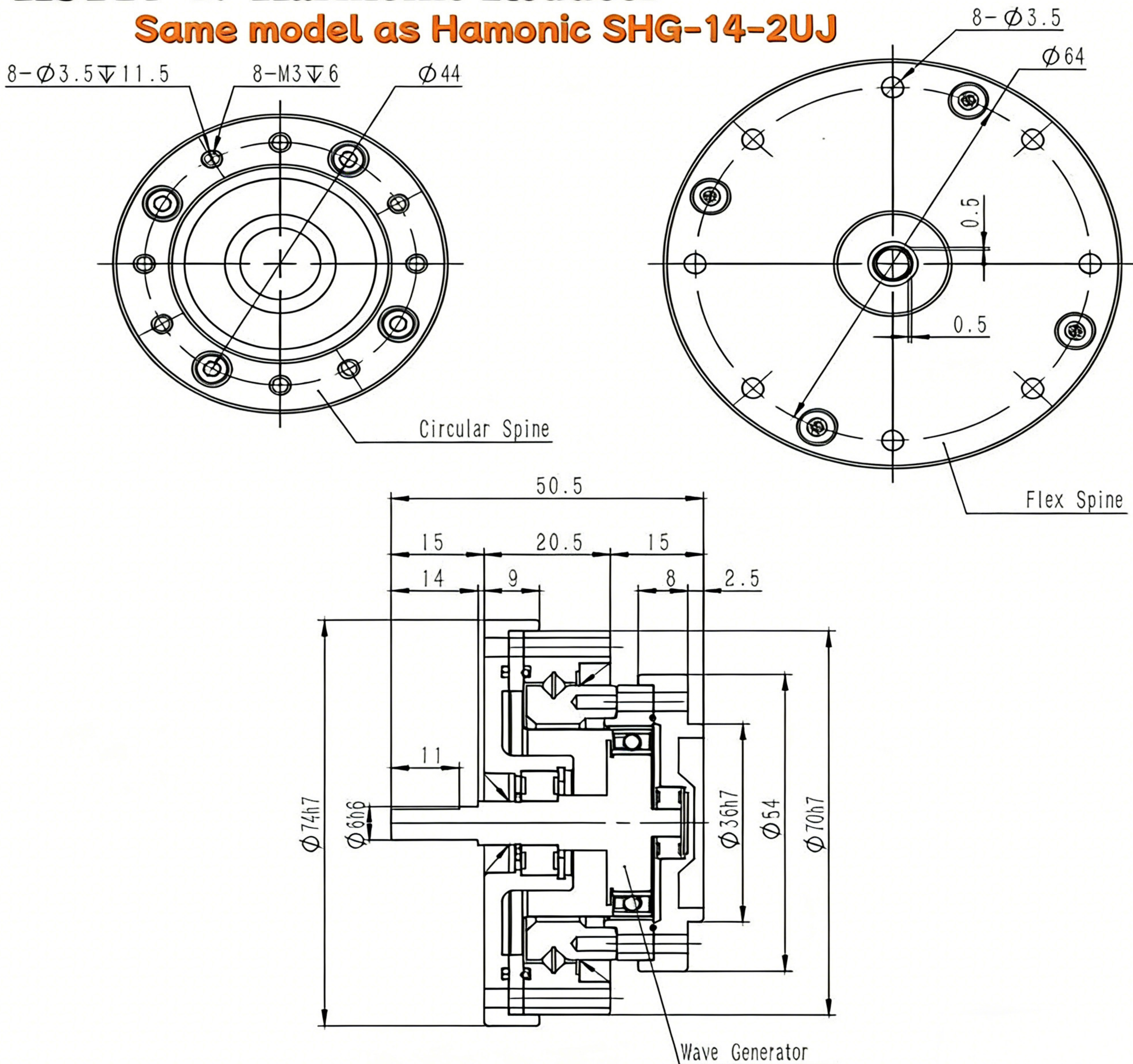


# Input Shaft Type Harmonic Drive Rated Parameter

| Model | Reduction ratio | Rated torque at 2000r/min input |      | Permissible peak torque at start and stop |      | Permissible maximum value for average load torque |      | Permissible maximum momentary torque |      | Permissible maximum input rotational speed (Grease) | Permissible average input rotational speed (Grease) | Backlash | Desian life |
|-------|-----------------|---------------------------------|------|-------------------------------------------|------|---------------------------------------------------|------|--------------------------------------|------|-----------------------------------------------------|-----------------------------------------------------|----------|-------------|
|       |                 | Nm                              | kgfm | Nm                                        | kgfm | Nm                                                | kgfm | Nm                                   | kgfm | r/min                                               | r/min                                               | Arc Sec  | Hour        |
| 14    | 50              | 5.4                             | 0.55 | 18                                        | 1.8  | 6.9                                               | 0.70 | 35                                   | 3.6  | 8500                                                | 3500                                                | ≤20      | 10000       |
|       | 80              | 7.8                             | 0.80 | 23                                        | 2.4  | 11                                                | 1.1  | 47                                   | 4.8  |                                                     |                                                     |          | 15000       |
|       | 100             | 7.8                             | 0.80 | 28                                        | 2.9  | 11                                                | 1.1  | 54                                   | 5.5  |                                                     |                                                     |          | 15000       |
|       | 120             | 7.8                             | 0.80 | 28                                        | 2.9  | 11                                                | 1.1  | 54                                   | 5.5  |                                                     |                                                     |          | 15000       |
| 17    | 50              | 16                              | 1.6  | 34                                        | 3.5  | 26                                                | 2.6  | 70                                   | 7.1  | 7300                                                | 3500                                                | ≤20      | 10000       |
|       | 80              | 22                              | 2.2  | 43                                        | 4.4  | 27                                                | 2.7  | 87                                   | 8.9  |                                                     |                                                     |          | 15000       |
|       | 100             | 24                              | 2.4  | 54                                        | 5.5  | 39                                                | 4.0  | 110                                  | 11   |                                                     |                                                     |          | 15000       |
|       | 120             | 24                              | 2.4  | 54                                        | 5.5  | 39                                                | 4.0  | 86                                   | 8.8  |                                                     |                                                     |          | 15000       |
| 20    | 50              | 25                              | 2.5  | 56                                        | 5.7  | 34                                                | 3.5  | 98                                   | 10   | 6500                                                | 3500                                                | ≤20      | 10000       |
|       | 80              | 34                              | 3.5  | 74                                        | 7.5  | 47                                                | 4.8  | 127                                  | 13   |                                                     |                                                     |          | 15000       |
|       | 100             | 40                              | 4.1  | 82                                        | 8.4  | 49                                                | 5.0  | 147                                  | 15   |                                                     |                                                     |          | 15000       |
|       | 120             | 40                              | 4.1  | 87                                        | 8.9  | 49                                                | 5.0  | 147                                  | 15   |                                                     |                                                     |          | 15000       |
|       | 160             | 40                              | 4.1  | 92                                        | 9.4  | 49                                                | 5.0  | 147                                  | 15   |                                                     |                                                     |          | 15000       |
| 25    | 50              | 39                              | 4.0  | 98                                        | 10   | 55                                                | 5.6  | 186                                  | 19   | 5600                                                | 3500                                                | ≤20      | 10000       |
|       | 80              | 63                              | 6.4  | 137                                       | 14   | 87                                                | 8.9  | 255                                  | 26   |                                                     |                                                     |          | 15000       |
|       | 100             | 67                              | 6.8  | 157                                       | 16   | 108                                               | 11   | 284                                  | 29   |                                                     |                                                     |          | 15000       |
|       | 120             | 67                              | 6.8  | 167                                       | 17   | 108                                               | 11   | 304                                  | 31   |                                                     |                                                     |          | 15000       |
| 32    | 50              | 76                              | 7.8  | 216                                       | 22   | 108                                               | 11   | 382                                  | 39   | 4800                                                | 3500                                                | ≤20      | 10000       |
|       | 80              | 118                             | 12   | 304                                       | 31   | 167                                               | 17   | 568                                  | 58   |                                                     |                                                     |          | 15000       |
|       | 100             | 137                             | 14   | 333                                       | 34   | 216                                               | 22   | 647                                  | 66   |                                                     |                                                     |          | 15000       |
|       | 120             | 137                             | 14   | 353                                       | 36   | 216                                               | 22   | 686                                  | 70   |                                                     |                                                     |          | 15000       |
| 40    | 50              | 137                             | 14   | 402                                       | 41   | 196                                               | 20   | 686                                  | 70   | 4000                                                | 3000                                                | ≤20      | 10000       |
|       | 80              | 206                             | 21   | 519                                       | 53   | 284                                               | 29   | 980                                  | 100  |                                                     |                                                     |          | 15000       |
|       | 100             | 265                             | 27   | 568                                       | 58   | 372                                               | 38   | 1080                                 | 110  |                                                     |                                                     |          | 15000       |
|       | 120             | 294                             | 30   | 617                                       | 63   | 451                                               | 46   | 1180                                 | 120  |                                                     |                                                     |          | 15000       |

