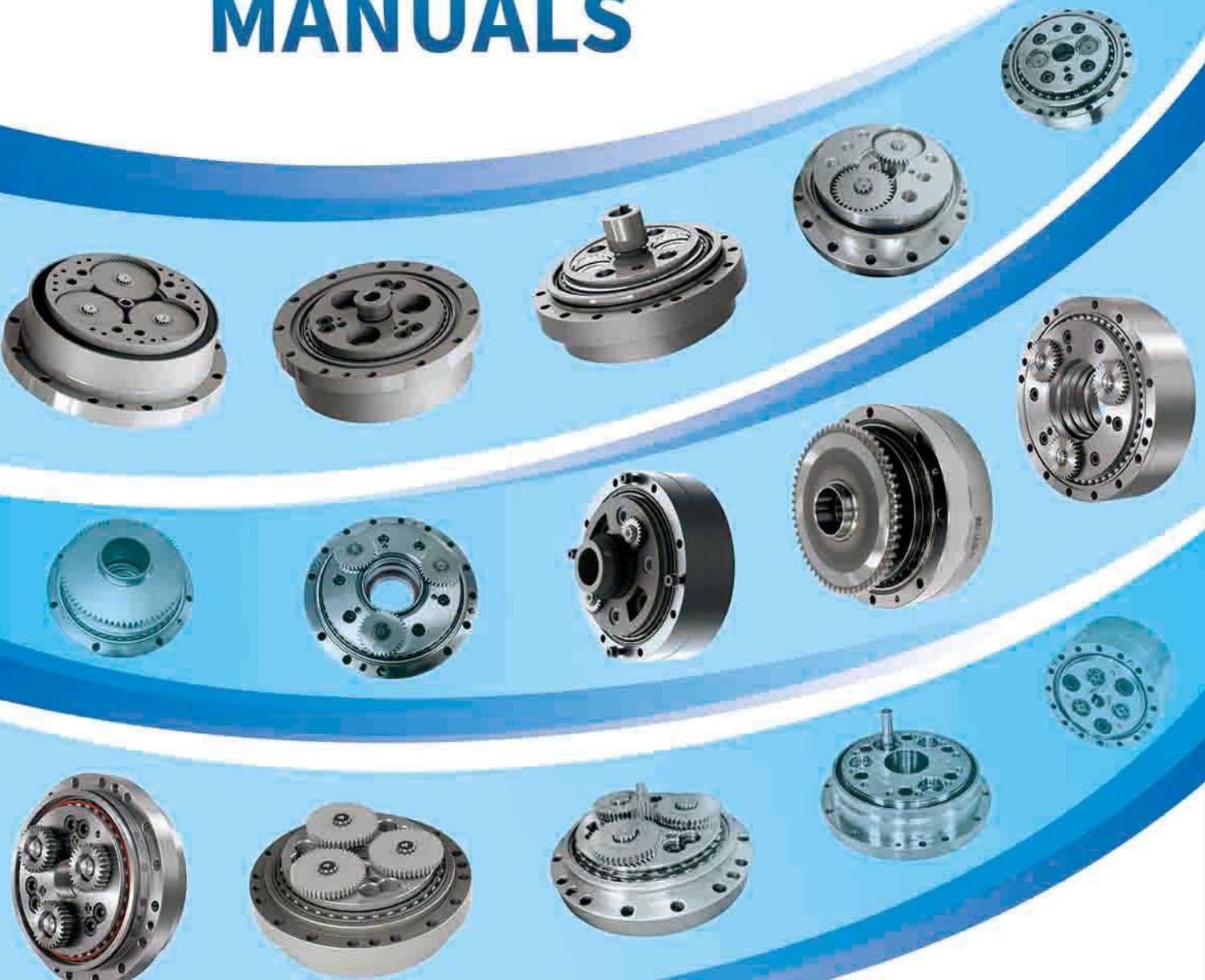


PRODUCT MANUALS



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Scope of SMRV Application

The Cycloidal Planetary Gear Reducer produced by the company is composed of cycloidal pin wheel and planetary support. Because of the small size, strong impact resistance, large torque, high positioning accuracy, small vibration, large reduction ratio and many other advantages, the following fields such as industrial robots, machine tools, medical inspection equipment, satellite receiving system, etc. have been widely used.

- SCARA robot, vertical multi joint robot joint axis;
- Tool turret, ATC tool magazine spindle;
- Positioning precision turntable spindle;
- Precision transmission equipment spindle;
- Precision AGV drive, etc;



The company will meet the needs of customers with the greatest sincerity and the best quality products!

