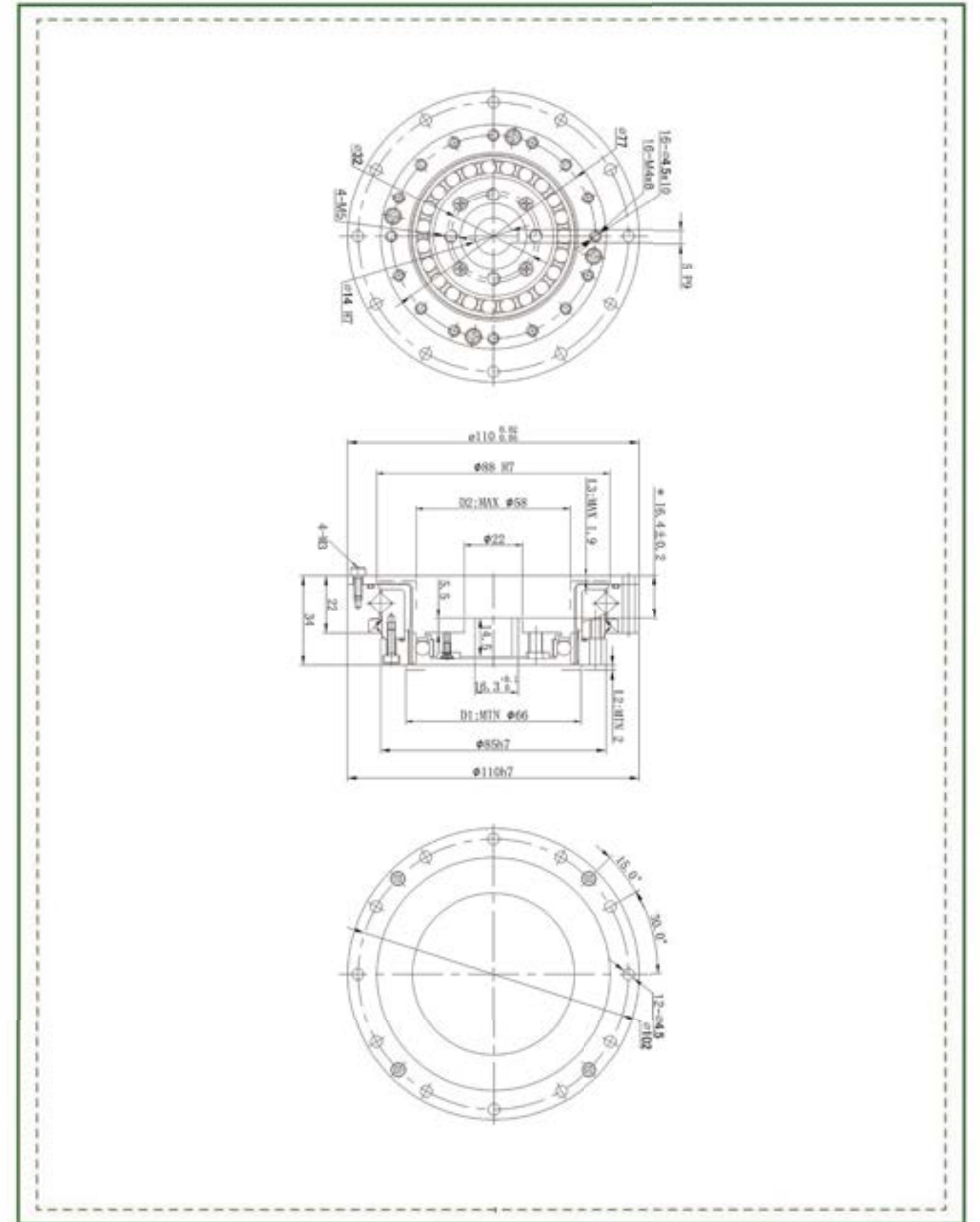
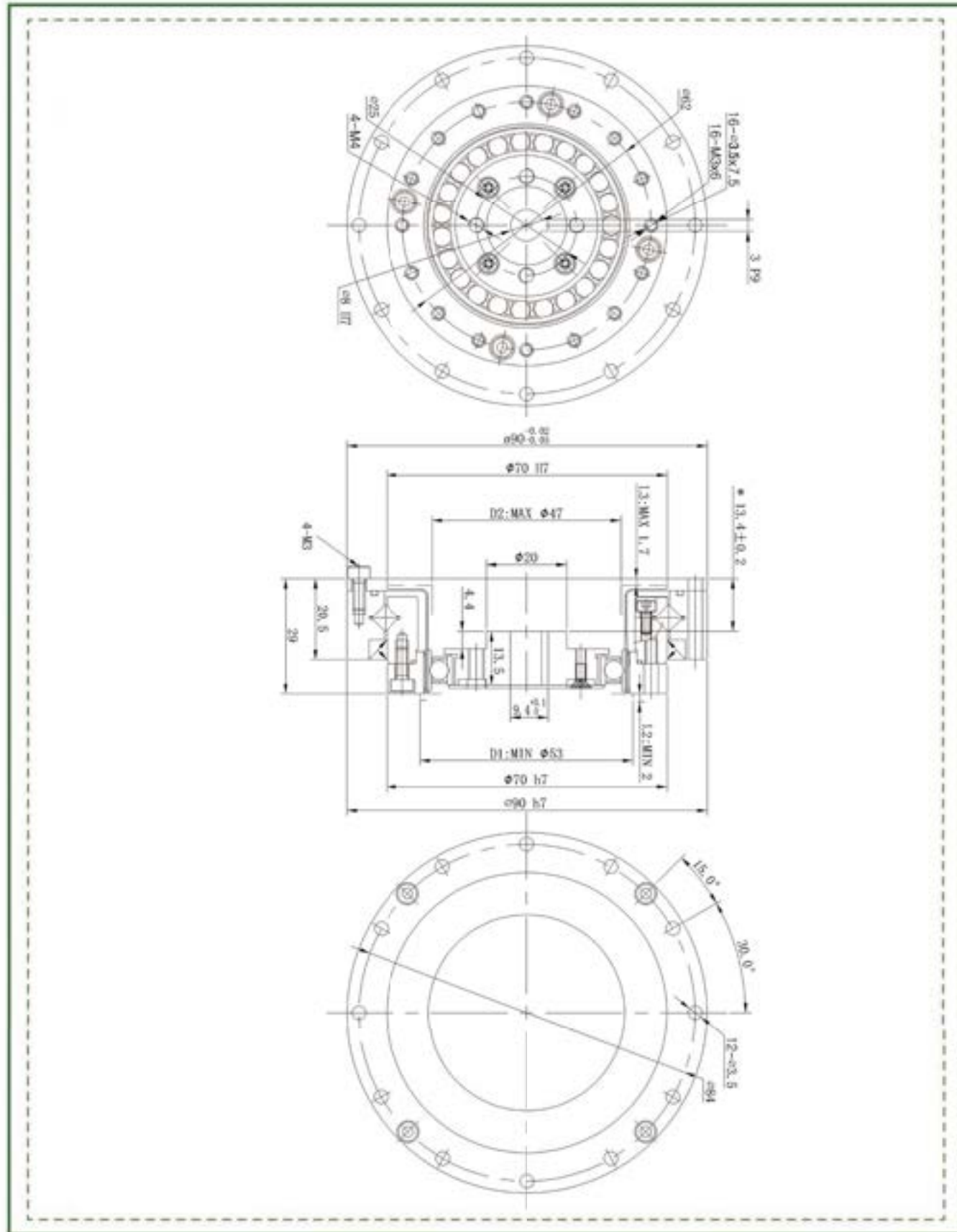
## Parameter Table