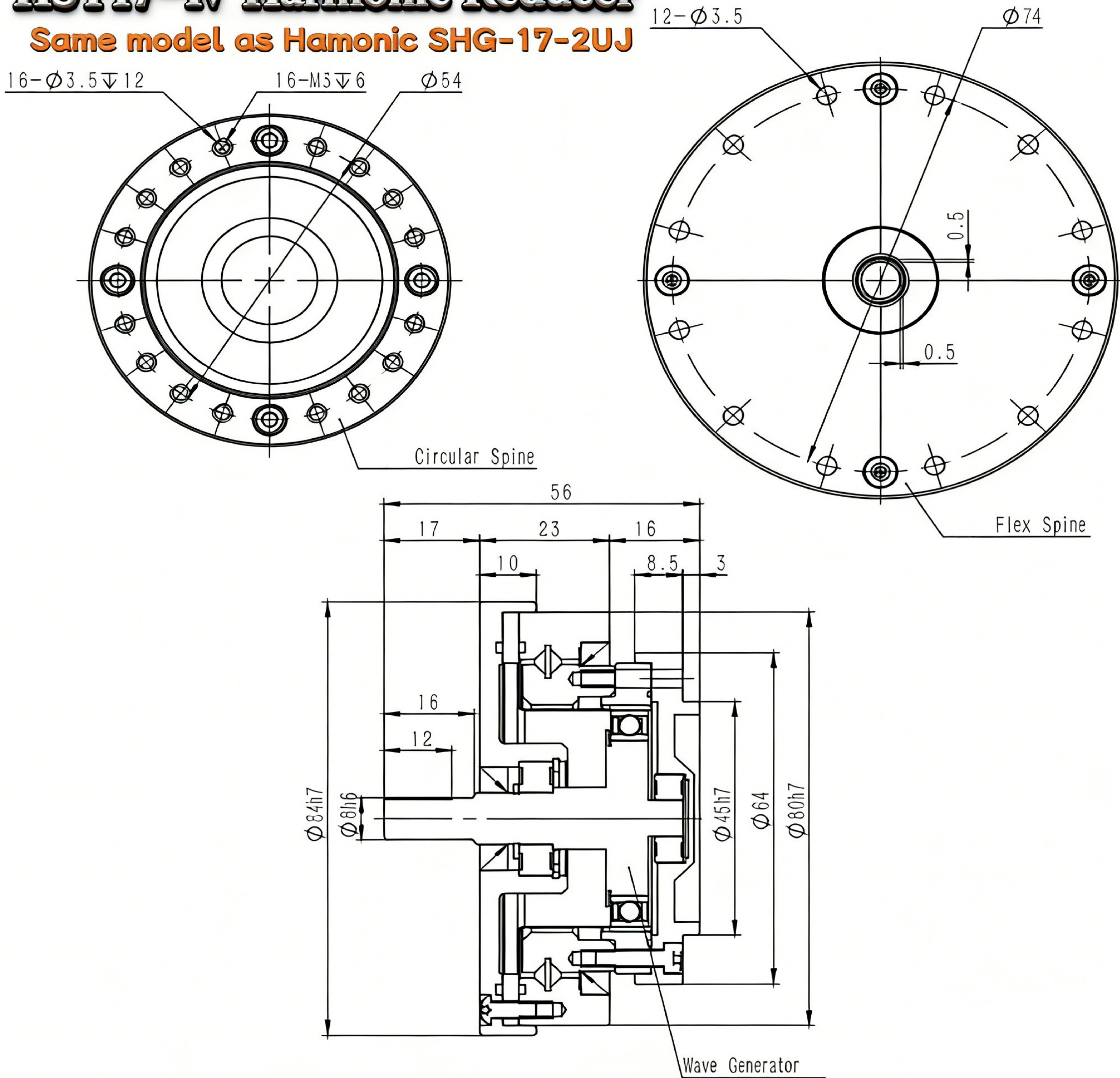
# HST14-IV Harmonic Reducer

Same model as Hamonic SHG-14-2UJ