Model	Speed Ratio(Planet carrier output)
20E	161、141、121、105、81、57
35E	161、141、121、105、81、57
40E	153、121、105、81、57
65E	153、121、105、81、57
80E	153、121、101、81、57
110E	175.28、161、111、81
160E	171、145、129、101、81
320E	185、171、141、129、118.5、101、81
450E	192.42、171、154.84、129、118.5、101、81
700F	200.33
10C	27
27C	36.57
50C	32.54
100C	36.75
120C	36.75
200C	34.86
260CA	138.75
320CA	210
320C	35.61
500C	37.34
T155	141、119、81
W55	64

Speed ratio (needle gear housing output) = Speed ratio (planet carrier output) - 1

Series model introduction

At the early stage, we have developed three different series of precision cycloidal planetary gear reducers, mainly E, C & miscellaneous series. Among them, there are 10 types of E-series with an output torque of 200 N.m ~ 7000 N.m; 8 types of C-series with an output torque of 100 N.m ~ 5000 N.m; miscellaneous series T155 and W55 are specially designed for larger load under the same specification. These products can cover all scenarios of industrial automation.

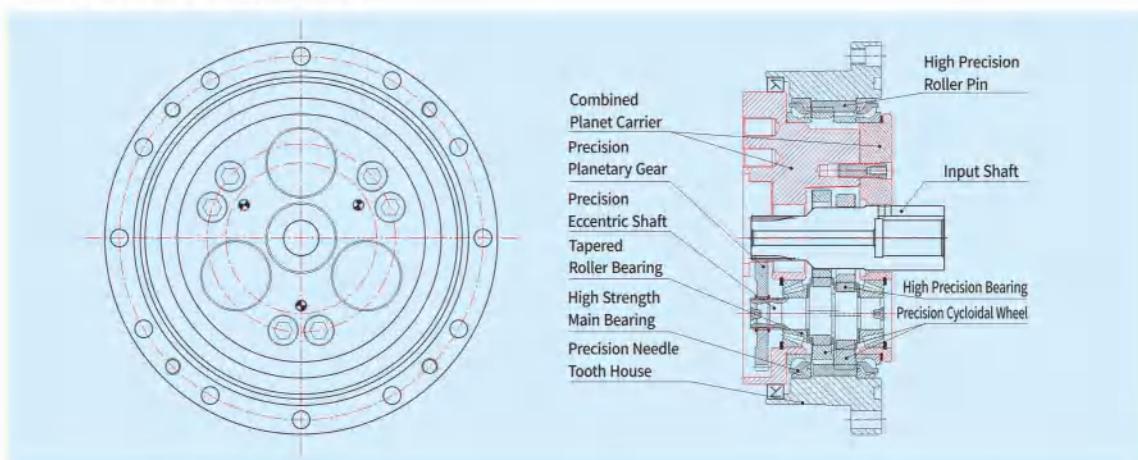
Note: Please select the corresponding model according to the torque requirements of the output end and the reduction speed ratio. If you require other deceleration speed ratio we can customize accordingly, please contact our customer service and after-sales- service for more details.

Performance Specification

1 Cycloidal Planetary Gear Reducer

It adopts cycloidal pin wheel and planetary gear compound transmission mode to realize precise movement and power transmission of gear reducer.

The specific structure as follows:



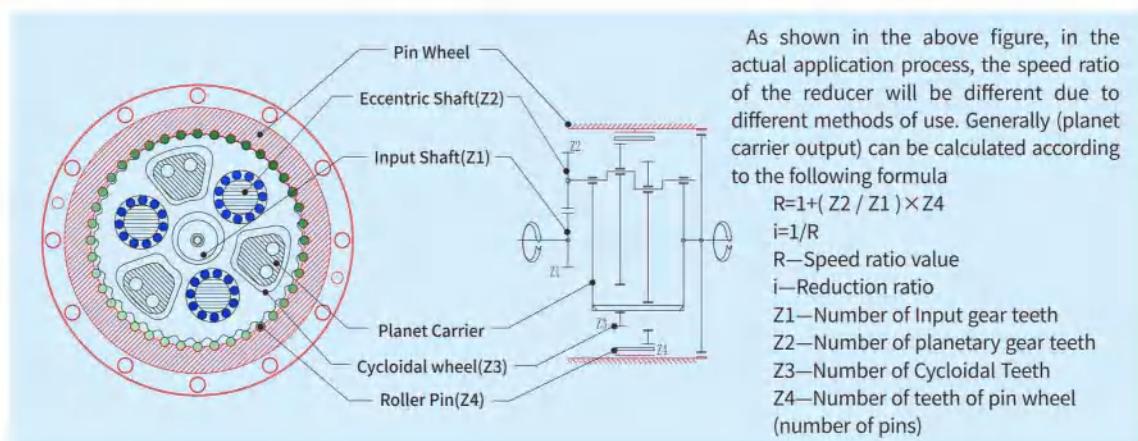
As shown in the figure, the Cycloidal Planetary Gear Reducer is mainly composed of needle gear housing, cycloidal wheel, eccentric shaft, planetary carrier, planetary gear and other major components. Among them, the input shaft and planetary gear constitute the first stage planetary gear deceleration drive, and the eccentric shaft, cycloidal wheel and needle housing constitute the second stage differential gear deceleration drive, compact structure, efficient transmission