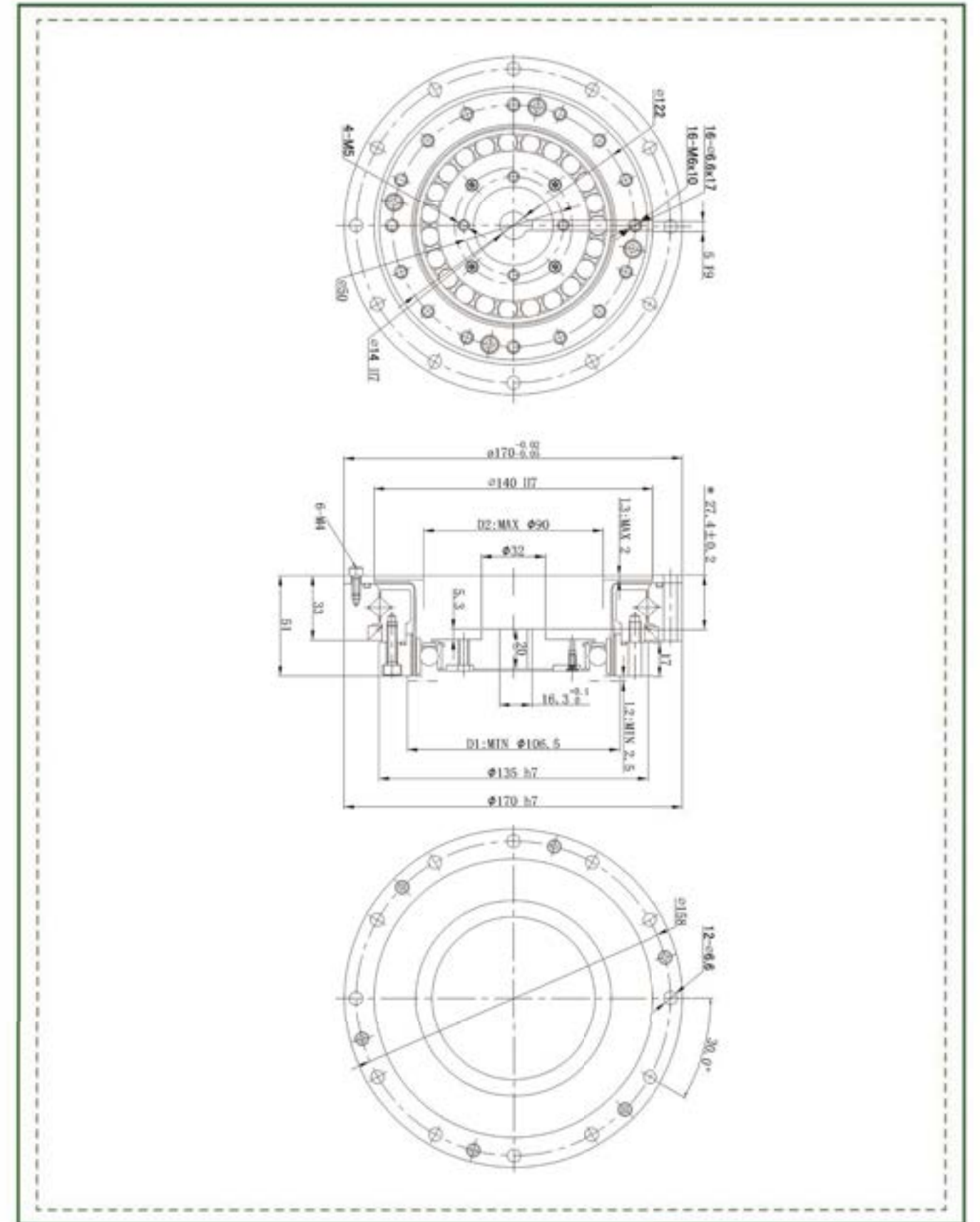
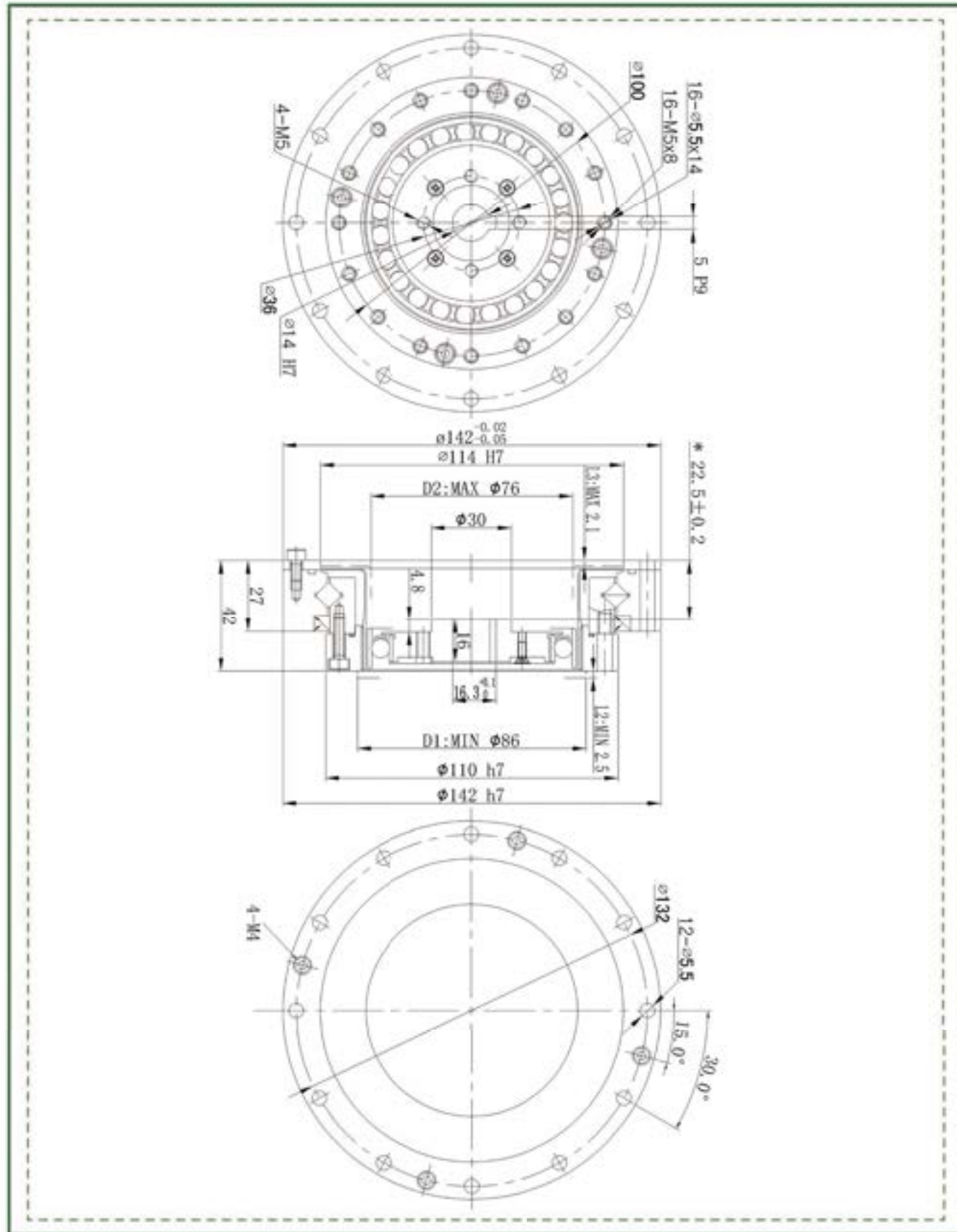
| Item<br>Model No | Reduction Ratio | Rated Torque at 2000r/min | Allowable Peak Torque at Start and Stop | Allowable Average Torque | Allowable Maximum Momentary Torque | Maximum Input Speed | Allowable Average Input Speed | Back lash | Weight | Design Life |
|------------------|-----------------|---------------------------|---|--------------------------|------------------------------------|---------------------|-------------------------------|-----------|--------|-------------|
|                  |                 | Nm                        | Nm                                      | Nm                       | Nm                                 | r/min               | r/min                         | Arc sec   | Kg     | Hour        |
| 14               | 50              | 6.6                       | 23                                      | 8.6                      | 43                                 | 8000                | 3500                          | ≤10       | 0.38   | 10000       |
|                  | 80              | 9.6                       | 29                                      | 13.5                     | 57                                 |                     |                               | ≤10       |        | 15000       |
|                  | 100             | 9.6                       | 34                                      | 13.5                     | 66                                 |                     |                               | ≤10       |        | 15000       |
| 17               | 50              | 19.8                      | 42                                      | 32                       | 86                                 | 7000                | 3500                          | ≤10       | 0.56   | 10000       |
|                  | 80              | 27.5                      | 53                                      | 33                       | 108                                |                     |                               | ≤10       |        | 15000       |
|                  | 100             | 30                        | 66                                      | 49                       | 134                                |                     |                               | ≤10       |        | 15000       |
|                  | 120             | 30                        | 66                                      | 49                       | 107                                |                     |                               | ≤10       |        | 15000       |
| 20               | 50              | 32                        | 69                                      | 42                       | 121                                | 6000                | 3500                          | ≤10       | 0.76   | 10000       |
|                  | 80              | 42                        | 91                                      | 58                       | 158                                |                     |                               | ≤10       |        | 15000       |
|                  | 100             | 50                        | 102                                     | 61                       | 182                                |                     |                               | ≤10       |        | 15000       |
|                  | 120             | 50                        | 108                                     | 61                       | 182                                |                     |                               | ≤10       |        | 15000       |
|                  | 160             | 50                        | 113                                     | 61                       | 182                                |                     |                               | ≤10       |        | 15000       |
| 25               | 50              | 48                        | 121                                     | 68.5                     | 230                                | 5500                | 3500                          | ≤10       | 1.24   | 10000       |
|                  | 80              | 78                        | 169                                     | 107                      | 315                                |                     |                               | ≤10       |        | 15000       |
|                  | 100             | 84                        | 194                                     | 133                      | 351                                |                     |                               | ≤10       |        | 15000       |
|                  | 120             | 84                        | 207                                     | 133                      | 376                                |                     |                               | ≤10       |        | 15000       |
|                  | 160             | 84                        | 217                                     | 133                      | 388                                |                     |                               | ≤10       |        | 15000       |
| 32               | 50              | 94                        | 267                                     | 133                      | 472                                | 4500                | 3500                          | ≤10       | 2.6    | 10000       |
|                  | 80              | 146                       | 376                                     | 206                      | 702                                |                     |                               | ≤10       |        | 15000       |
|                  | 100             | 169                       | 411                                     | 267                      | 800                                |                     |                               | ≤10       |        | 15000       |
|                  | 120             | 169                       | 436                                     | 267                      | 848                                |                     |                               | ≤10       |        | 15000       |
|                  | 160             | 169                       | 459                                     | 267                      | 848                                |                     |                               | ≤10       |        | 15000       |
| 40               | 50              | 169                       | 497                                     | 242                      | 847                                | 4000                | 3000                          | ≤10       | 5.0    | 10000       |
|                  | 80              | 255                       | 641                                     | 351                      | 1210                               |                     |                               | ≤10       |        | 15000       |
|                  | 100             | 328                       | 702                                     | 460                      | 1334                               |                     |                               | ≤10       |        | 15000       |
|                  | 120             | 363                       | 762                                     | 557                      | 1458                               |                     |                               | ≤10       |        | 15000       |
|                  | 160             | 363                       | 800                                     | 557                      | 1458                               |                     |                               | ≤10       |        | 15000       |
| 50*              | 80              | 459                       | 1163                                    | 642                      | 2297                               | 3000                | 2500                          | ≤10       | 9.5    | 15000       |
|                  | 100             | 580                       | 1211                                    | 823                      | 2545                               |                     |                               | ≤10       |        | 15000       |
|                  | 120             | 654                       | 1334                                    | 1005                     | 2545                               |                     |                               | ≤10       |        | 15000       |
|                  | 160             | 654                       | 1458                                    | 1042                     | 3025                               |                     |                               | ≤10       |        | 15000       |
| 58*              | 80              | 678                       | 1828                                    | 951                      | 3026                               | 3000                | 2200                          | ≤10       | 13.6   | 15000       |
|                  | 100             | 860                       | 1964                                    | 1309                     | 3927                               |                     |                               | ≤10       |        | 15000       |
|                  | 120             | 921                       | 2124                                    | 1470                     | 4113                               |                     |                               | ≤10       |        | 15000       |
|                  | 160             | 921                       | 2722                                    | 1494                     | 4236                               |                     |                               | ≤10       |        | 15000       |

\* Consult factory











# LHSG-II series

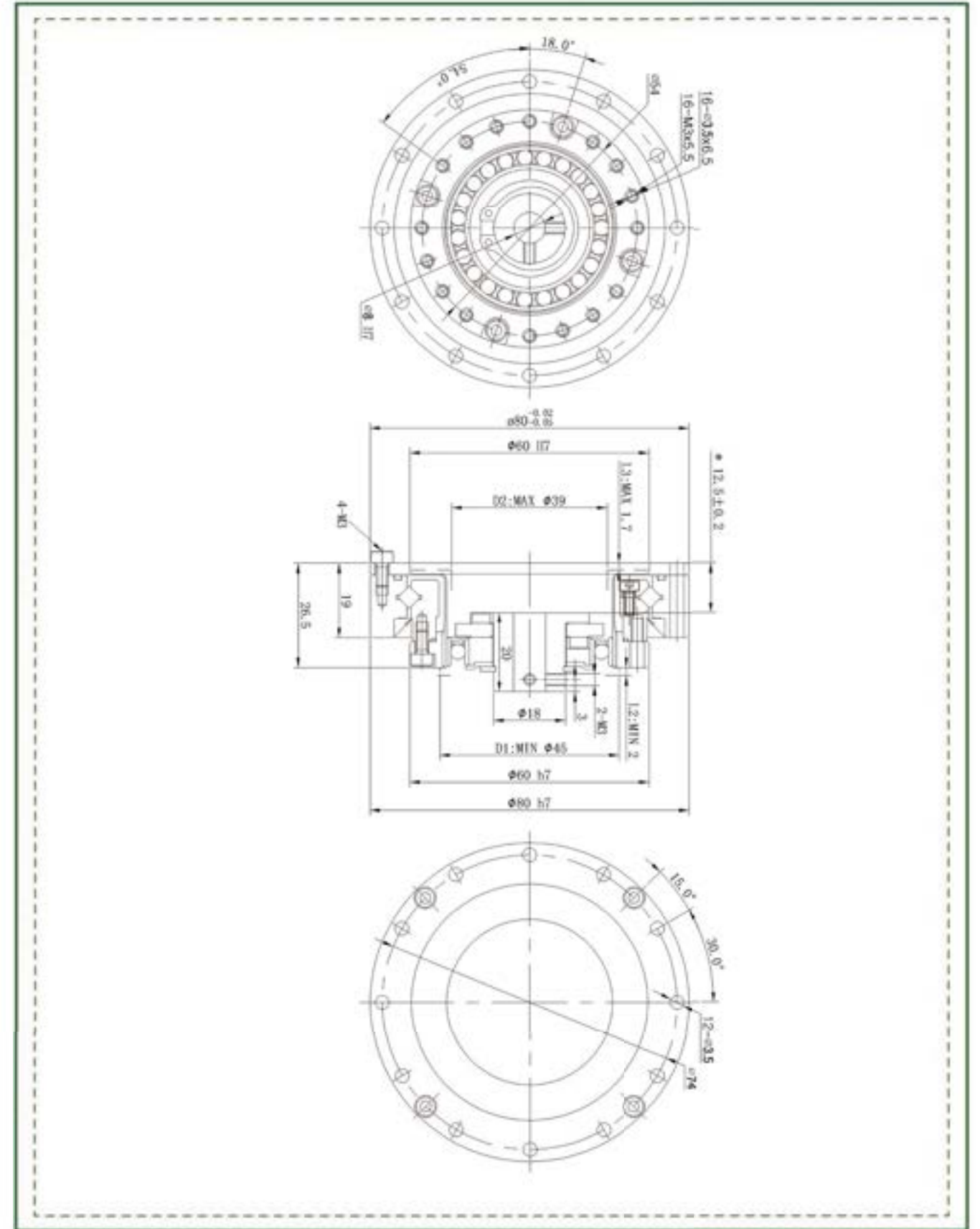
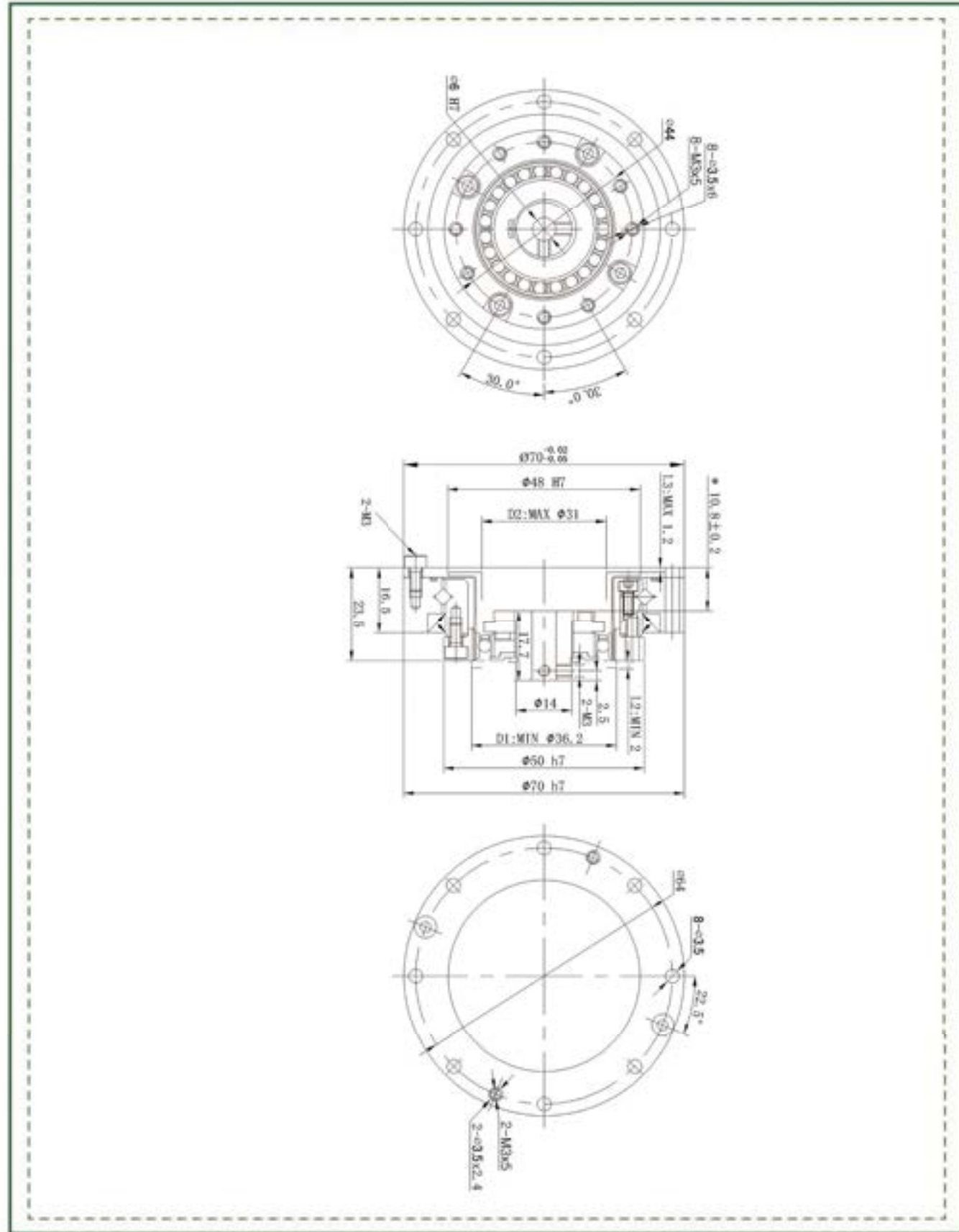


LHSG-II series are high-torque models which have the same structure, with LHS-II series. However, their torque bearing capacity is improved by 30% compared with LHS series.