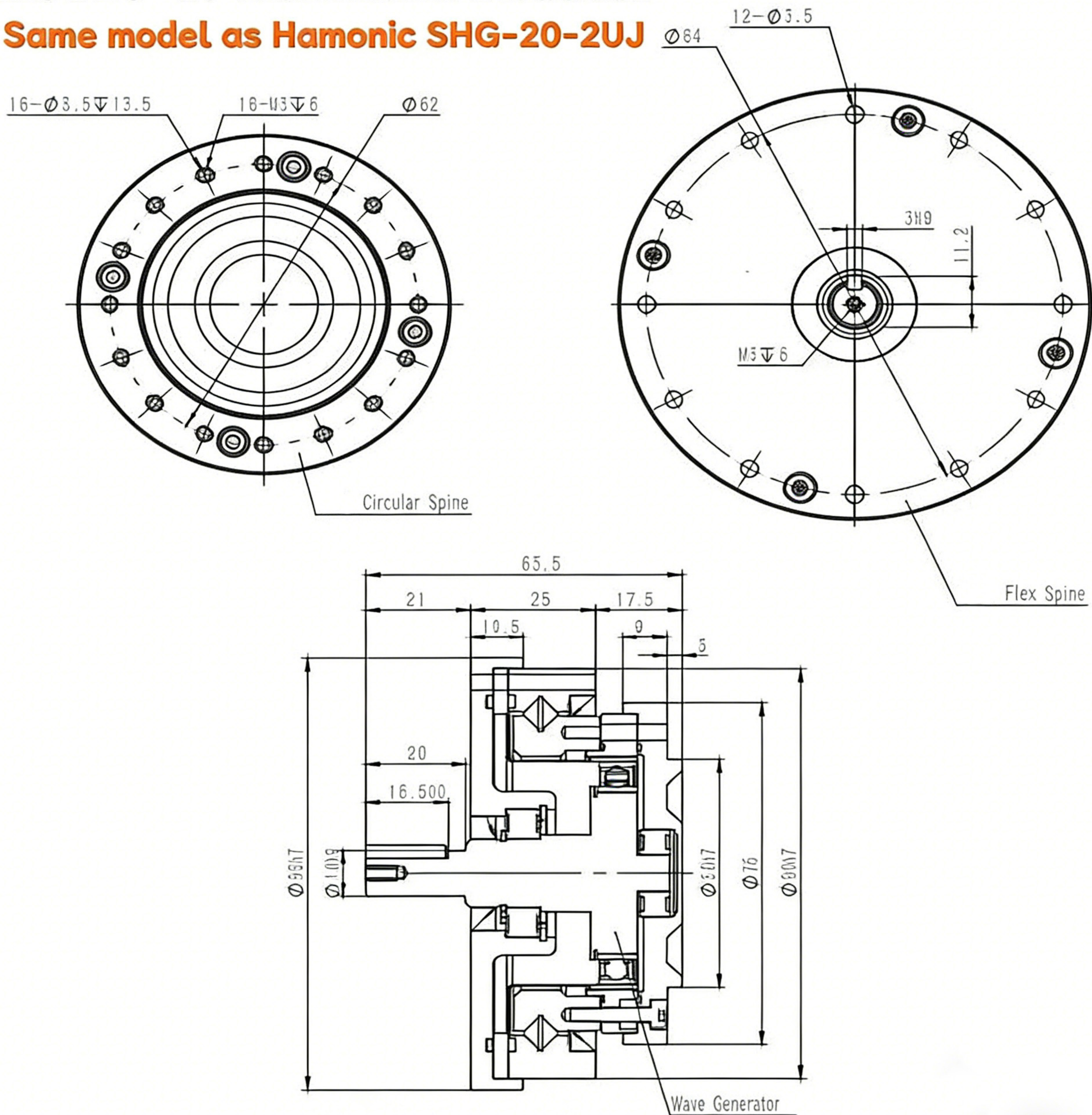
# HST17-IV Harmonic Reducer

Same model as Hamonic SHG-17-2UJ



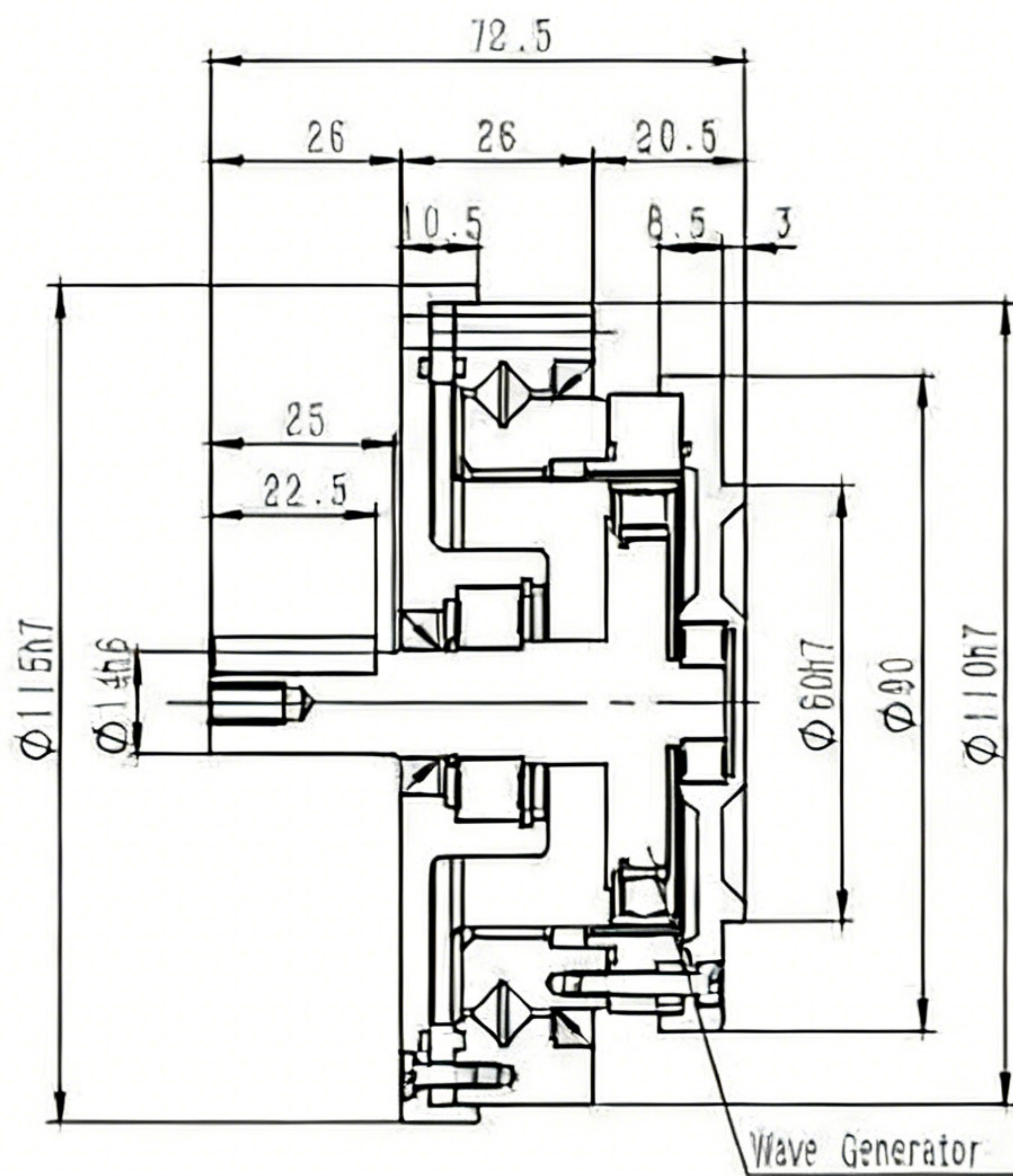