2 Speed ratio value

Speed Ratio Value is the ratio of input shaft speed to output shaft when the needle housing fixed, with input gear shaft and output planet carrier.

The company has a number of mature products with different speed ratios, according to different requirements.

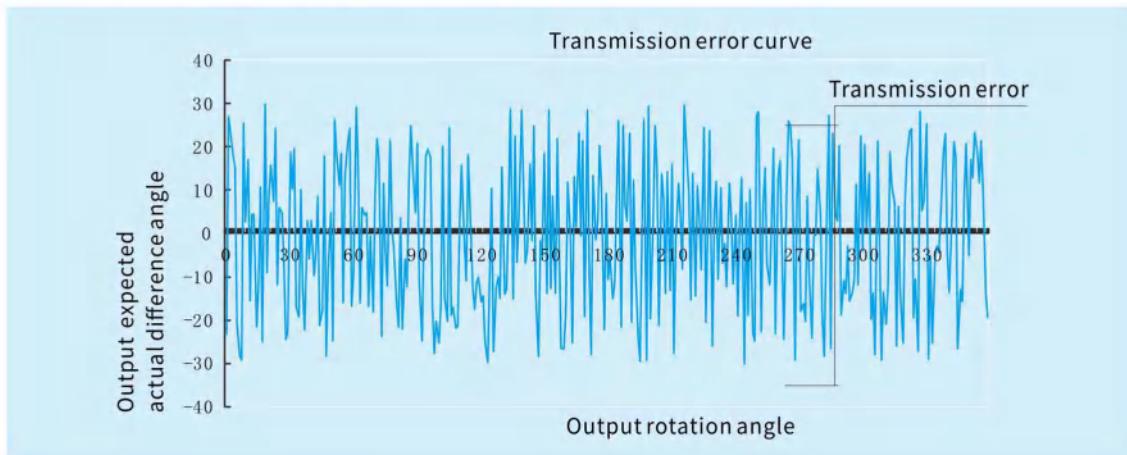
The speed ratio consists mainly of two parts, the first part is the small reduction ratio formed by precise planetary reduction structure, the second part is the large reduction ratio formed by cycloidal pin wheel decelerating structure differential gear transmission. The matching of two parts allows flexibilities design of various ratio of gear reducer. The specific structure is as follows:



Performance Specification

3 Transmission error

Under the no-load running status, when the input shaft rotates in one direction, it will show the difference between the actual angle and the theoretical angle of the output shaft. All the products of our Cycloidal Planetary Gear Reducers are strictly tested to ensure that the transmission error of each reducer is <1 arc.min

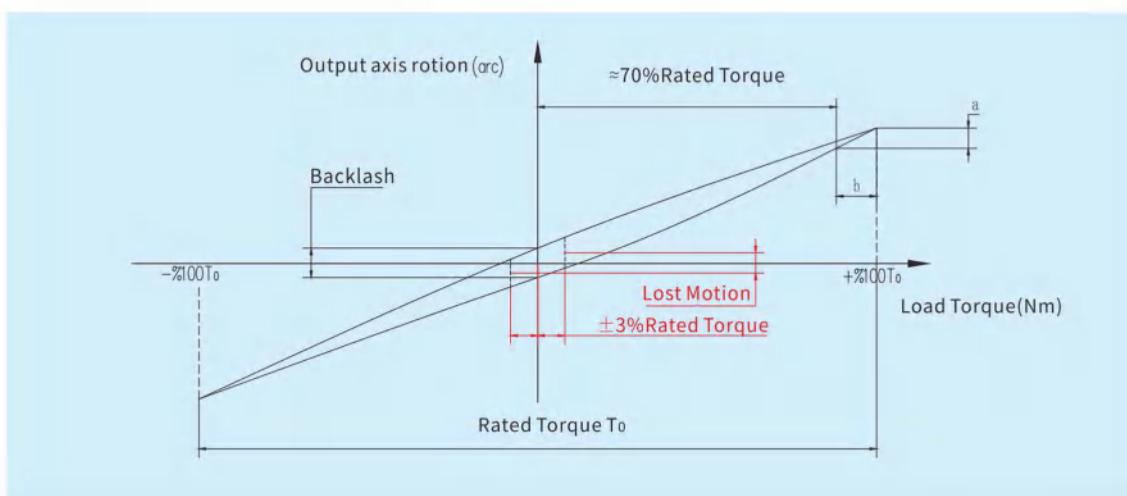


4 Rotated output torque

The allowable continuous load torque is when the gear reducer output speed is 15R / min. Please refer details for different rated output torque for different models.