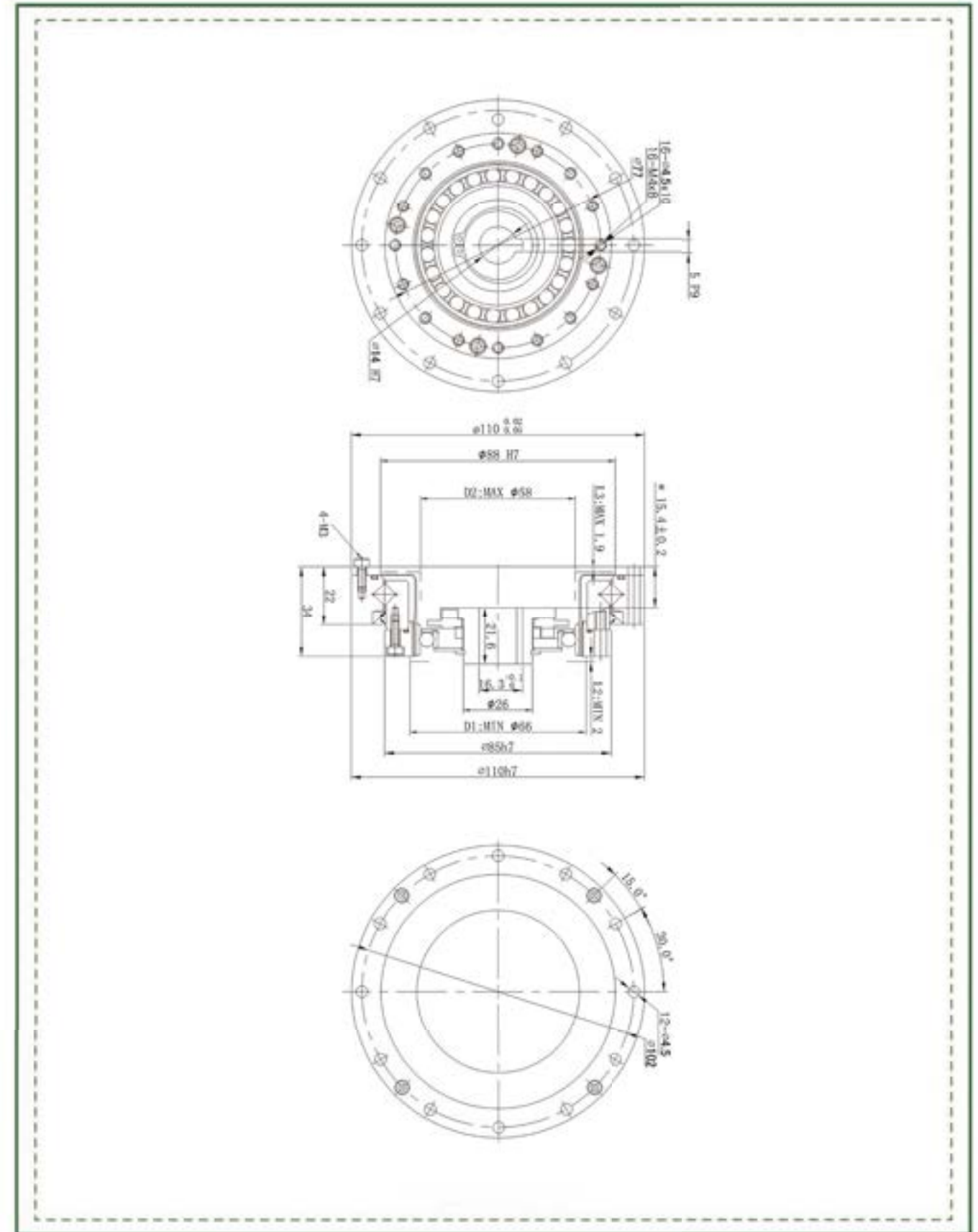
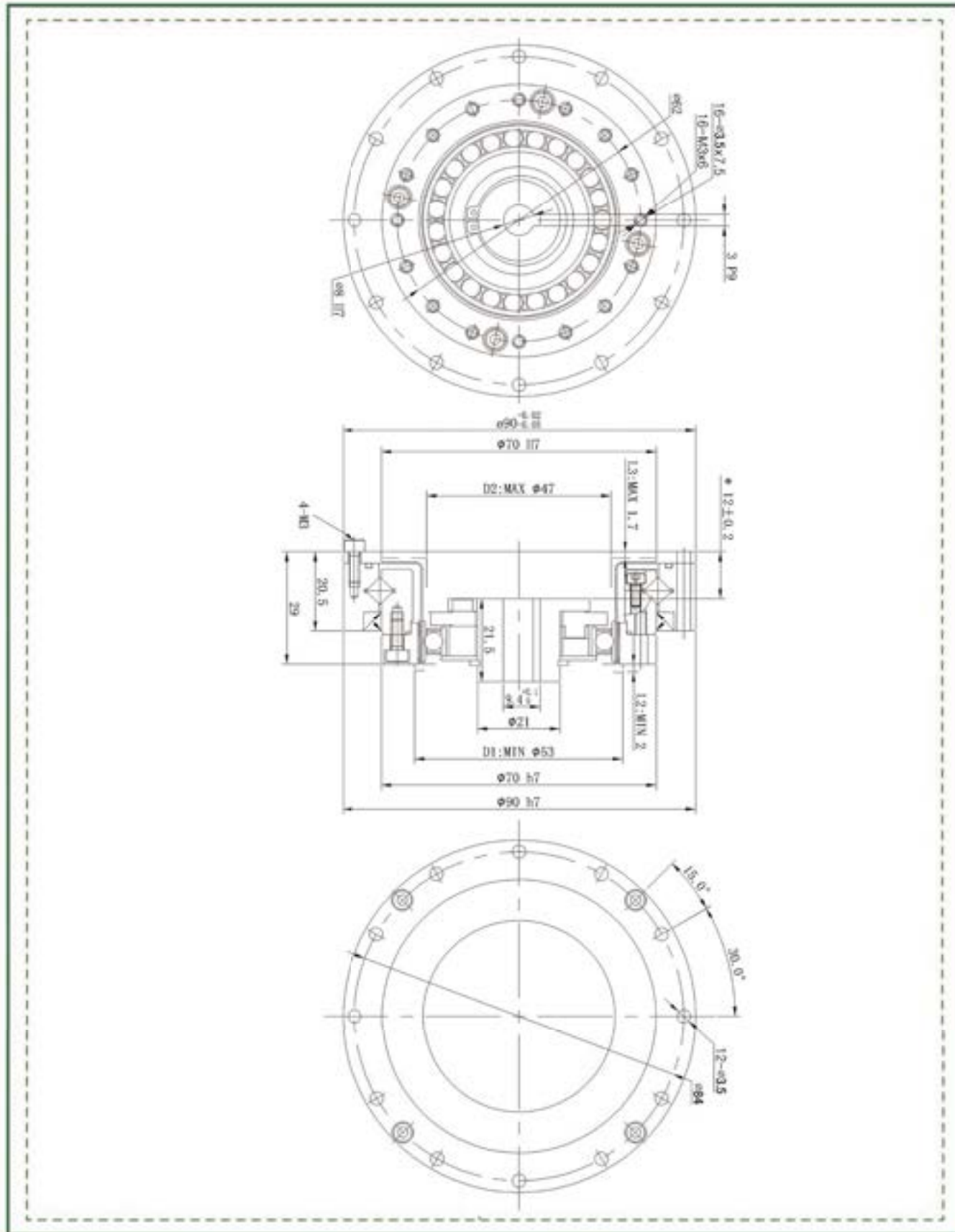
## Parameter Table