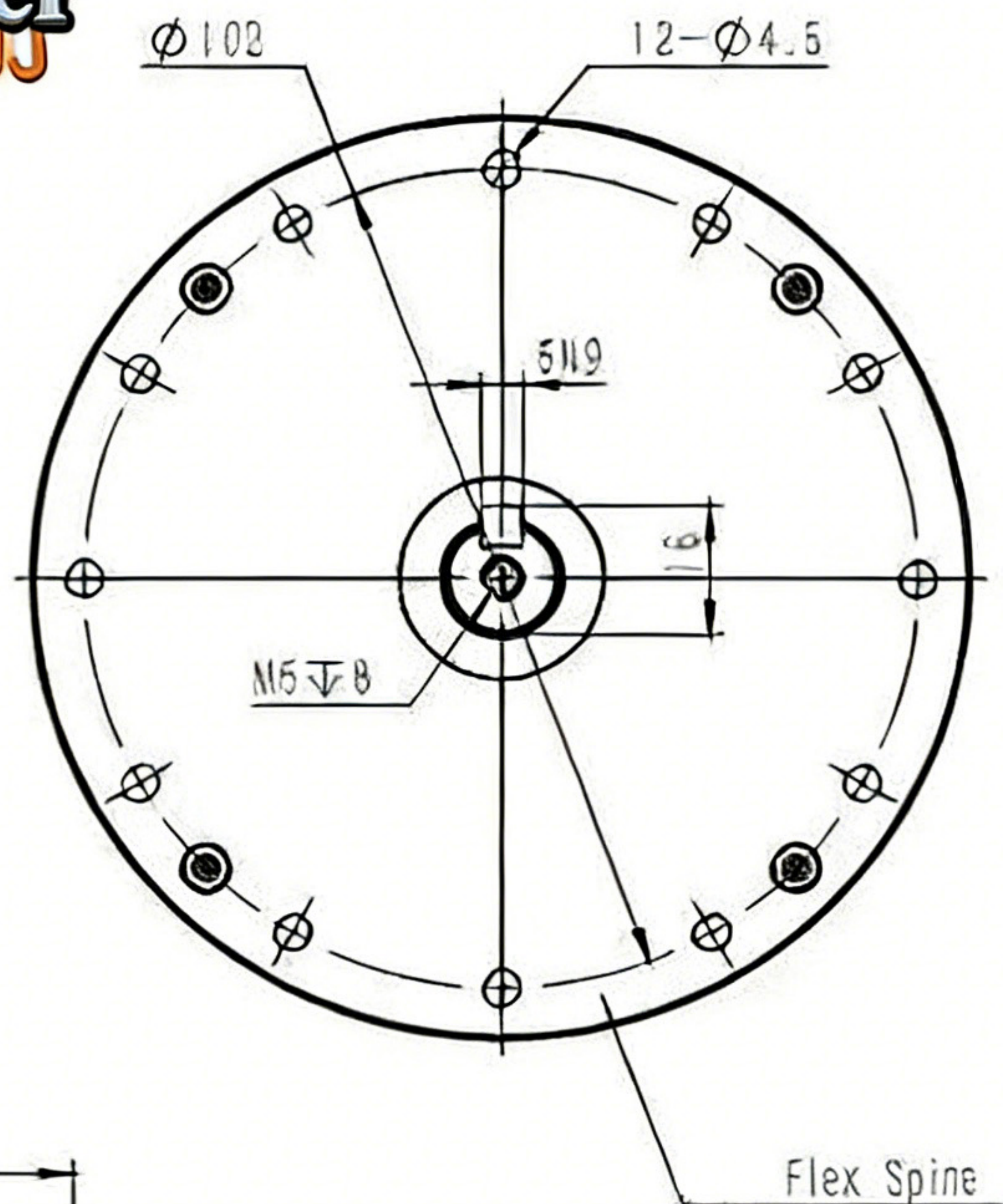
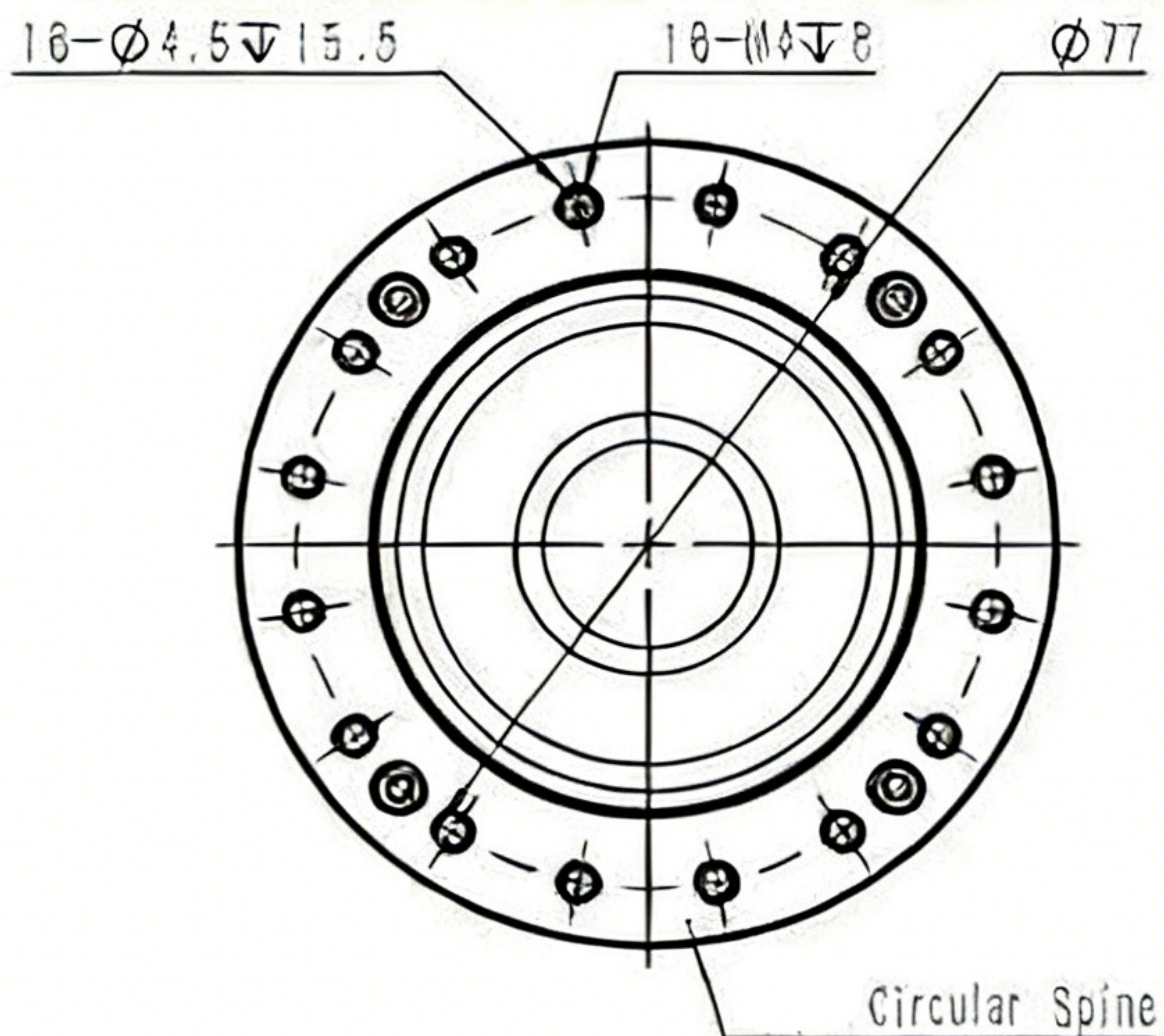
# HST20-IV Harmonic Reducer