5 Hysteresis Curve (Lost Motion Backlash, Torsional Stiffness)

Fix the input shaft, gradually load the torque from 0 to the rated value on the output shaft, then gradually unload to 0 and load to the rated torque in the opposite direction, finally gradually unload to 0. During the process, record the load torque as an independent variable, and the output shaft angle change as a dependent variable, and draw the rectangular coordinate system curve.



Performance Specification

Lost Motion

Torsional angle at the middle point of the width of the hysteresis curve will be at $\pm 3\%$ of the rated torque.

All our products have been strictly tested to ensure the lost motion of each Gear Reducer is less than 1 arc.min

Backlash

The torque of the hysteresis curve is the torsional angle at "zero". All our products have been strictly tested to ensure the backlash of each Gear Reducer is less than 1 arc.min.

Torsional Stiffness

Under the torsional moment, the ability of the member to resist torsional deformation, or the ratio of rated load torque to tangential elastic deformation angle. In the hysteresis curve, when the load torque reaches more than 70% of the rated torque, the output shaft angle changes linearly with the load torque, that is, the ratio of torque B to output shaft angle a is the torsional stiffness.

6 The Rigidity Under Moment

If causing load torque under external load, The output shaft is tilted in proportion to the load moment. (when $l_3 > b$) The Rigidity Under Moment reflects the stiffness of the main bearing, Using load moment that unit angle of tilt (1 arc.min.) need to denote

$$\theta = \frac{W_1 l_1 + W_2 l_2}{M_1 \times 10^3}$$

θ : (arc.min.) Slanting Angle of output shaft

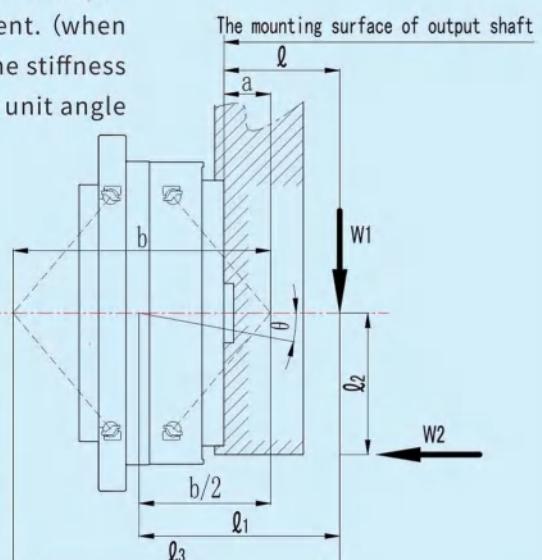
M_1 : (Nm/arc.min.) Rigidity Under Moment

W_1, W_2 : (N) Load

l_1, l_2 : (mm) The length to the point of loading

$$l_1 : l + \frac{b}{2} - a$$

l : (mm) The length from the mounting surface of output shaft to the point of loading