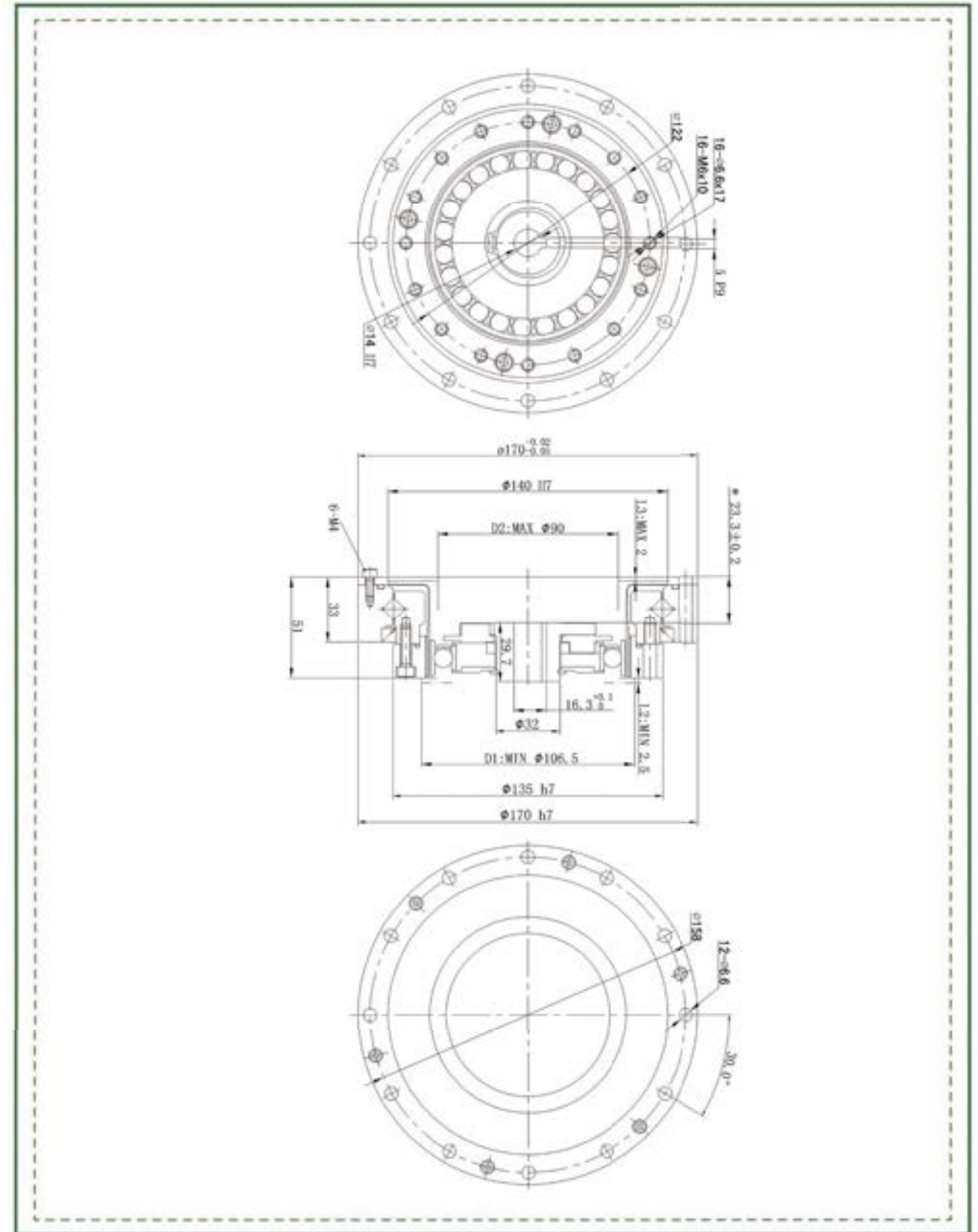
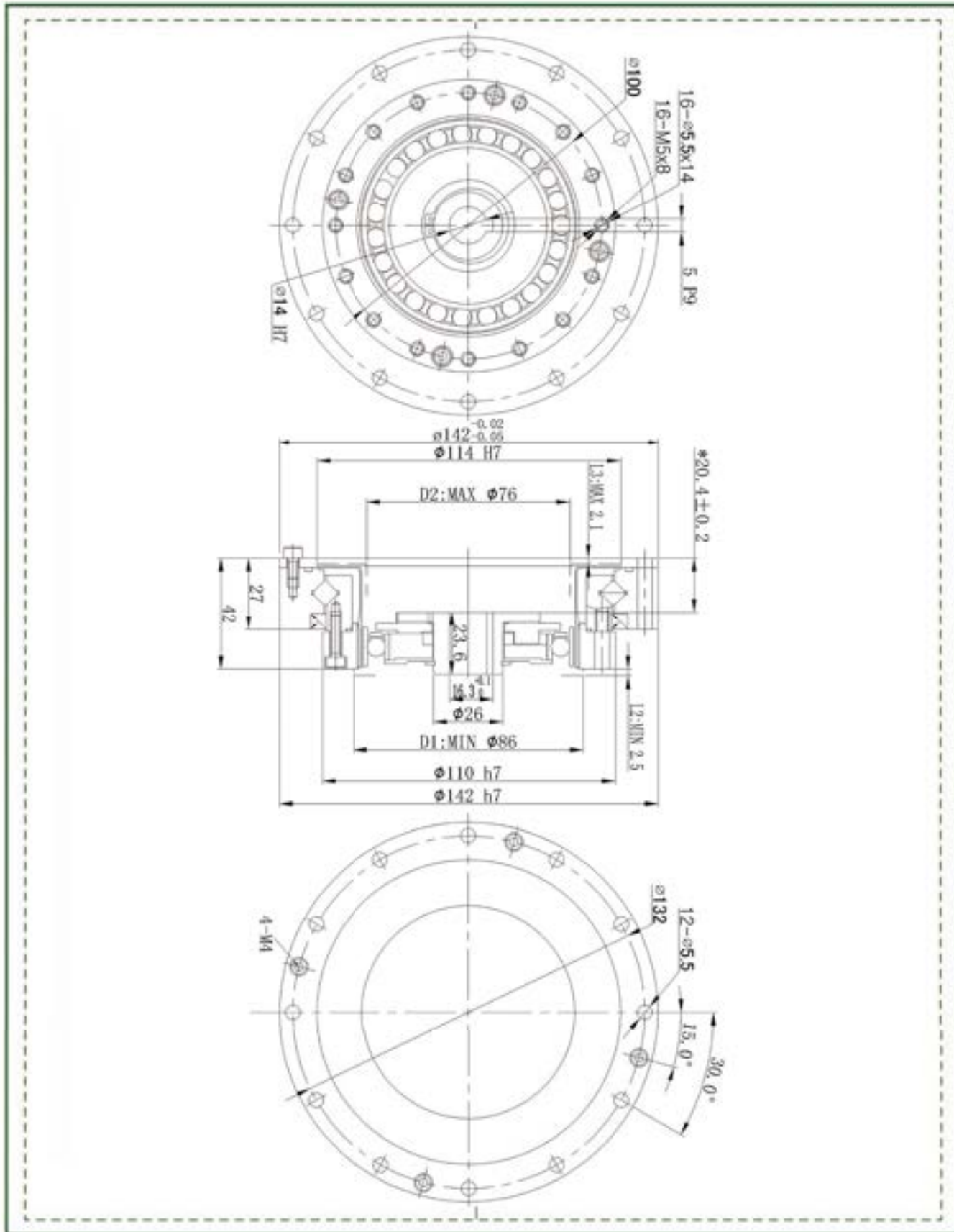
| Item     | Reduction Ratio | Rated Torque at 2000r/min | Allowable Peak Torque at Start and Stop | Allowable Average Torque | Allowable Maximum Momentary Torque | Maximum Input Speed | Allowable Average Input Speed | Back lash | Weight | Design Life |
|----------|-----------------|---------------------------|---|--------------------------|------------------------------------|---------------------|-------------------------------|-----------|--------|-------------|
| Model No |                 | Nm                        | Nm                                      | Nm                       | Nm                                 | r/min               | r/min                         | Arc sec   | Kg     | Hour        |
| 14       | 50              | 6.6                       | 23                                      | 8.6                      | 43                                 | 8000                | 3500                          | ≤20       | 0.38   | 10000       |
|          | 80              | 9.6                       | 29                                      | 13.5                     | 57                                 |                     |                               | ≤20       |        | 15000       |
|          | 100             | 9.6                       | 34                                      | 13.5                     | 66                                 |                     |                               | ≤20       |        | 15000       |
| 17       | 50              | 19.8                      | 42                                      | 32                       | 86                                 | 7000                | 3500                          | ≤20       | 0.56   | 10000       |
|          | 80              | 27.5                      | 53                                      | 33                       | 108                                |                     |                               | ≤20       |        | 15000       |
|          | 100             | 30                        | 66                                      | 49                       | 134                                |                     |                               | ≤20       |        | 15000       |
|          | 120             | 30                        | 66                                      | 49                       | 107                                |                     |                               | ≤20       |        | 15000       |
| 20       | 50              | 32                        | 69                                      | 42                       | 121                                | 6000                | 3500                          | ≤20       | 0.76   | 10000       |
|          | 80              | 42                        | 91                                      | 58                       | 158                                |                     |                               | ≤20       |        | 15000       |
|          | 100             | 50                        | 102                                     | 61                       | 182                                |                     |                               | ≤20       |        | 15000       |
|          | 120             | 50                        | 108                                     | 61                       | 182                                |                     |                               | ≤20       |        | 15000       |
|          | 160             | 50                        | 113                                     | 61                       | 182                                |                     |                               | ≤20       |        | 15000       |
| 25       | 50              | 48                        | 121                                     | 68.5                     | 230                                | 5500                | 3500                          | ≤20       | 1.24   | 10000       |
|          | 80              | 78                        | 169                                     | 107                      | 315                                |                     |                               | ≤20       |        | 15000       |
|          | 100             | 84                        | 194                                     | 133                      | 351                                |                     |                               | ≤20       |        | 15000       |
|          | 120             | 84                        | 207                                     | 133                      | 376                                |                     |                               | ≤20       |        | 15000       |
|          | 160             | 84                        | 217                                     | 133                      | 388                                |                     |                               | ≤20       |        | 15000       |
| 32       | 50              | 94                        | 267                                     | 133                      | 472                                | 4500                | 3500                          | ≤20       | 2.6    | 10000       |
|          | 80              | 146                       | 376                                     | 206                      | 702                                |                     |                               | ≤20       |        | 15000       |
|          | 100             | 169                       | 411                                     | 267                      | 800                                |                     |                               | ≤20       |        | 15000       |
|          | 120             | 169                       | 436                                     | 267                      | 848                                |                     |                               | ≤20       |        | 15000       |
|          | 160             | 169                       | 459                                     | 267                      | 848                                |                     |                               | ≤20       |        | 15000       |
| 40       | 50              | 169                       | 497                                     | 242                      | 847                                | 4000                | 3000                          | ≤20       | 5.0    | 10000       |
|          | 80              | 255                       | 641                                     | 351                      | 1210                               |                     |                               | ≤20       |        | 15000       |
|          | 100             | 328                       | 702                                     | 460                      | 1334                               |                     |                               | ≤20       |        | 15000       |
|          | 120             | 363                       | 762                                     | 557                      | 1458                               |                     |                               | ≤20       |        | 15000       |
|          | 160             | 363                       | 800                                     | 557                      | 1458                               |                     |                               | ≤20       |        | 15000       |
| 50*      | 80              | 459                       | 1163                                    | 642                      | 2297                               | 3000                | 2500                          | ≤10       | 9.5    | 15000       |
|          | 100             | 580                       | 1211                                    | 823                      | 2545                               |                     |                               | ≤10       |        | 15000       |
|          | 120             | 654                       | 1334                                    | 1005                     | 2545                               |                     |                               | ≤10       |        | 15000       |
|          | 160             | 654                       | 1458                                    | 1042                     | 3025                               |                     |                               | ≤10       |        | 15000       |
| 58*      | 80              | 678                       | 1828                                    | 951                      | 3026                               | 3000                | 2200                          | ≤10       | 13.6   | 15000       |
|          | 100             | 860                       | 1964                                    | 1309                     | 3927                               |                     |                               | ≤10       |        | 15000       |
|          | 120             | 921                       | 2124                                    | 1470                     | 4113                               |                     |                               | ≤10       |        | 15000       |
|          | 160             | 921                       | 2722                                    | 1494                     | 4236                               |                     |                               | ≤10       |        | 15000       |

\* Consult factory











# LHSG-III series

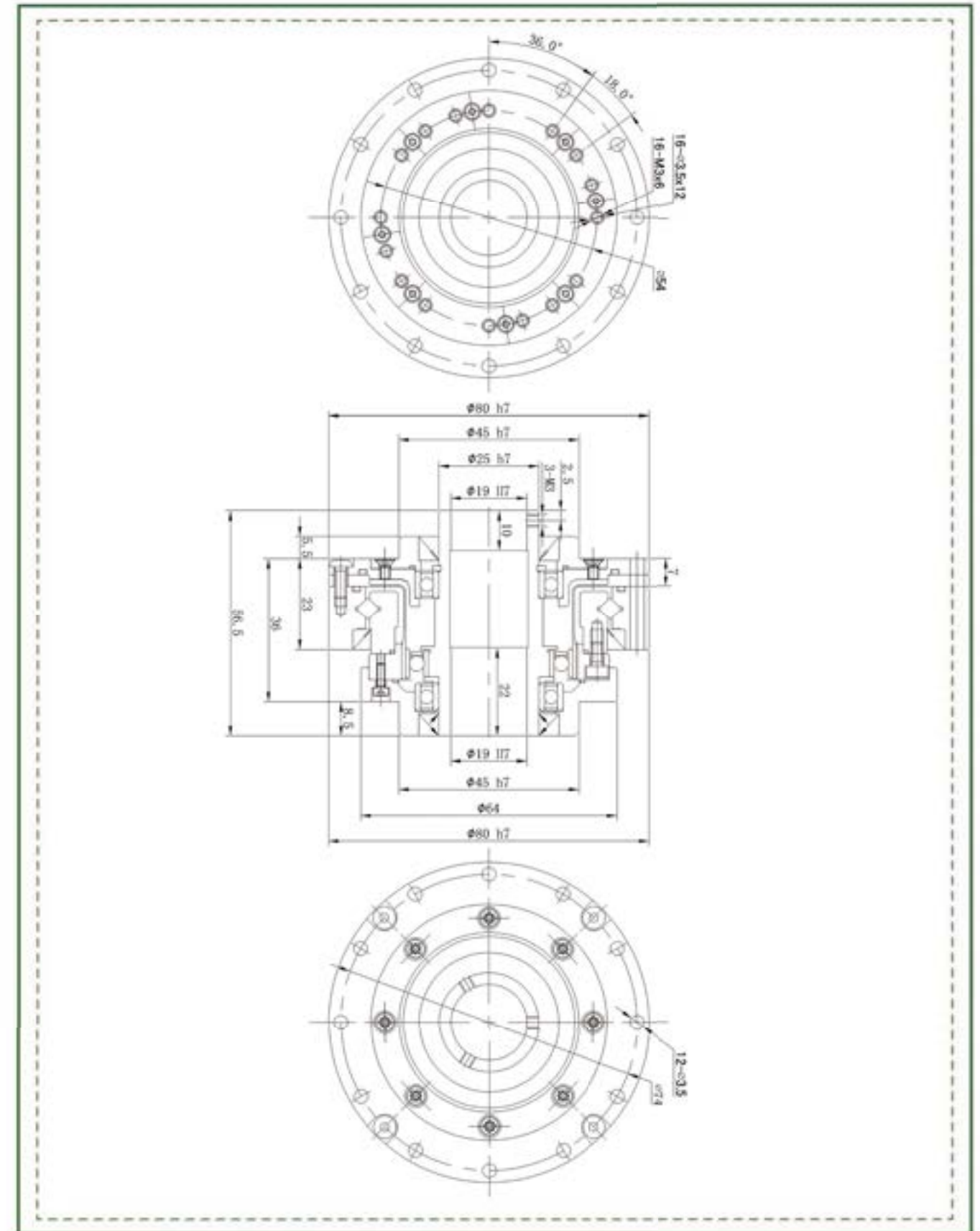
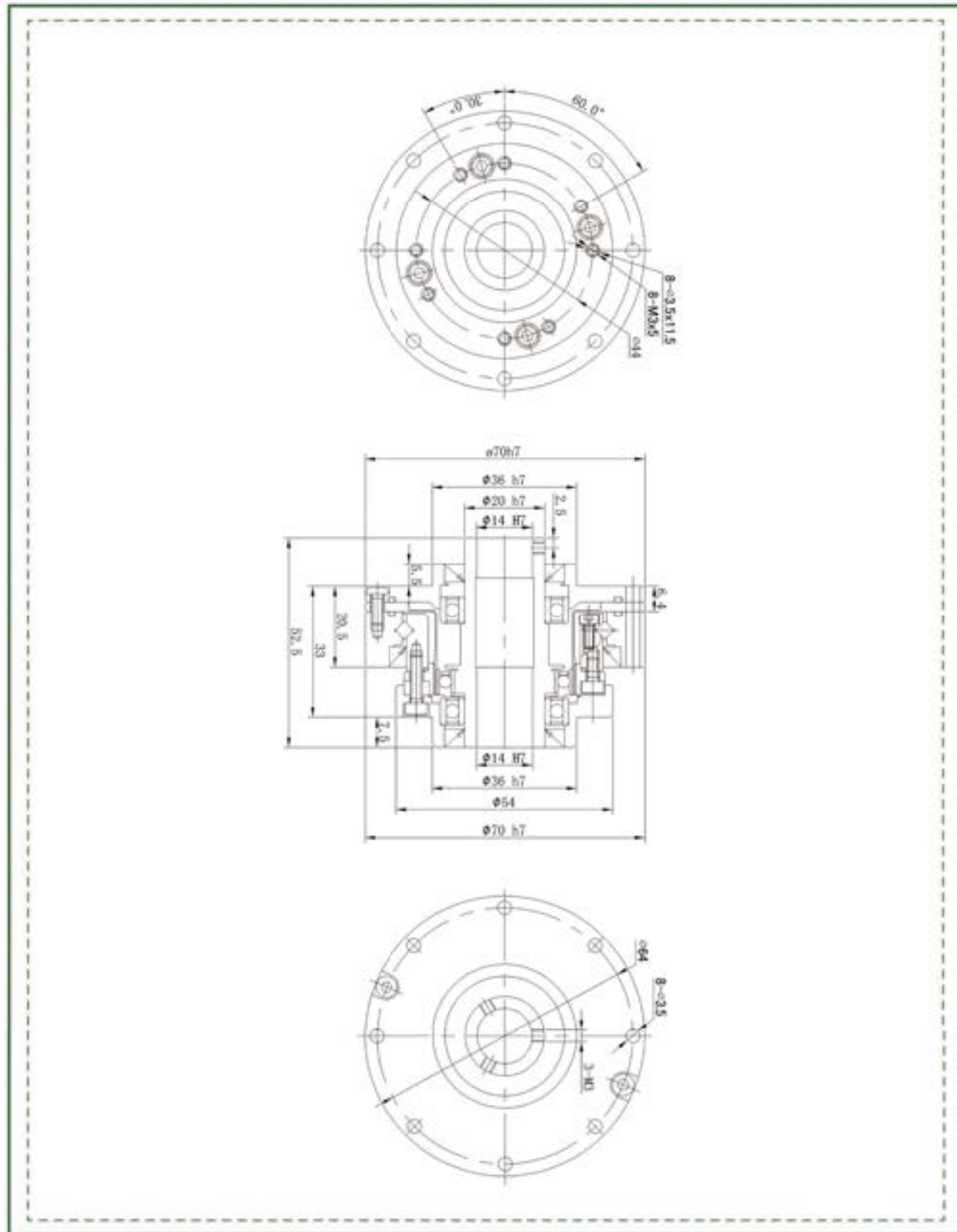


LHSG-III series are high-torque models which have the same structure, with LHS-III series. However, their torque bearing capacity is improved by 30% compared with LHS series.