Same model as Hamonic SHG-20-2UJ



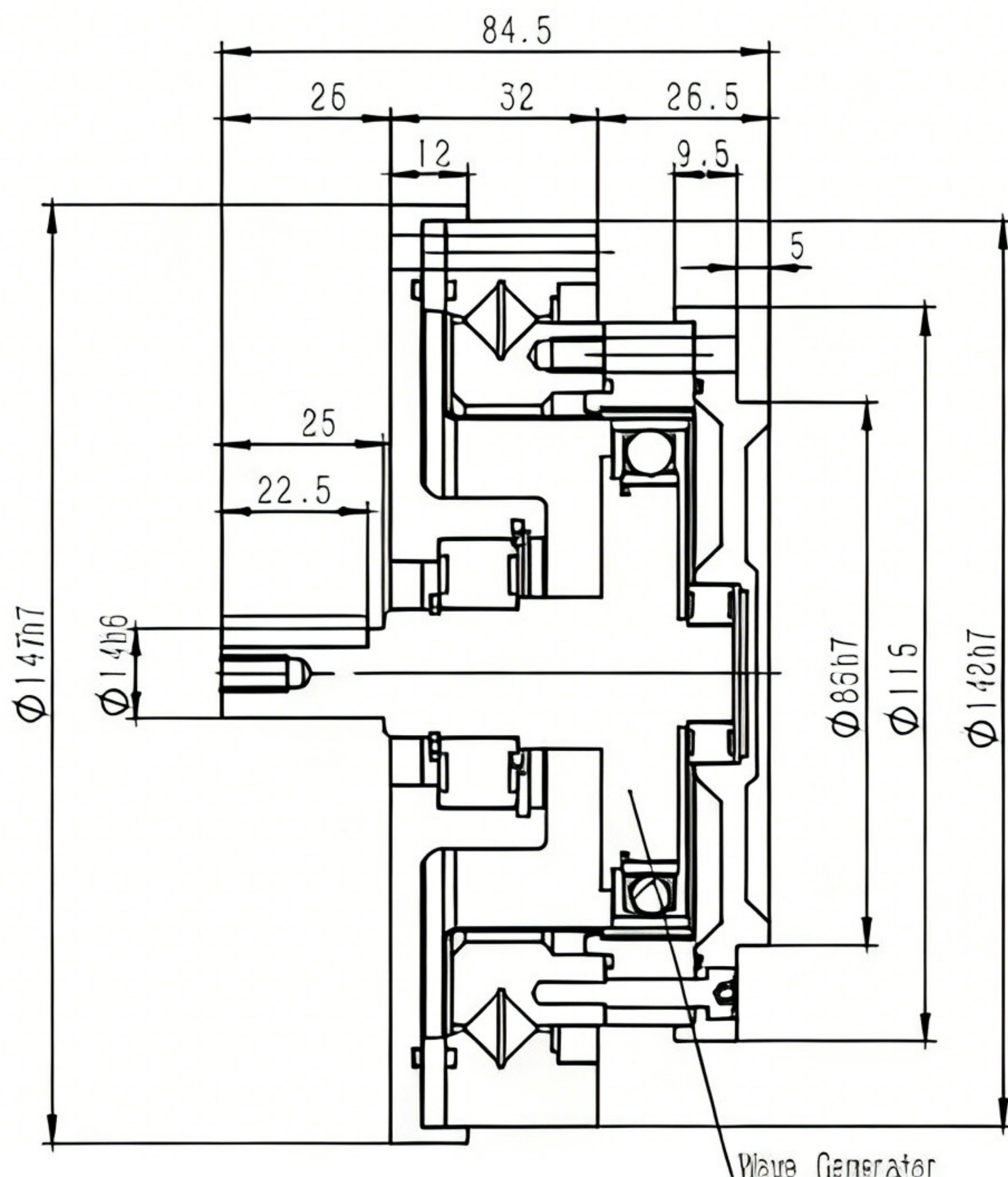