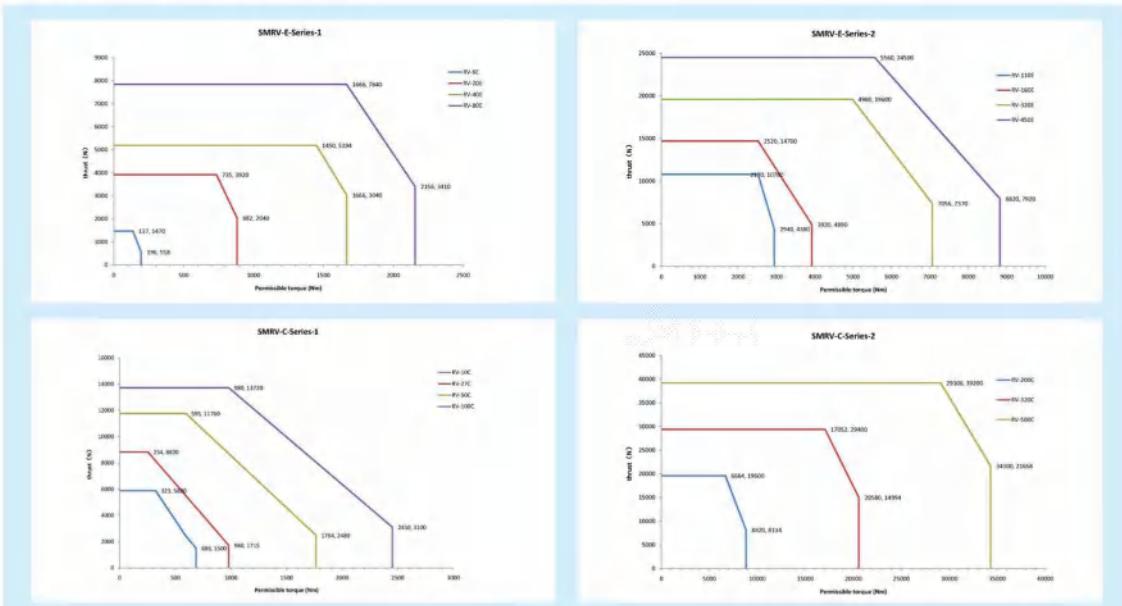
Performance Specification

Rigidity Under Moment of each model as shown in the table below

Model	Rigidity Under Moment (Nm/arc.min.)	Dimension (mm)		Model	Rigidity Under Moment (Nm/arc.min.)	Dimension (mm)	
		a	b			a	b
RV-6E	117	17.6	91.6	RV-10C	421	28	119.2
RV-20E	372	20.1	113.3	RV-27C	1068	38.2	150.3
RV-40E	931	29.6	143.7	RV-50C	1960	50.4	187.1
RV-80E	1176	37.4	166	RV-100C	2813	58.7	207.6
RV-110E	1470	32.2	176.6	RV-200C	9800	76	280.4
RV-160E	2940	47.8	210.9	RV-320C	12740	114.5	360.5
RV-320E	4900	56.4	251.4	RV-500C	24500	125	413.4
RV-450E	7448	69	292.7				

7 Allowable Moment and Allowable Thrust

Because of external load, existing moment and thrust in reducer usually, the moment and thrust be the Allowable Moment and Allowable Thrust at this point. They interact in extreme states, the relation schema as shown below.



8 Rated Life

The Gear Reducer theoretical designed life is under the condition of rated output speed and rated output torque. The rated life is estimated to be 6000h in order to meet the demand utilization.

Calculation of the actual service life is base on the following formula:

$$(\text{Actual using life}) = 6000 \times (\text{N}_0 / \text{Nm}) \times [(\text{T}_0 / \text{T}_m)^{(10/3)}]$$

N₀—Basic value of rated life calculation, Value=15r/min

T₀—Rated torque of each reducer, Please refer to the following model introduction for more details

Nm—Average output speed in actual use

Tm—Average output torque in actual use

SMRV-E Series Cycloidal Planetary Gear Reducer

- ▶ Wide range of transmission ratio
- ▶ Large torsional rigidity
- ▶ Small transmission error and return error (less than 1 minute of arc)
- ▶ High transmission efficiency (more than 80%)
- ▶ Compact structure, small volume and light weight (Less than the traditional cylindrical gear reducer 1/2~2/3)
- ▶ Stable operation and low noise
- ▶ Reliable operation and long using life