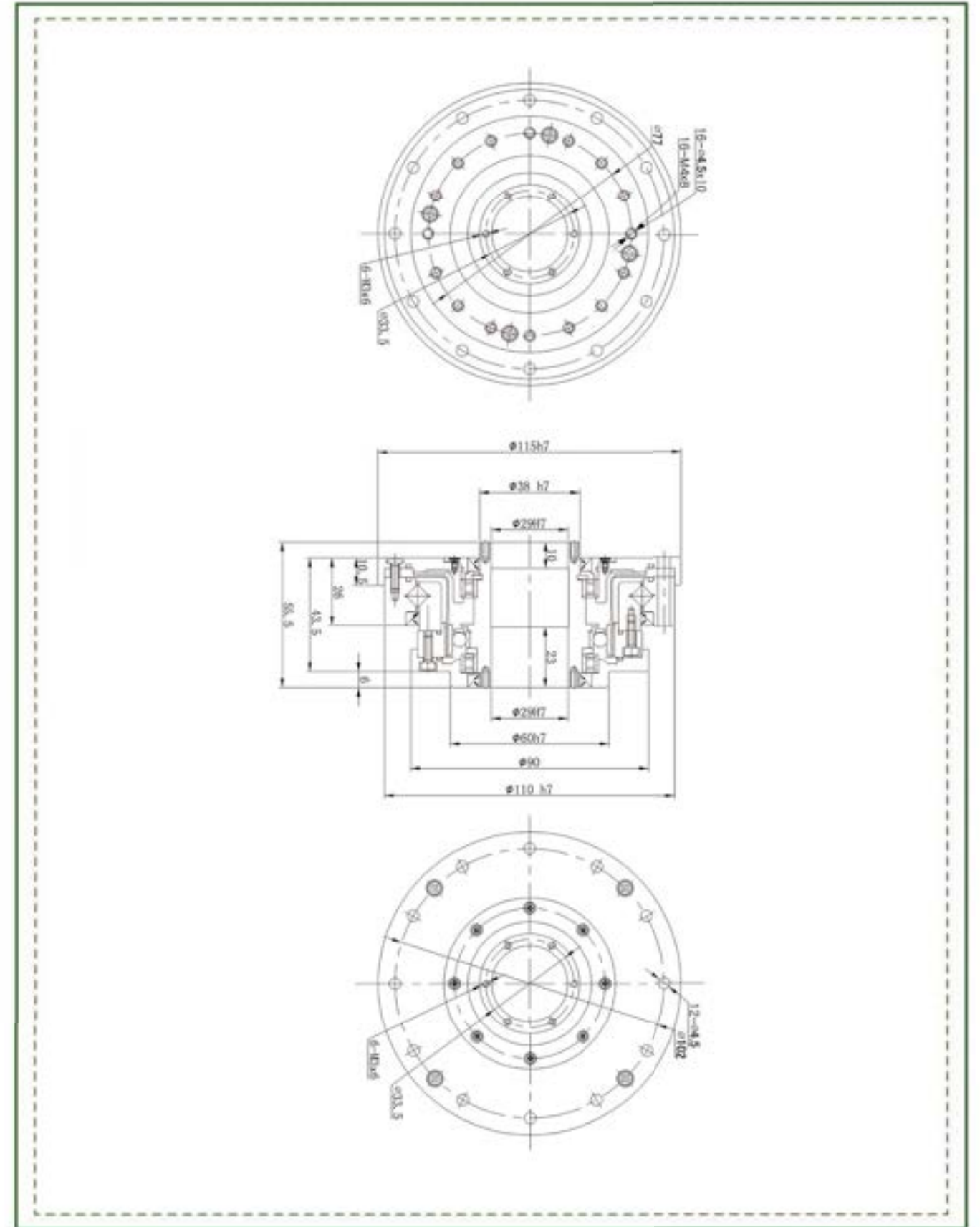
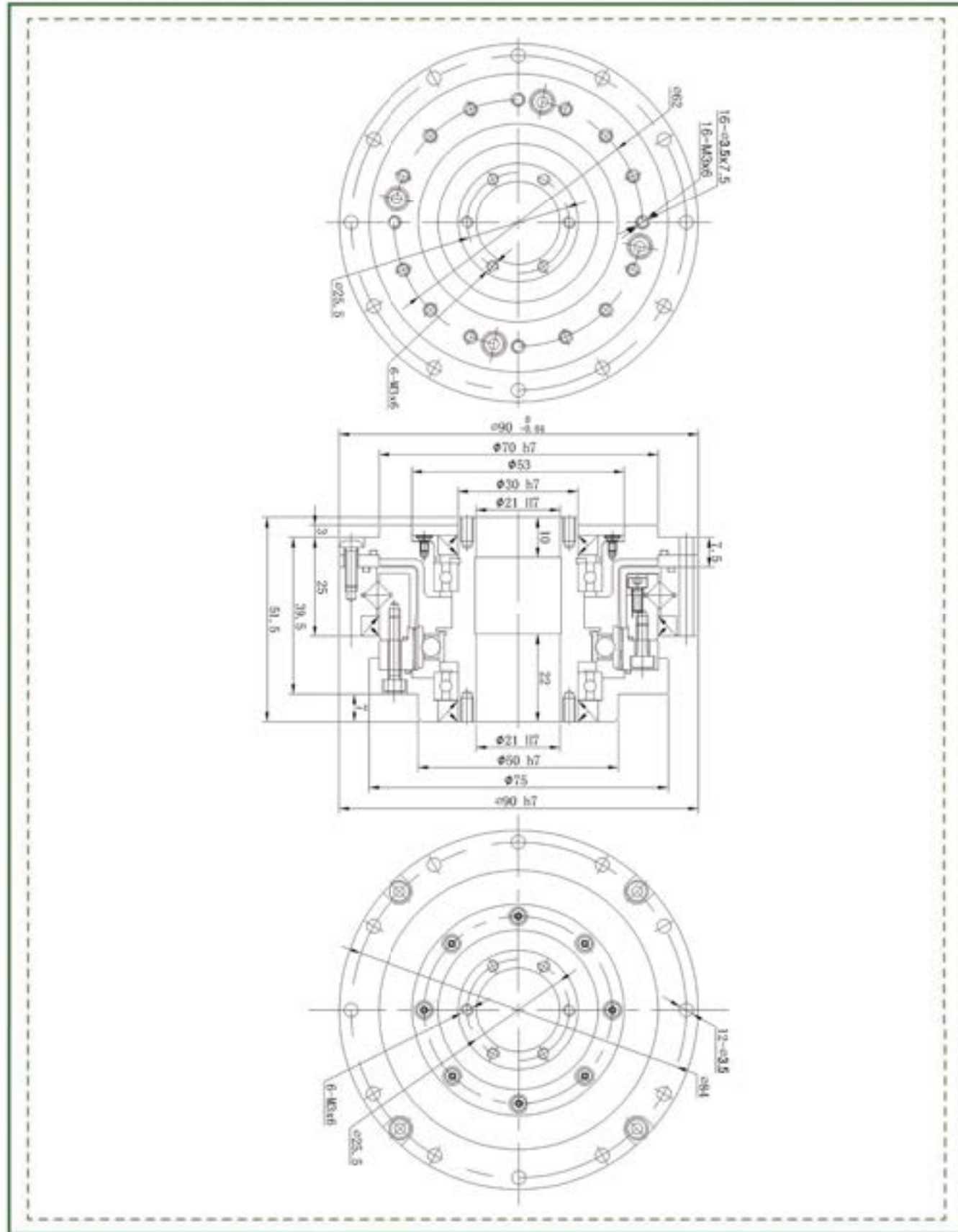
## Parameter Table