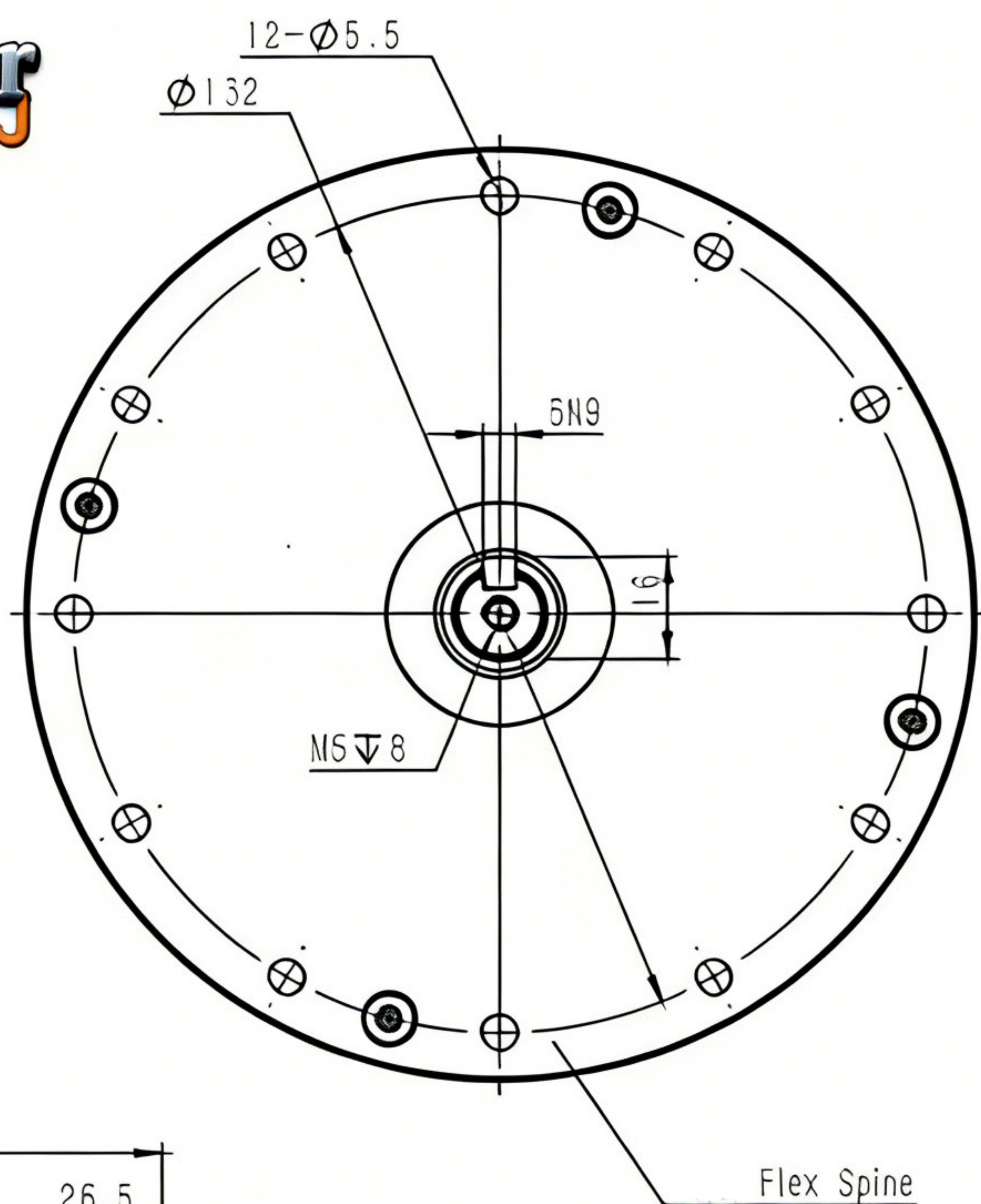
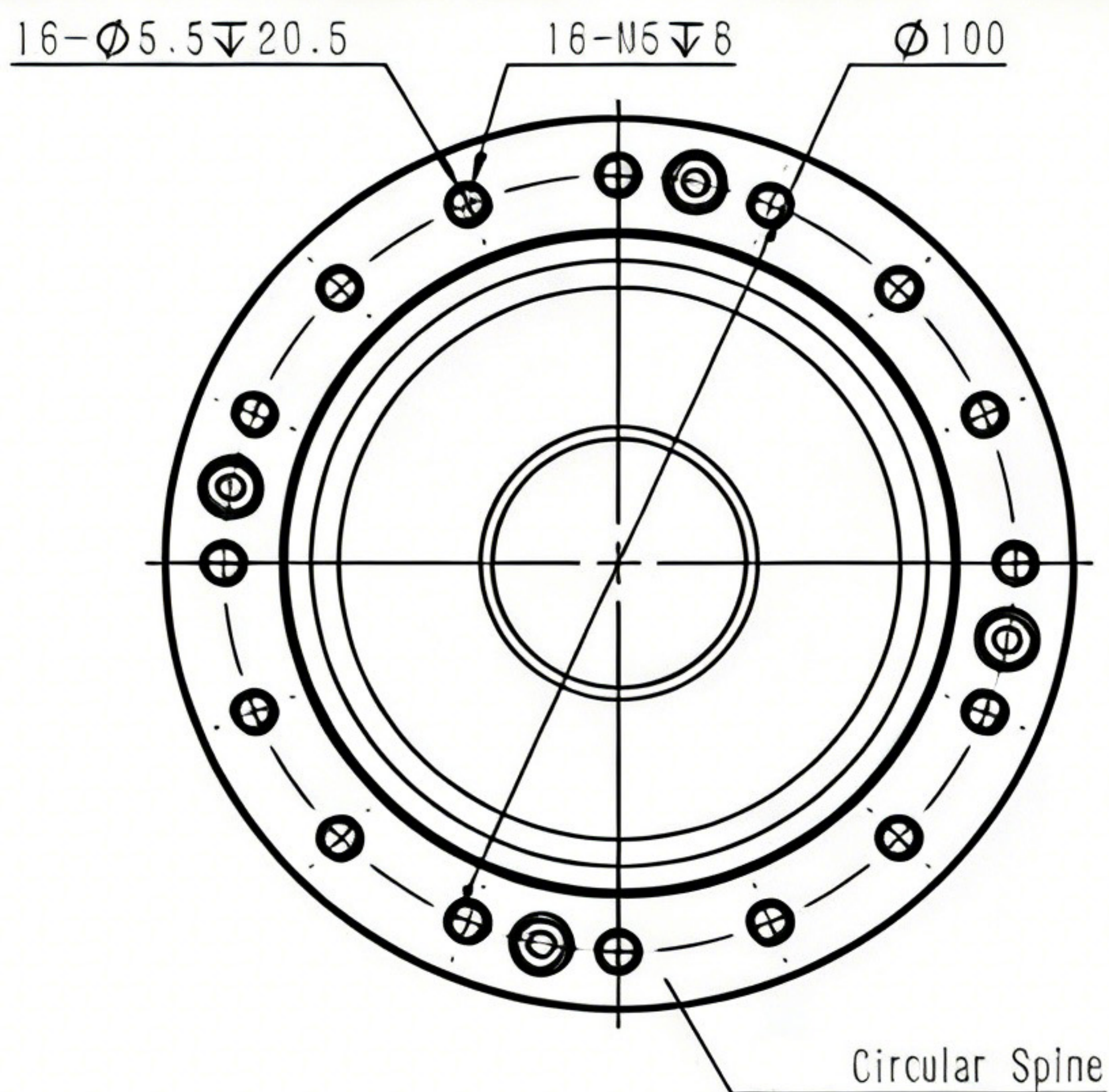
# HST25-IV Harmonic Reducer