SMRV-E Series

Model Specification

SMRV-E Series Model Specification

Model	Ratio		Weight	Rated Output Torque	Rated Output Speed	Transmission error	lost motion	back lash	Transfer efficiency	Torsional Rigidity
	Output By Planet Carrier	Output By Pin-toothed housing								
20E	161	160	4.7kg	231N·m	5 r/min	<1 arc.min.	<1 arc.min.	<1 arc.min.	≥85%	49N·m/arc.min.
	141	140		188N·m	10 r/min					
	121	120		167N·m	15 r/min					
	105	104		153N·m	20 r/min					
	81	80		143N·m	25 r/min					
	57	56		135N·m	30 r/min					
	35E	Reference 20E		343N·m	15 r/min					
40E	153	152	9.3kg	572N·m	5 r/min	<1 arc.min.	<1 arc.min.	<1 arc.min.	≥85%	55N·m/arc.min.
	121	120		465N·m	10 r/min					
	105	104		412N·m	15 r/min					
	81	80		377N·m	20 r/min					
	57	56		353N·m	25 r/min					
	307N·m	30 r/min		334N·m	30 r/min					
	287N·m	50 r/min		271N·m	60 r/min					
65E	Reference 40E	20E	9.1kg	637N·m	15 r/min	<1 arc.min.	<1 arc.min.	<1 arc.min.	≥85%	145N·m/arc.min.
80E	153	152	13.1kg	1088N·m	5 r/min	<1 arc.min.	<1 arc.min.	<1 arc.min.	≥85%	196N·m/arc.min.
	121	120		885N·m	10 r/min					
	101	100		784N·m	15 r/min					
	81	80		719N·m	20 r/min					
	57	56		672N·m	25 r/min					
	637N·m	30 r/min		584N·m	40 r/min					
	546N·m	50 r/min		517N·m	60 r/min					
110E	175.28	174.28	17.4 kg	1499N·m	5 r/min	<1 arc.min.	<1 arc.min.	<1 arc.min.	≥85%	294N·m/arc.min.
	161	160		1215N·m	10 r/min					
	111	110		1078N·m	15 r/min					
	81	80		990N·m	20 r/min					
	925N·m	25 r/min		875N·m	30 r/min					
	804N·m	40 r/min		804N·m	40 r/min					
	171	170		2176N·m	5 r/min					
160E	145	144	26.4 kg	1774N·m	10 r/min	<1 arc.min.	<1 arc.min.	<1 arc.min.	≥85%	392N·m/arc.min.
	129	128		1568N·m	15 r/min					
	101	100		1441N·m	20 r/min					
	81	80		1343N·m	25 r/min					
	1274N·m	30 r/min		1274N·m	30 r/min					
320E	185	184	45.5kg	4361N·m	5 r/min	<1 arc.min.	<1 arc.min.	<1 arc.min.	≥85%	980N·m/arc.min.
	171	170		3538N·m	10 r/min					
	141	140		3136N·m	15 r/min					
	129	128		2881N·m	20 r/min					
	118.5	117.5		2695N·m	25 r/min					
	101	100		2548N·m	30 r/min					
	81	80		192.42	191.42					
450E	171	171	66.4kg	6135N·m	4 r/min	<1 arc.min.	<1 arc.min.	<1 arc.min.	≥85%	1176N·m/arc.min.
	154.84	153.84		4978N·m	9 r/min					
	129	128		4410N·m	15 r/min					
	118.5	117.5		4047N·m	19 r/min					
	101	100		3783N·m	24 r/min					
	81	80		200.33	199.33					
700F	200.33	199.33	119.4kg	6860 N·m	15 r/min	<1 arc.min.	<1 arc.min.	<1 arc.min.	≥85%	1750N·m/arc.min.

SMRV-E Series

Cycloidal Planetary Gear Reducer



Characteristic

Using two-stage gear reducer structure, the low load input end adopts the company's very mature Cycloidal Planetary Gear Reducer structure with high reliability. The high load output end adopts the precision pin tooth Cycloidal Planetary Gear Reducer structure with good bearing capacity and high precision.

Assembling

Assembling Precision

Please design the motor and input shaft according to the following accuracy, if the installation accuracy is poor, it is easy to cause vibration and noise.

Model	SMRV-20E	SMRV-35E	SMRV-40E	SMRV-65E	SMRV-80E
Coaxiality Tolerance	0.03mm	0.03mm	0.03mm	0.03mm	0.03mm
Model	SMRV-110E	SMRV-160E	SMRV-320E	SMRV-450E	SMRV-700F
Coaxiality Tolerance	0.03mm	0.05mm	0.05mm	0.05mm	0.06mm

Remarks: 1. The tolerance in the above table is the maximum allowable coaxiality tolerance