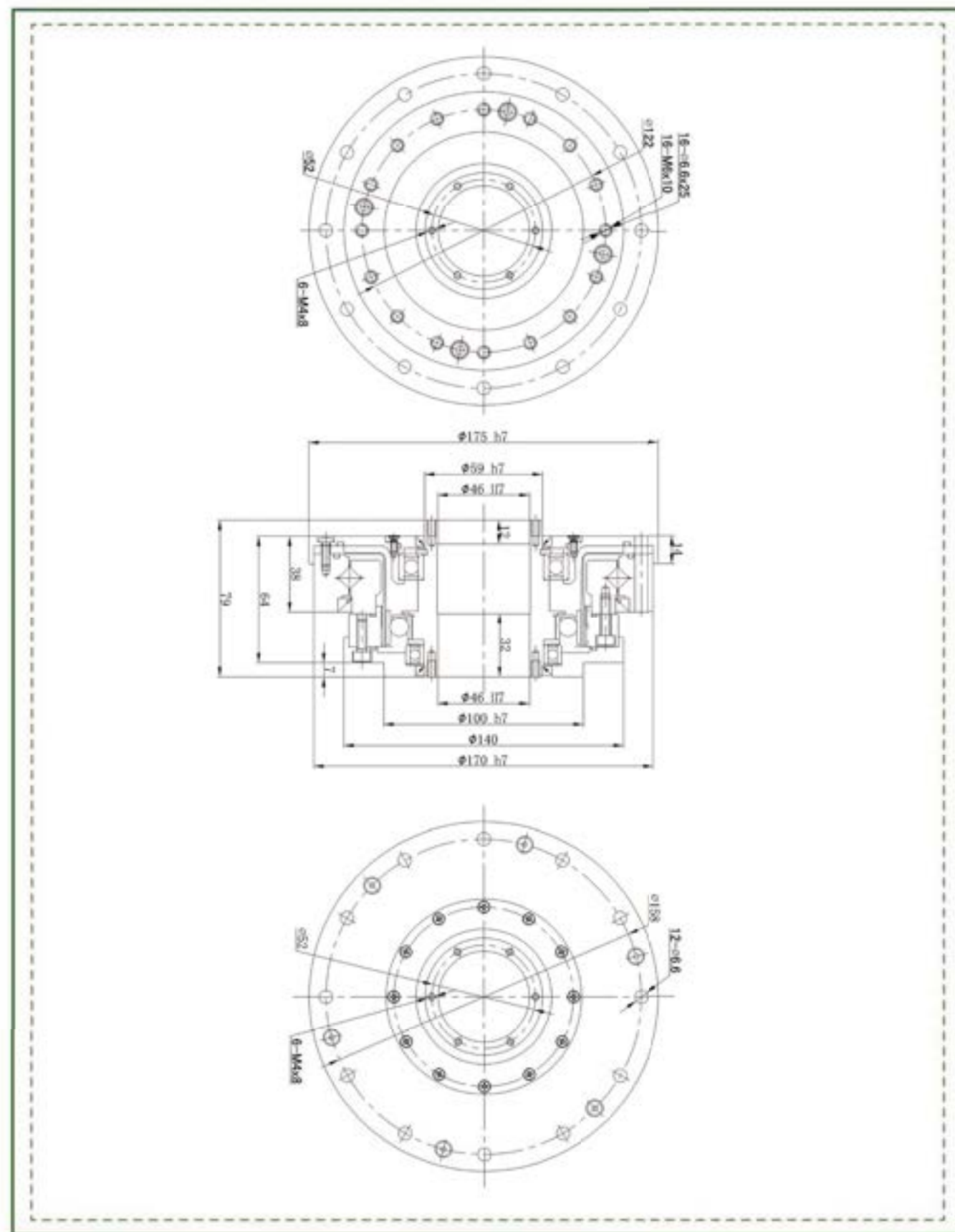
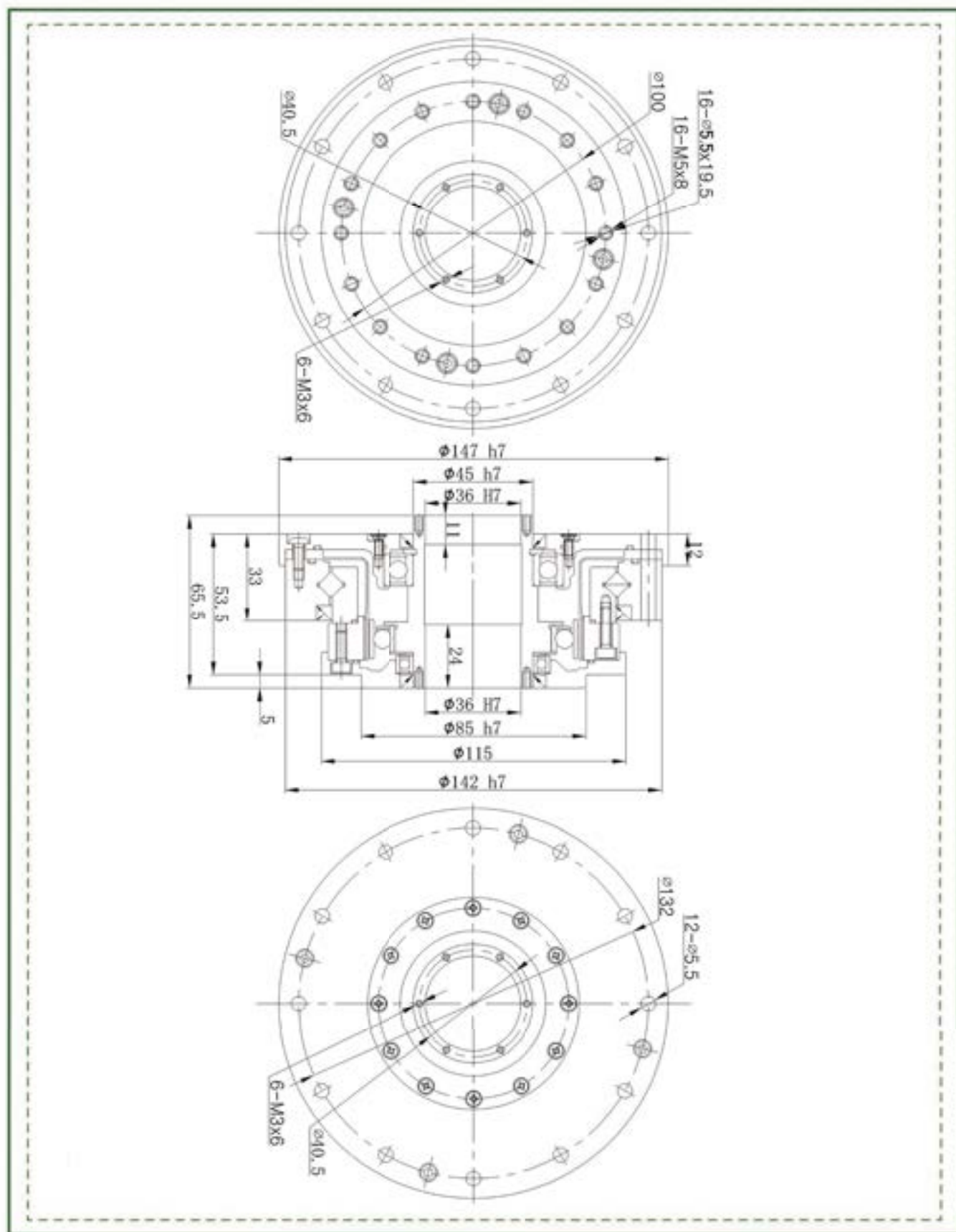
| Item<br>Model No | Reduction Ratio | Rated Torque at 2000r/min | Allowable Peak Torque at Start and Stop | Allowable Average Torque | Allowable Maximum Momentary Torque | Maximum Input Speed | Allowable Average Input Speed | Back lash | With Maximum Tension | Weight | Design Life |
|------------------|-----------------|---------------------------|---|--------------------------|------------------------------------|---------------------|-------------------------------|-----------|----------------------|--------|-------------|
|                  |                 | Nm                        | Nm                                      | Nm                       | Nm                                 | r/min               | r/min                         | Arc sec   | N                    | Kg     | Hour        |
| 14               | 50              | 6.6                       | 23                                      | 8.6                      | 43                                 | 8000                | 3500                          | ≤20       | ≤77                  | 0.72   | 10000       |
|                  | 80              | 9.6                       | 29                                      | 13.5                     | 57                                 |                     |                               | ≤10       |                      |        | 15000       |
|                  | 100             | 9.6                       | 34                                      | 13.5                     | 66                                 |                     |                               | ≤10       |                      |        | 15000       |
| 17               | 50              | 19.8                      | 42                                      | 32                       | 86                                 | 7000                | 3500                          | ≤20       | ≤92                  | 1.0    | 10000       |
|                  | 80              | 27.5                      | 53                                      | 33                       | 108                                |                     |                               | ≤10       |                      |        | 15000       |
|                  | 100             | 30                        | 66                                      | 49                       | 134                                |                     |                               | ≤10       |                      |        | 15000       |
|                  | 120             | 30                        | 66                                      | 49                       | 107                                |                     |                               | ≤10       |                      |        | 15000       |
| 20               | 50              | 32                        | 69                                      | 42                       | 121                                | 6000                | 3500                          | ≤20       | ≤136                 | 1.38   | 10000       |
|                  | 80              | 42                        | 91                                      | 58                       | 158                                |                     |                               | ≤10       |                      |        | 15000       |
|                  | 100             | 50                        | 102                                     | 61                       | 182                                |                     |                               | ≤10       |                      |        | 15000       |
|                  | 120             | 50                        | 108                                     | 61                       | 182                                |                     |                               | ≤10       |                      |        | 15000       |
|                  | 160             | 50                        | 113                                     | 61                       | 182                                |                     |                               | ≤10       |                      |        | 15000       |
| 25               | 50              | 48                        | 121                                     | 68.5                     | 230                                | 5500                | 3500                          | ≤20       | ≤147                 | 2.15   | 10000       |
|                  | 80              | 78                        | 169                                     | 107                      | 315                                |                     |                               | ≤10       |                      |        | 15000       |
|                  | 100             | 84                        | 194                                     | 133                      | 351                                |                     |                               | ≤10       |                      |        | 15000       |
|                  | 120             | 84                        | 207                                     | 133                      | 376                                |                     |                               | ≤10       |                      |        | 15000       |
|                  | 160             | 84                        | 217                                     | 133                      | 388                                |                     |                               | ≤10       |                      |        | 15000       |
| 32               | 50              | 94                        | 267                                     | 133                      | 472                                | 4500                | 3500                          | ≤20       | ≤154                 | 4.3    | 10000       |
|                  | 80              | 146                       | 376                                     | 206                      | 702                                |                     |                               | ≤10       |                      |        | 15000       |
|                  | 100             | 169                       | 411                                     | 267                      | 800                                |                     |                               | ≤10       |                      |        | 15000       |
|                  | 120             | 169                       | 436                                     | 267                      | 848                                |                     |                               | ≤10       |                      |        | 15000       |
|                  | 160             | 169                       | 459                                     | 267                      | 848                                |                     |                               | ≤10       |                      |        | 15000       |
| 40               | 50              | 169                       | 497                                     | 242                      | 847                                | 4000                | 3000                          | ≤10       | ≤294                 | 7.8    | 10000       |
|                  | 80              | 255                       | 641                                     | 351                      | 1210                               |                     |                               | ≤10       |                      |        | 15000       |
|                  | 100             | 328                       | 702                                     | 460                      | 1334                               |                     |                               | ≤10       |                      |        | 15000       |
|                  | 120             | 363                       | 762                                     | 557                      | 1458                               |                     |                               | ≤10       |                      |        | 15000       |
|                  | 160             | 363                       | 800                                     | 557                      | 1458                               |                     |                               | ≤10       |                      |        | 15000       |
| 50*              | 80              | 459                       | 1163                                    | 641                      | 2297                               | 3000                | 2500                          | ≤10       | ≤373                 | 14.5   | 15000       |
|                  | 100             | 580                       | 1211                                    | 823                      | 2545                               |                     |                               | ≤10       |                      |        | 15000       |
|                  | 120             | 654                       | 1334                                    | 1004                     | 2545                               |                     |                               | ≤10       |                      |        | 15000       |
|                  | 160             | 654                       | 1458                                    | 1041                     | 3025                               |                     |                               | ≤10       |                      |        | 15000       |
| 58*              | 80              | 678                       | 1828                                    | 951                      | 3026                               | 3000                | 2200                          | ≤10       | ≤1300                | 20.0   | 15000       |
|                  | 100             | 860                       | 1964                                    | 1309                     | 3927                               |                     |                               | ≤10       |                      |        | 15000       |
|                  | 120             | 921                       | 2124                                    | 1470                     | 4113                               |                     |                               | ≤10       |                      |        | 15000       |
|                  | 160             | 921                       | 2272                                    | 1494                     | 4236                               |                     |                               | ≤10       |                      |        | 15000       |

\* Consult factory











# LHSG-CL-III series

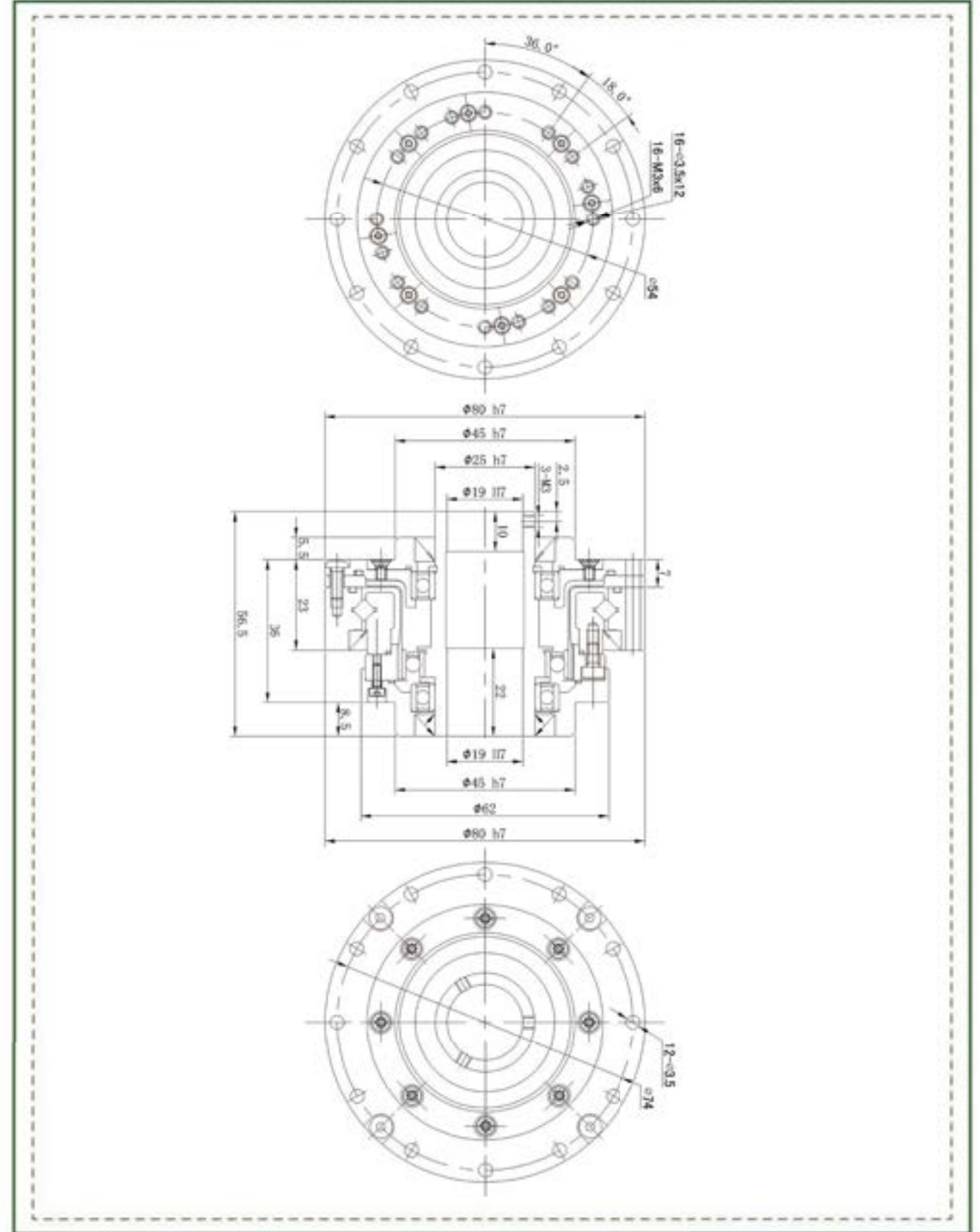
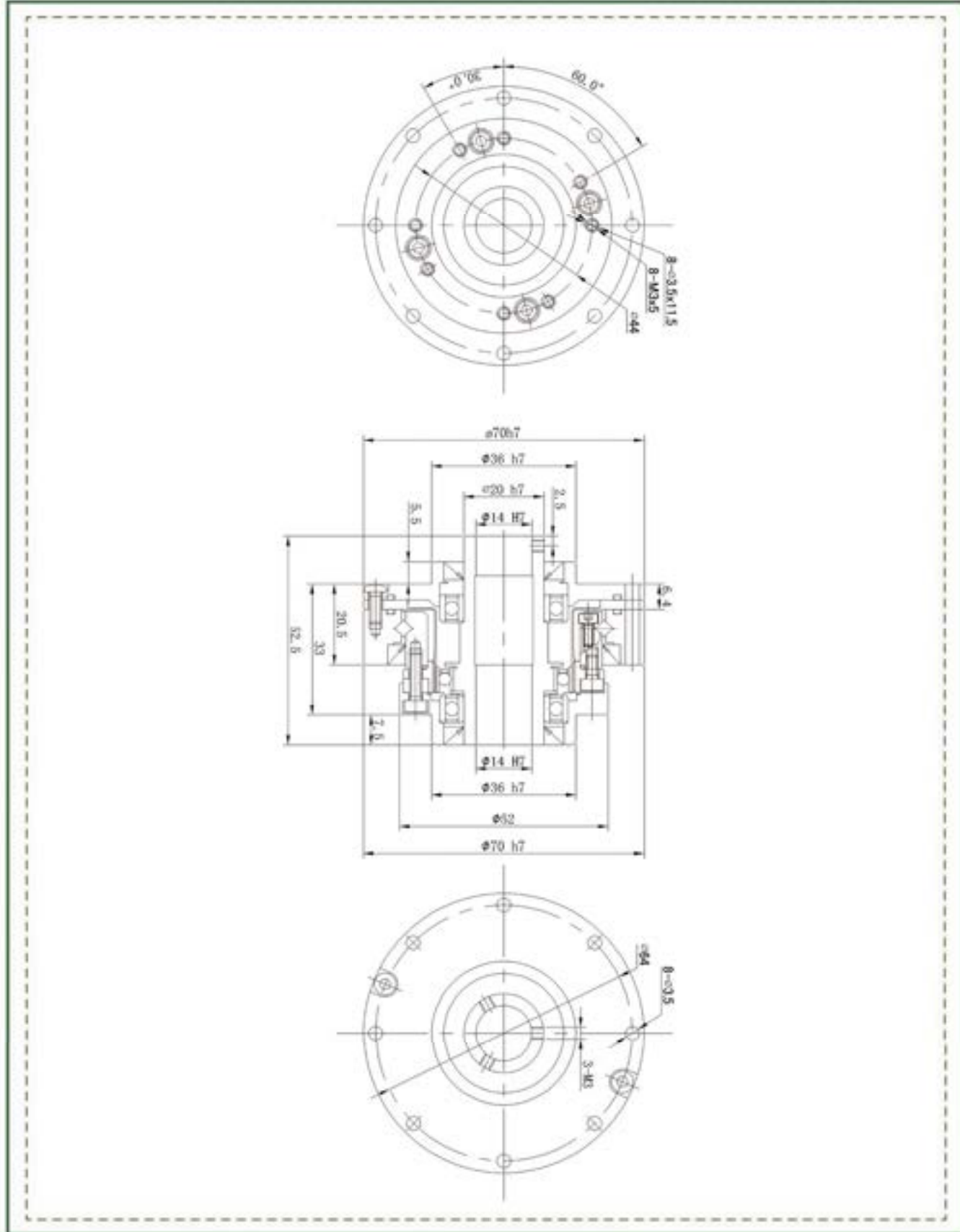