Same model as Hamonic SHG-25-20J

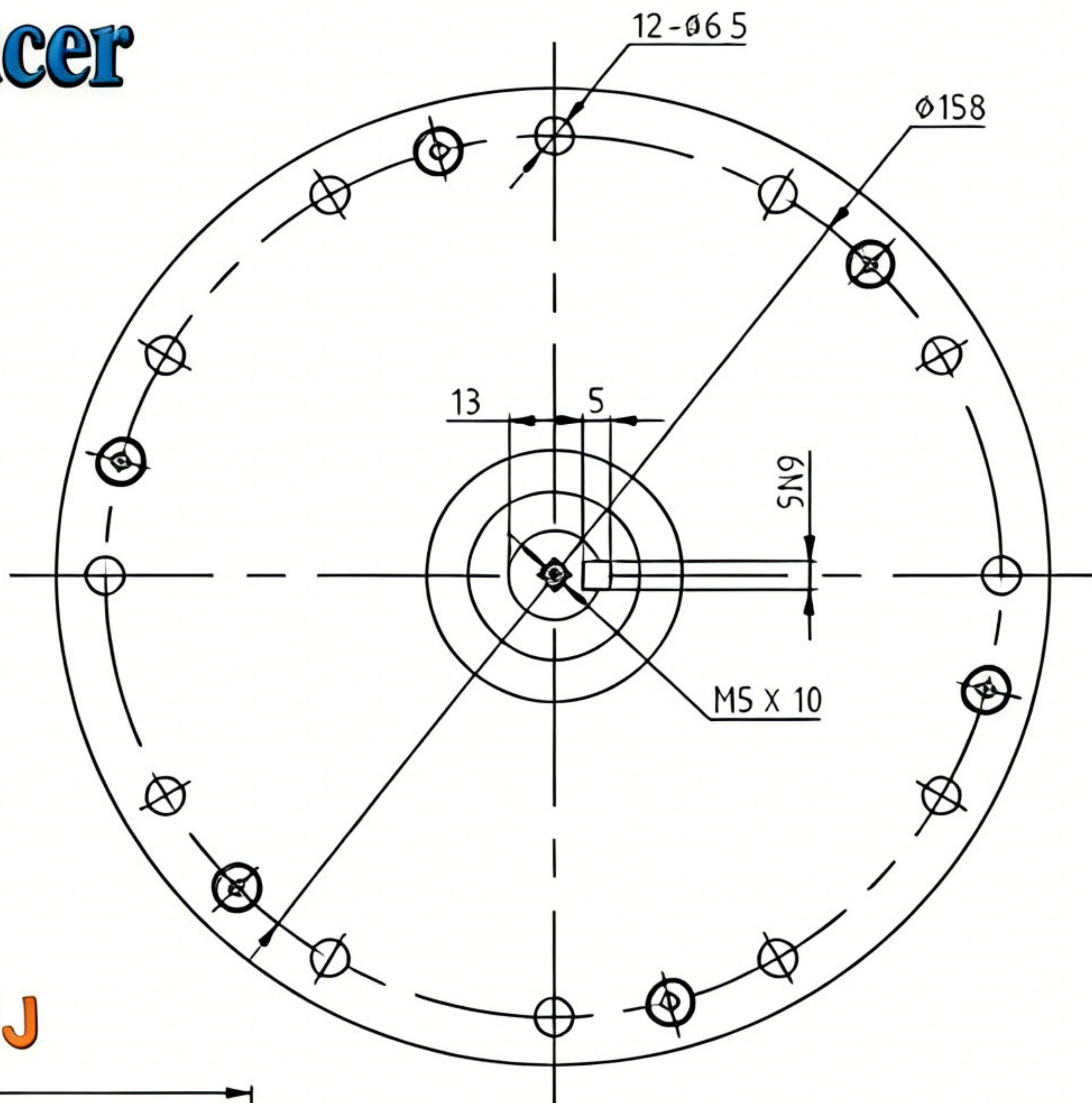
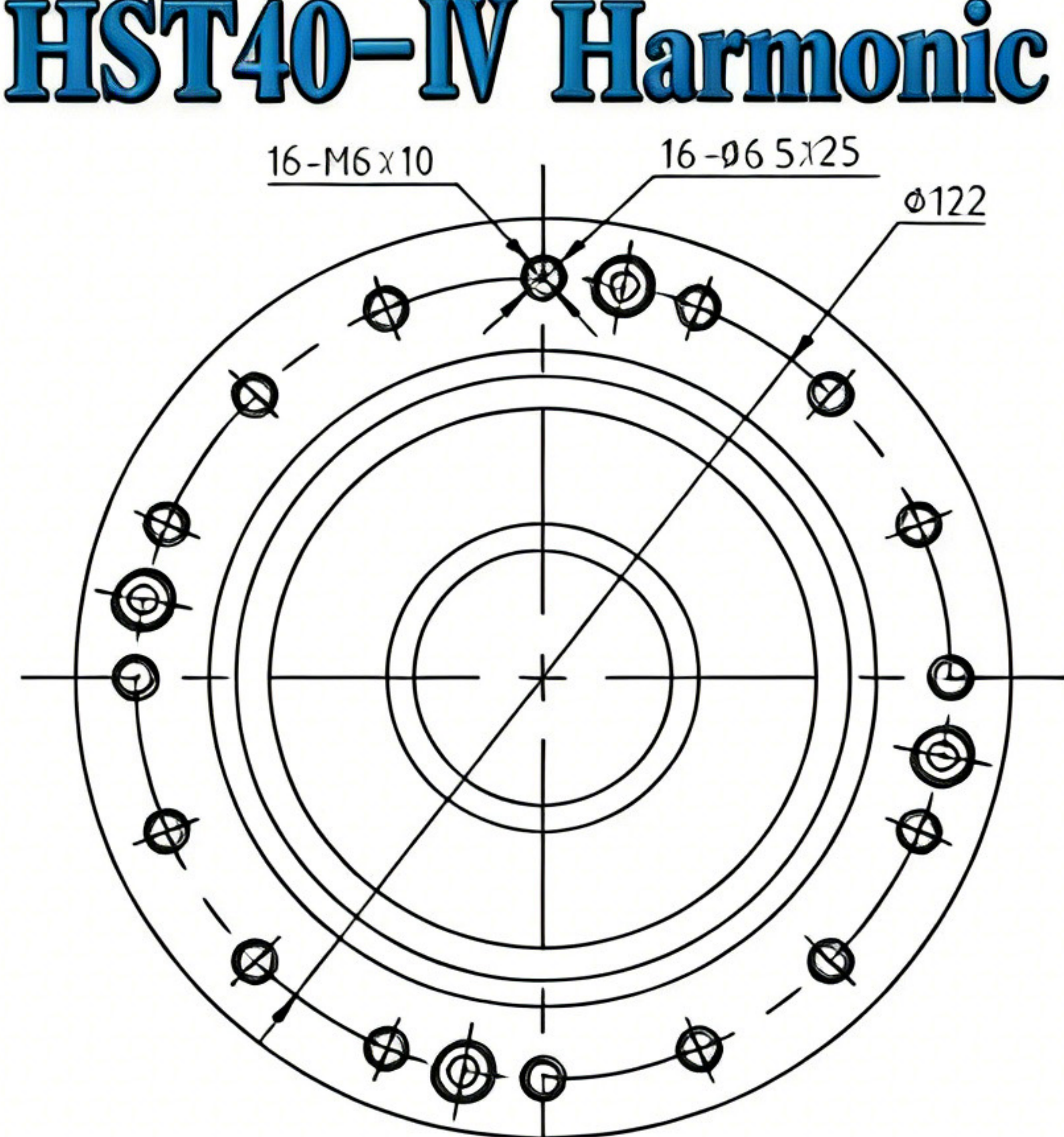