2. Selection of datum for coaxiality tolerance:

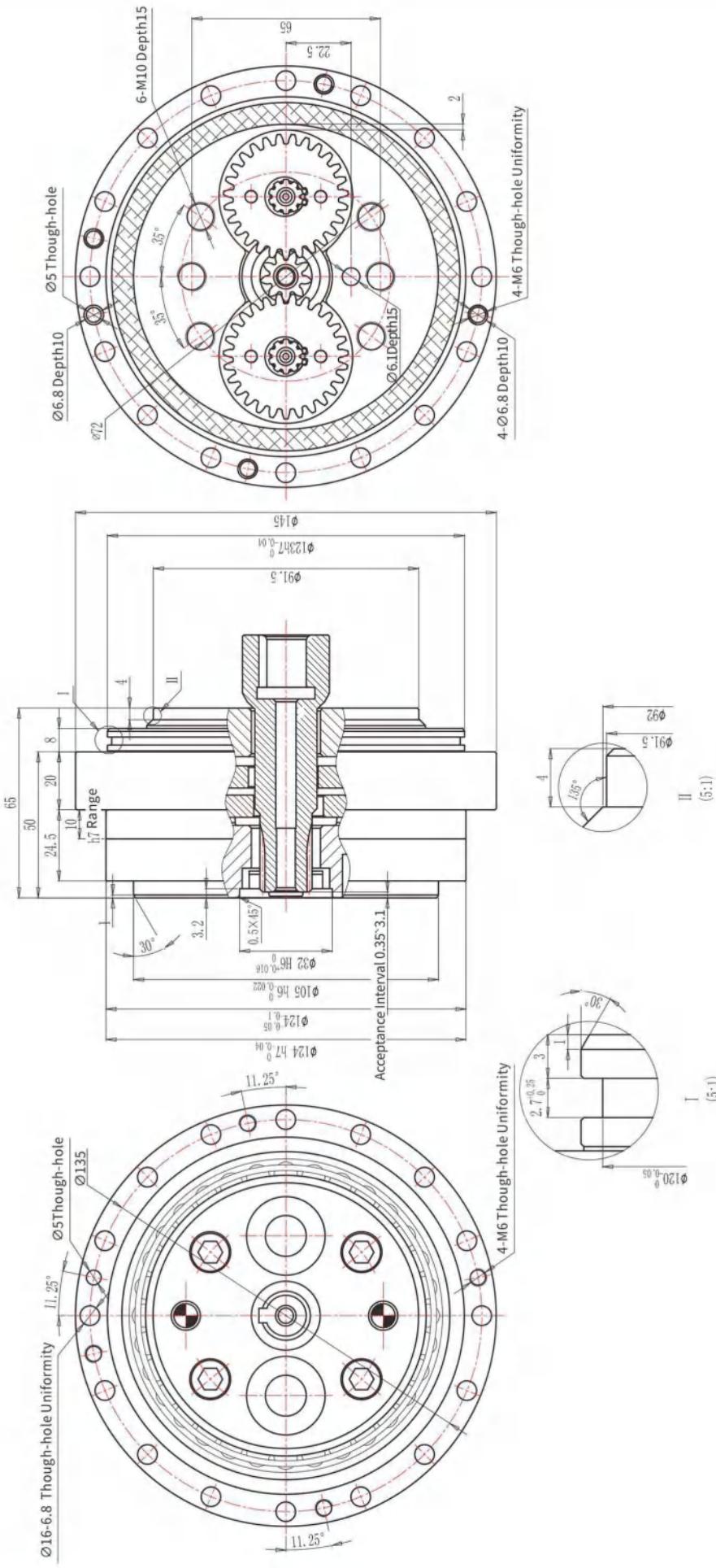
- a. The selected surface must be a smooth grinding cylindrical surface of Ra0.8 without scratch damage
- b. select the preferred position of reference plane, planet carrier > needle case > other