LHSG-CL-III series are high-torque models which have the same structure, with LHS-CL-III series. However, their torque bearing capacity is improved by 30% compared with LHS series.

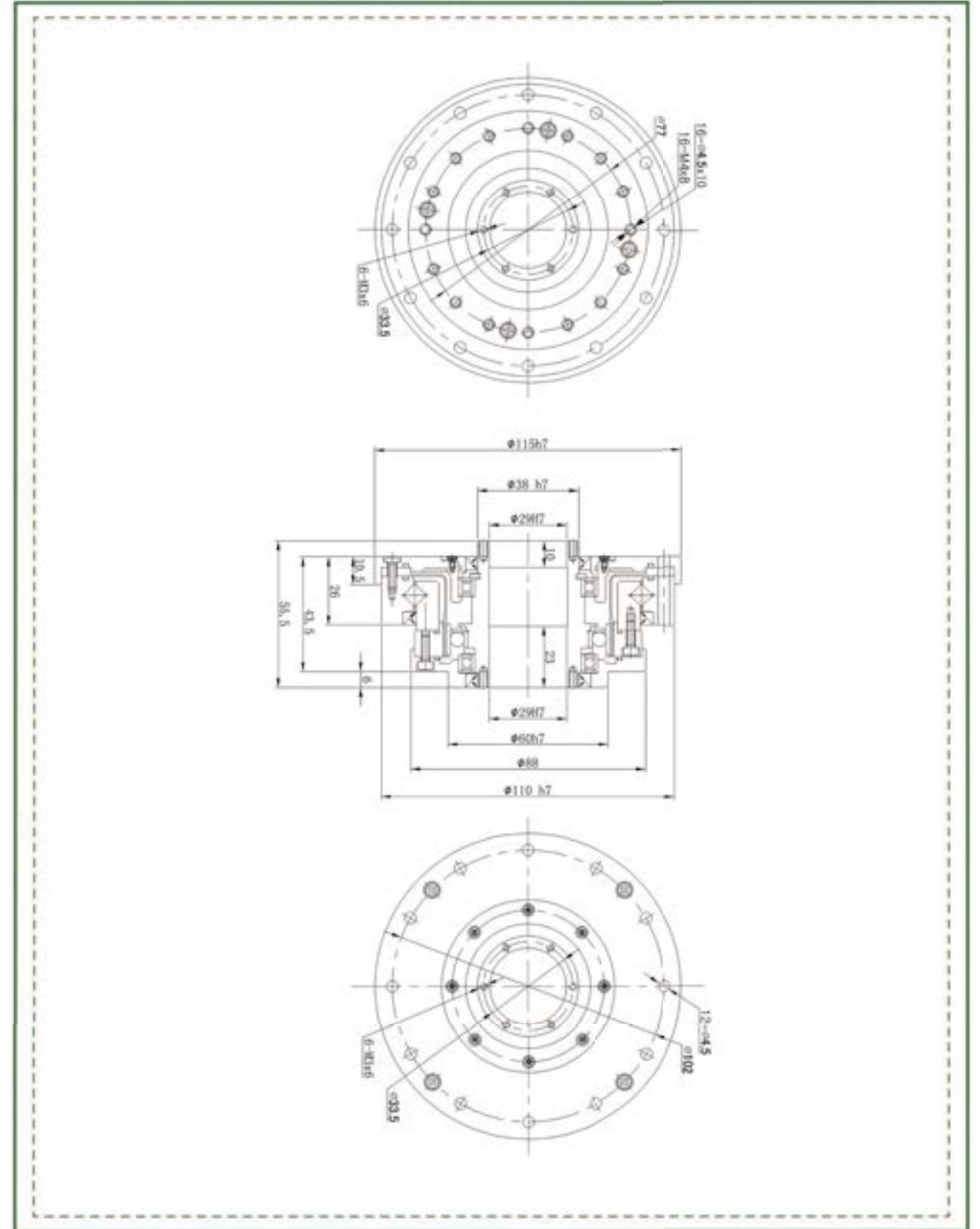
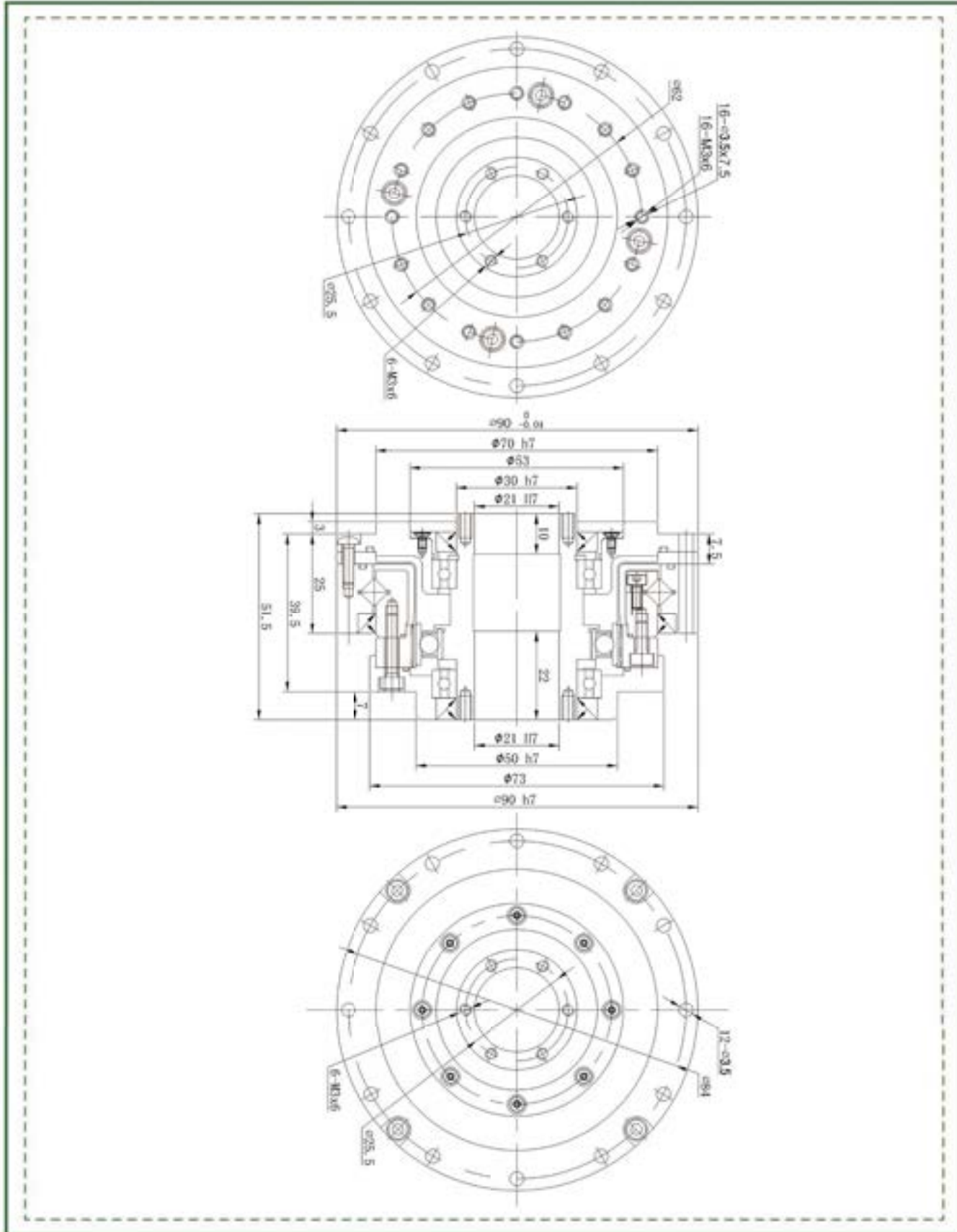
## Parameter Table