# HST32-IV Harmonic Reducer

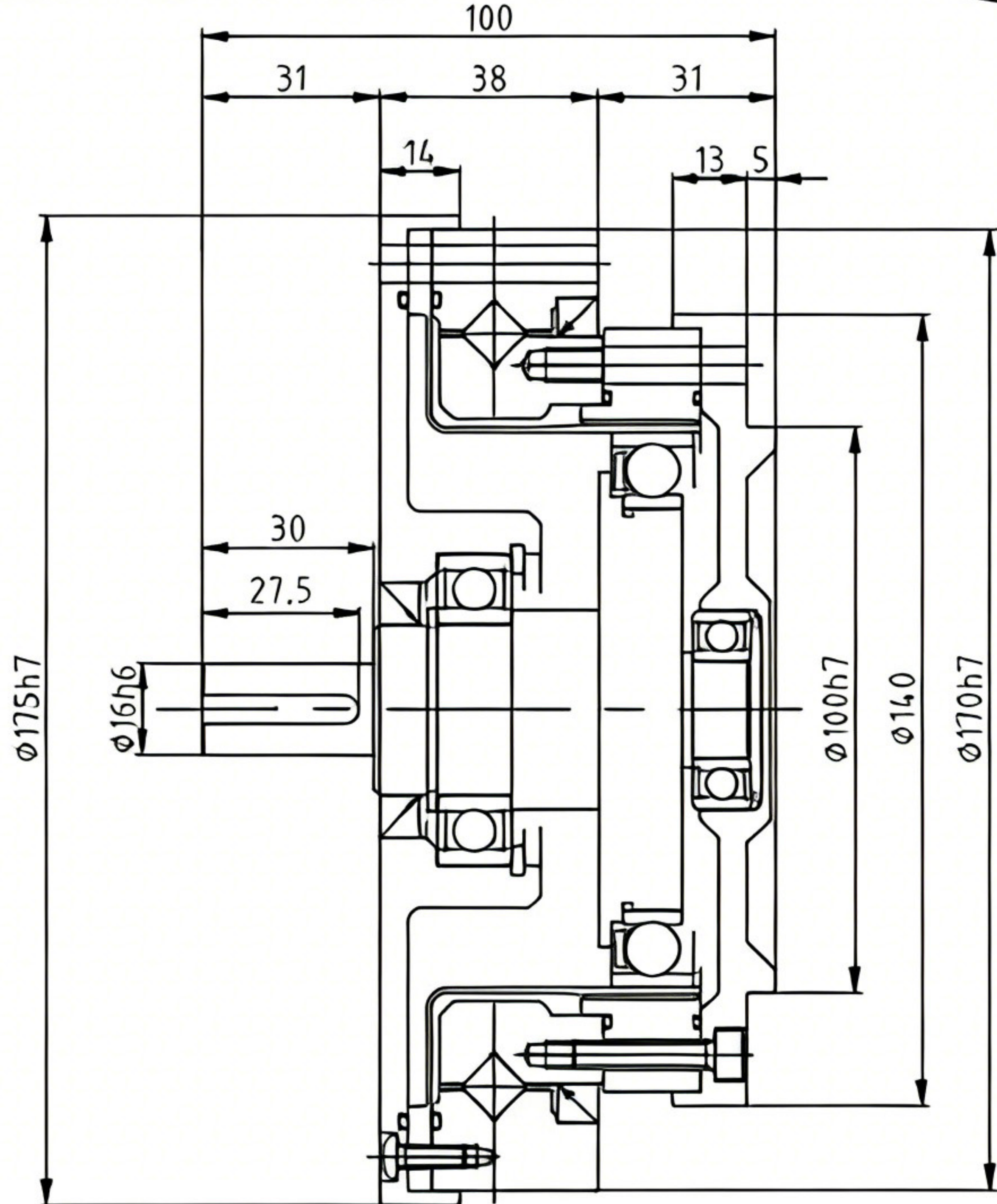
Same model as Hamonic SHG-32-20J



# HST40-IV Harmonic Reducer



Same model as Hamonic SHG-40-2UJ



unit: cNm

## Input Axial Type Harmonic Drive Starting torque

| Type<br>Reduction ratio | 14  | 17  | 20  | 25 | 32 | 40 |
|-------------------------|-----|-----|-----|----|----|----|
| 50                      | 5.7 | 9.7 | 14  | 22 | 41 | 72 |
| 80                      | 4.4 | 7.2 | 11  | 15 | 29 | 52 |
| 100                     | 3.7 | 6.5 | 9.9 | 14 | 27 | 47 |
| 120                     | 3.4 | 6.2 | 9.3 | 13 | 24 | 44 |
| 160                     | -   | -   | 8.6 | -  | -  | -  |

unit: Nm

## Input Axial Type Harmonic Drive timing belt tension torque recommended value

| Generator load torque | Model | 14 | 17 | 20 | 25 | 32 |
|-----------------------|-------|----|----|----|----|----|
| 最大Maximum             | HS-IV | 13 | 19 | 25 | 25 | 52 |

## Input Axial Type Harmonic Drive Specification

| Type | Basic rated load            |      |                            |      | Allowable static moment Mc |      | Weight |
|------|-----------------------------|------|----------------------------|------|----------------------------|------|--------|
|      | Basic rated dynamic load Cr |      | Basic rated static load Cr |      |                            |      |        |
|      | KN                          | kgf  | KN                         | kgf  | Nm                         | Kgfm | kg     |
| 14   | 5.8                         | 590  | 8.6                        | 880  | 74                         | 7.6  | 0.39   |
| 17   | 10.4                        | 1060 | 16.3                       | 1670 | 124                        | 12.6 | 0.56   |
| 20   | 14.6                        | 1490 | 22                         | 2250 | 187                        | 19.1 | 0.73   |
| 25   | 21.8                        | 2230 | 35.8                       | 3660 | 258                        | 26.3 | 1.23   |
| 32   | 38.2                        | 3900 | 65.4                       | 6680 | 580                        | 59.1 | 2.54   |
| 40   | 43.3                        | 4410 | 81.6                       | 8330 | 849                        | 86.6 | 7.2    |

## Input Axial Type Harmonic Drive Moment Load

| Model    | Design value | Permissible value at start and stop | Instant permissible value |
|----------|--------------|-------------------------------------|---------------------------|
| HST14-IV | M b di 41Nm  | M b peak 80Nm                       | M b max 160Nm             |
|          | F t di 270N  | F t peak 490N                       | F t max 830N              |
|          | F a di 270N  | F a peak 490N                       | F a max 830N              |
| HST17-IV | M b di 72Nm  | M b peak 140Nm                      | M b max 290Nm             |
|          | F t di 400N  | F t peak 700N                       | F t max 1200N             |
|          | F a di 400N  | F a peak 700N                       | F a max 1200N             |
| HST20-IV | M b di 140Nm | M b peak 280Nm                      | M b max 560Nm             |
|          | F t di 650N  | F t peak 1150N                      | F t max 1980N             |
|          | F a di 650N  | F a peak 1150N                      | F a max 1980N             |
| HST25-IV | M b di 243Nm | M b peak 480Nm                      | M b max 974Nm             |
|          | F t di 900N  | F t peak 1600N                      | F t max 2800N             |
|          | F a di 900N  | F a peak 1600N                      | F a max 2800N             |
| HST32-IV | M b di 460Nm | M b peak 900Nm                      | M b max 1860Nm            |
|          | F t di 1350N | F t peak 2300N                      | F t max 4000N             |
|          | F a di 1350N | F a peak 2300N                      | F a max 4000N             |
| HST40-IV | M b di 600Nm | M b peak 1200Nm                     | M b max 3000Nm            |
|          | F t di 2000N | F t peak 3500N                      | F t max 6000N             |
|          | F a di 2000N | F a peak 3500N                      | F a max 6000N             |

Note: Output load M b-bending moment, F t-radial force, F a-axial force