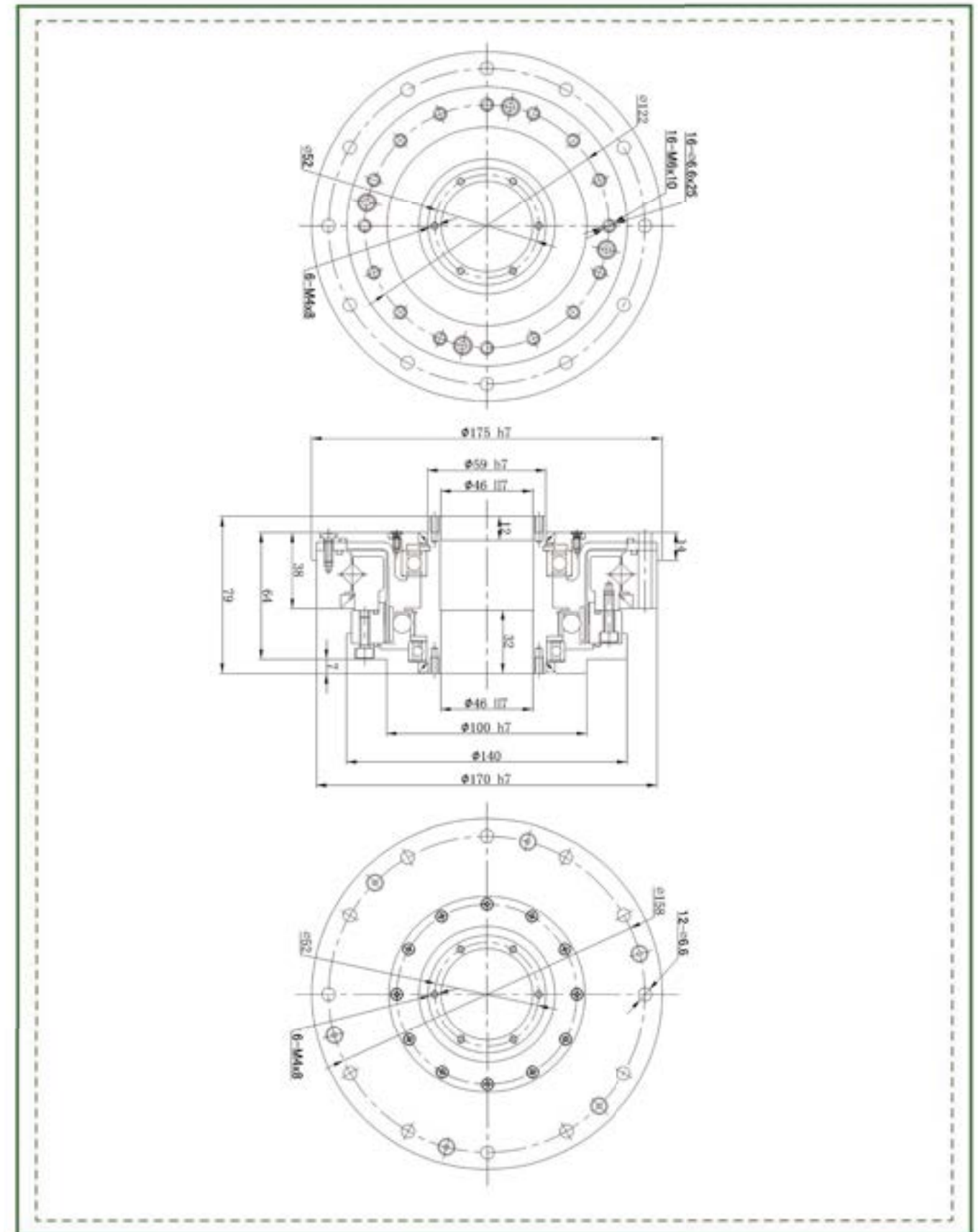
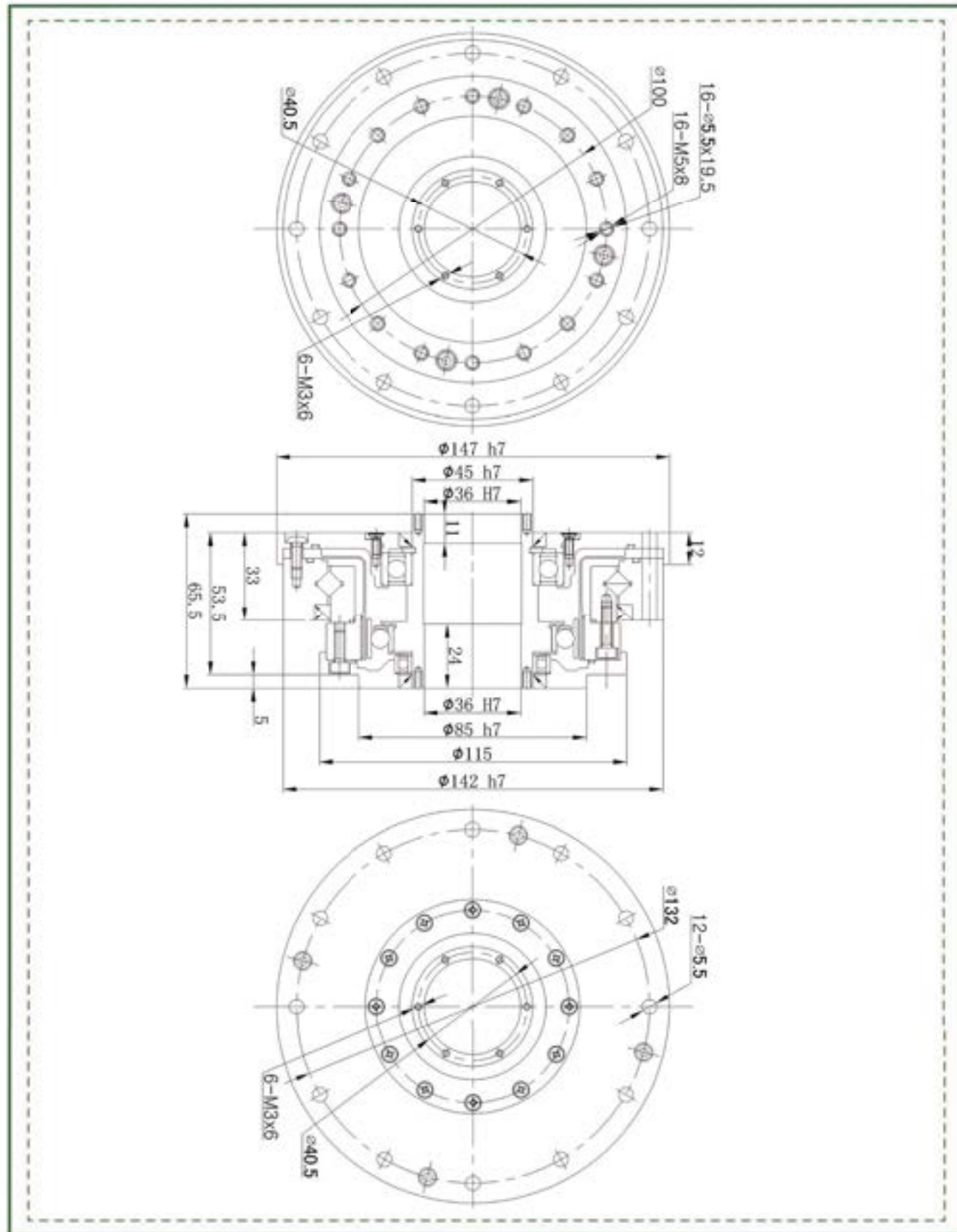
| Item<br>Model No | Reduction Ratio | Rated Torque at 2000r/min | Allowable Peak Torque at Start and Stop | Allowable Average Torque | Allowable Maximum Momentary Torque | Maximum Input Speed | Allowable Average Input Speed | Back lash | With Maximum Tension | Weight | Design Life |
|------------------|-----------------|---------------------------|---|--------------------------|------------------------------------|---------------------|-------------------------------|-----------|----------------------|--------|-------------|
|                  |                 | Nm                        | Nm                                      | Nm                       | Nm                                 | r/min               | r/min                         | Arc sec   | N                    | Kg     | Hour        |
| 14               | 50              | 6.6                       | 23                                      | 8.6                      | 43                                 | 8000                | 3500                          | ≤10       | ≤77                  | 0.56   | 10000       |
|                  | 80              | 9.6                       | 29                                      | 13.5                     | 57                                 |                     |                               | ≤10       |                      |        | 15000       |
|                  | 100             | 9.6                       | 34                                      | 13.5                     | 66                                 |                     |                               | ≤10       |                      |        | 15000       |
| 17               | 50              | 19.8                      | 42                                      | 32                       | 86                                 | 7000                | 3500                          | ≤10       | ≤92                  | 0.80   | 10000       |
|                  | 80              | 27.5                      | 53                                      | 33                       | 108                                |                     |                               | ≤10       |                      |        | 15000       |
|                  | 100             | 30                        | 66                                      | 49                       | 134                                |                     |                               | ≤10       |                      |        | 15000       |
|                  | 120             | 30                        | 66                                      | 49                       | 107                                |                     |                               | ≤10       |                      |        | 15000       |
| 20               | 50              | 32                        | 69                                      | 42                       | 121                                | 6000                | 3500                          | ≤10       | ≤136                 | 1.09   | 10000       |
|                  | 80              | 42                        | 91                                      | 58                       | 158                                |                     |                               | ≤10       |                      |        | 15000       |
|                  | 100             | 50                        | 102                                     | 61                       | 182                                |                     |                               | ≤10       |                      |        | 15000       |
|                  | 120             | 50                        | 108                                     | 61                       | 182                                |                     |                               | ≤10       |                      |        | 15000       |
|                  | 160             | 50                        | 113                                     | 61                       | 182                                |                     |                               | ≤10       |                      |        | 15000       |
| 25               | 50              | 48                        | 121                                     | 68.5                     | 230                                | 5500                | 3500                          | ≤10       | ≤147                 | 1.70   | 10000       |
|                  | 80              | 78                        | 169                                     | 107                      | 315                                |                     |                               | ≤10       |                      |        | 15000       |
|                  | 100             | 84                        | 194                                     | 133                      | 351                                |                     |                               | ≤10       |                      |        | 15000       |
|                  | 120             | 84                        | 207                                     | 133                      | 376                                |                     |                               | ≤10       |                      |        | 15000       |
|                  | 160             | 84                        | 217                                     | 133                      | 388                                |                     |                               | ≤10       |                      |        | 15000       |
| 32               | 50              | 94                        | 267                                     | 133                      | 472                                | 4500                | 3500                          | ≤10       | ≤154                 | 3.50   | 10000       |
|                  | 80              | 146                       | 376                                     | 206                      | 702                                |                     |                               | ≤10       |                      |        | 15000       |
|                  | 100             | 169                       | 411                                     | 267                      | 800                                |                     |                               | ≤10       |                      |        | 15000       |
|                  | 120             | 169                       | 436                                     | 267                      | 848                                |                     |                               | ≤10       |                      |        | 15000       |
|                  | 160             | 169                       | 459                                     | 267                      | 848                                |                     |                               | ≤10       |                      |        | 15000       |
| 40               | 50              | 169                       | 497                                     | 242                      | 847                                | 4000                | 3000                          | ≤10       | ≤294                 | 6.35   | 10000       |
|                  | 80              | 255                       | 641                                     | 351                      | 1210                               |                     |                               | ≤10       |                      |        | 15000       |
|                  | 100             | 328                       | 702                                     | 460                      | 1334                               |                     |                               | ≤10       |                      |        | 15000       |
|                  | 120             | 363                       | 762                                     | 557                      | 1458                               |                     |                               | ≤10       |                      |        | 15000       |
|                  | 160             | 363                       | 800                                     | 557                      | 1458                               |                     |                               | ≤10       |                      |        | 15000       |
| 50*              | 80              | 459                       | 1163                                    | 641                      | 2297                               | 3000                | 2500                          | ≤10       | ≤373                 | 12.0   | 15000       |
|                  | 100             | 580                       | 1211                                    | 823                      | 2545                               |                     |                               | ≤10       |                      |        | 15000       |
|                  | 120             | 654                       | 1334                                    | 1004                     | 2545                               |                     |                               | ≤10       |                      |        | 15000       |
|                  | 160             | 654                       | 1458                                    | 1041                     | 3025                               |                     |                               | ≤10       |                      |        | 15000       |
| 58*              | 80              | 678                       | 1828                                    | 951                      | 3026                               | 3000                | 2200                          | ≤10       | ≤1300                | 16.5   | 15000       |
|                  | 100             | 860                       | 1964                                    | 1309                     | 3927                               |                     |                               | ≤10       |                      |        | 15000       |
|                  | 120             | 921                       | 2124                                    | 1470                     | 4113                               |                     |                               | ≤10       |                      |        | 15000       |
|                  | 160             | 921                       | 2272                                    | 1494                     | 4236                               |                     |                               | ≤10       |                      |        | 15000       |

\* Consult factory











# LHSG-IV series



LHSG-IV series are high-torque models which have the same structure, with LHS-IV series. However, their torque bearing capacity is improved by 30% compared with LHS series.

## Parameter Table

| Item<br>Model No | Reduction Ratio | Rated Torque at 2000r/min | Allowable Peak Torque at Start and Stop | Allowable Average Torque | Allowable Maximum Momentary Torque | Maximum Input Speed | Allowable Average Input Speed | Back lash | With Maximum Tension | Weight | Design Life |
|------------------|-----------------|---------------------------|---|--------------------------|------------------------------------|---------------------|-------------------------------|-----------|----------------------|--------|-------------|
|                  |                 | Nm                        | Nm                                      | Nm                       | Nm                                 | r/min               | r/min                         | Arc sec   | N                    | Kg     | Hour        |
| 14               | 50              | 6.6                       | 23                                      | 8.6                      | 43                                 | 8000                | 3500                          | ≤10       | ≤26                  | 0.65   | 10000       |
|                  | 80              | 9.6                       | 29                                      | 13.5                     | 57                                 |                     |                               | ≤10       |                      |        | 15000       |
|                  | 100             | 9.6                       | 34                                      | 13.5                     | 66                                 |                     |                               | ≤10       |                      |        | 15000       |
| 17               | 50              | 19.8                      | 42                                      | 32                       | 86                                 | 7000                | 3500                          | ≤10       | ≤32                  | 0.92   | 10000       |
|                  | 80              | 27.5                      | 53                                      | 33                       | 108                                |                     |                               | ≤10       |                      |        | 15000       |
|                  | 100             | 30                        | 66                                      | 49                       | 134                                |                     |                               | ≤10       |                      |        | 15000       |
| 20               | 120             | 30                        | 66                                      | 49                       | 107                                | 6000                | 3500                          | ≤10       | ≤58                  | 1.36   | 15000       |
|                  | 50              | 32                        | 69                                      | 42                       | 121                                |                     |                               | ≤10       |                      |        | 10000       |
|                  | 80              | 42                        | 91                                      | 58                       | 158                                |                     |                               | ≤10       |                      |        | 15000       |
|                  | 100             | 50                        | 102                                     | 61                       | 182                                |                     |                               | ≤10       |                      |        | 15000       |
|                  | 120             | 50                        | 108                                     | 61                       | 182                                |                     |                               | ≤10       |                      |        | 15000       |
| 25               | 160             | 50                        | 113                                     | 61                       | 182                                | 5500                | 3500                          | ≤10       | ≤71                  | 2.05   | 15000       |
|                  | 50              | 48                        | 121                                     | 68.5                     | 230                                |                     |                               | ≤10       |                      |        | 10000       |
|                  | 80              | 78                        | 169                                     | 107                      | 315                                |                     |                               | ≤10       |                      |        | 15000       |
|                  | 100             | 84                        | 194                                     | 133                      | 351                                |                     |                               | ≤10       |                      |        | 15000       |
|                  | 120             | 84                        | 207                                     | 133                      | 376                                |                     |                               | ≤10       |                      |        | 15000       |
| 32               | 160             | 84                        | 217                                     | 133                      | 388                                | 4500                | 3500                          | ≤10       | ≤114                 | 4.35   | 15000       |
|                  | 50              | 94                        | 267                                     | 133                      | 472                                |                     |                               | ≤10       |                      |        | 10000       |
|                  | 80              | 146                       | 376                                     | 206                      | 702                                |                     |                               | ≤10       |                      |        | 15000       |
|                  | 100             | 169                       | 411                                     | 267                      | 800                                |                     |                               | ≤10       |                      |        | 15000       |
|                  | 120             | 169                       | 436                                     | 267                      | 848                                |                     |                               | ≤10       |                      |        | 15000       |
| 40               | 160             | 169                       | 459                                     | 267                      | 848                                | 4000                | 3000                          | ≤10       | ≤294                 | 7.9    | 15000       |
|                  | 50              | 169                       | 497                                     | 242                      | 847                                |                     |                               | ≤10       |                      |        | 10000       |
|                  | 80              | 255                       | 641                                     | 351                      | 1210                               |                     |                               | ≤10       |                      |        | 15000       |
|                  | 100             | 328                       | 702                                     | 460                      | 1334                               |                     |                               | ≤10       |                      |        | 15000       |
|                  | 120             | 363                       | 762                                     | 557                      | 1458                               |                     |                               | ≤10       |                      |        | 15000       |
|                  | 160             | 363                       | 800                                     | 557                      | 1458                               |                     |                               | ≤10       |                      |        | 15000       |