Assembling Key Point

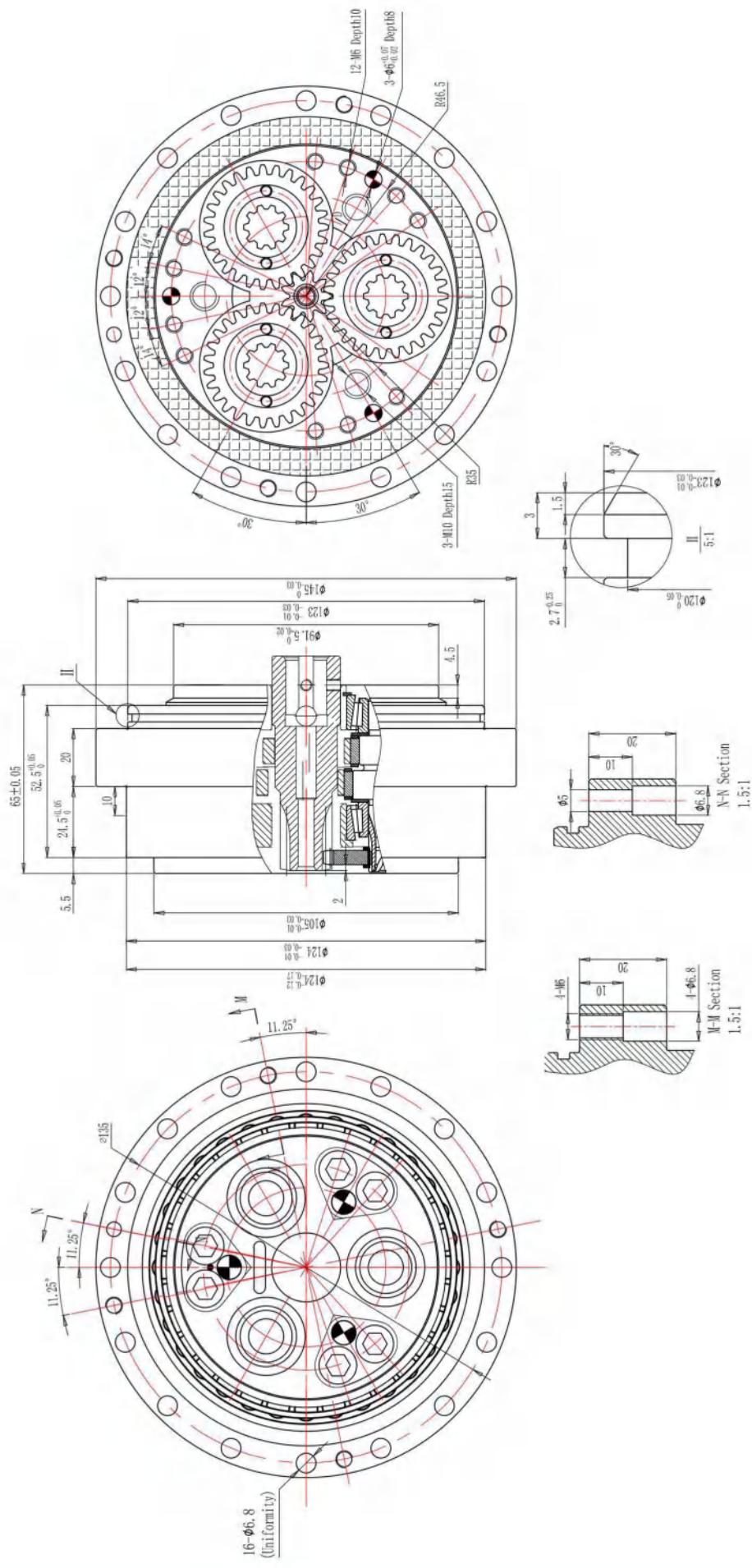
- When assembling the specified amount of grease must be sealed in.
- The sealing O-ring position is generally in the cylindrical grinding surface of the needle housing. Please make a reasonable sealing design at this position; otherwise it will affect the service life. The following table is the recommended model and size for O-ring installation.

Model	O ring			Groove size			
	Nominal number	Line diameter	Inner Diameter	Outer Diameter	Depth	Width	Height Reference
SMRV-20E	AS(ARP)568-045	$\phi 1.78 \pm 0.07$	$\phi 101.32 \pm 0.38$	$\phi 105$	1.27 ± 0.05	$2.39_{\text{0}}^{+0.25}$	3
SMRV-35E	AS(ARP)568-045	$\phi 1.78 \pm 0.07$	$\phi 101.32 \pm 0.38$	$\phi 105$	1.27 ± 0.05	$2.39_{\text{0}}^{+0.25}$	3
SMRV-40E	S132	$\phi 2.0 \pm 0.1$	$\phi 131.5 \pm 0.6$	$\phi 135$	$1.5_{-0.1}^{+0}$	$2.7_{\text{0}}^{+0.25}$	3
SMRV-65E	S132	$\phi 2.0 \pm 0.1$	$\phi 131.5 \pm 0.6$	$\phi 135$	$1.5_{-0.1}^{+0}$	$2.7_{\text{0}}^{+0.25}$	3
SMRV-80E	AS(ARP)568-163	$\phi 2.62 \pm 0.07$	$\phi 152.07 \pm 0.58$	$\phi 160$	2.06 ± 0.05	$3.58_{\text{0}}^{+0.25}$	3
SMRV-110E	AS(ARP)568-167	$\phi 2.62 \pm 0.07$	$\phi 177.47 \pm 0.58$	$\phi 182$	2.06 ± 0.05	$3.58_{\text{0}}^{+0.25}$	3
SMRV-160E	AS(ARP)568-265	$\phi 3.53 \pm 0.1$	$\phi 196.44 \pm 0.76$	$\phi 204$	2.82 ± 0.05	$4.78_{\text{0}}^{+0.25}$	4
SMRV-320E	AS(ARP)568-271	$\phi 3.53 \pm 0.1$	$\phi 234.54 \pm 0.76$	$\phi 243$	2.82 ± 0.05	$4.78_{\text{0}}^{+0.25}$	4
SMRV-450E	AS(ARP)568-275	$\phi 3.53 \pm 0.1$	$\phi 266.29 \pm 0.76$	$\phi 273$	2.82 ± 0.05	$4.78_{\text{0}}^{+0.25}$	4
SMRV-700F	AS(ARP)568-383	$\phi 5.33 \pm 0.1$	$\phi 354.97 \pm 0.76$	$\phi 381$	2.82 ± 0.05	$4.3_{\text{0}}^{+0.25}$	4

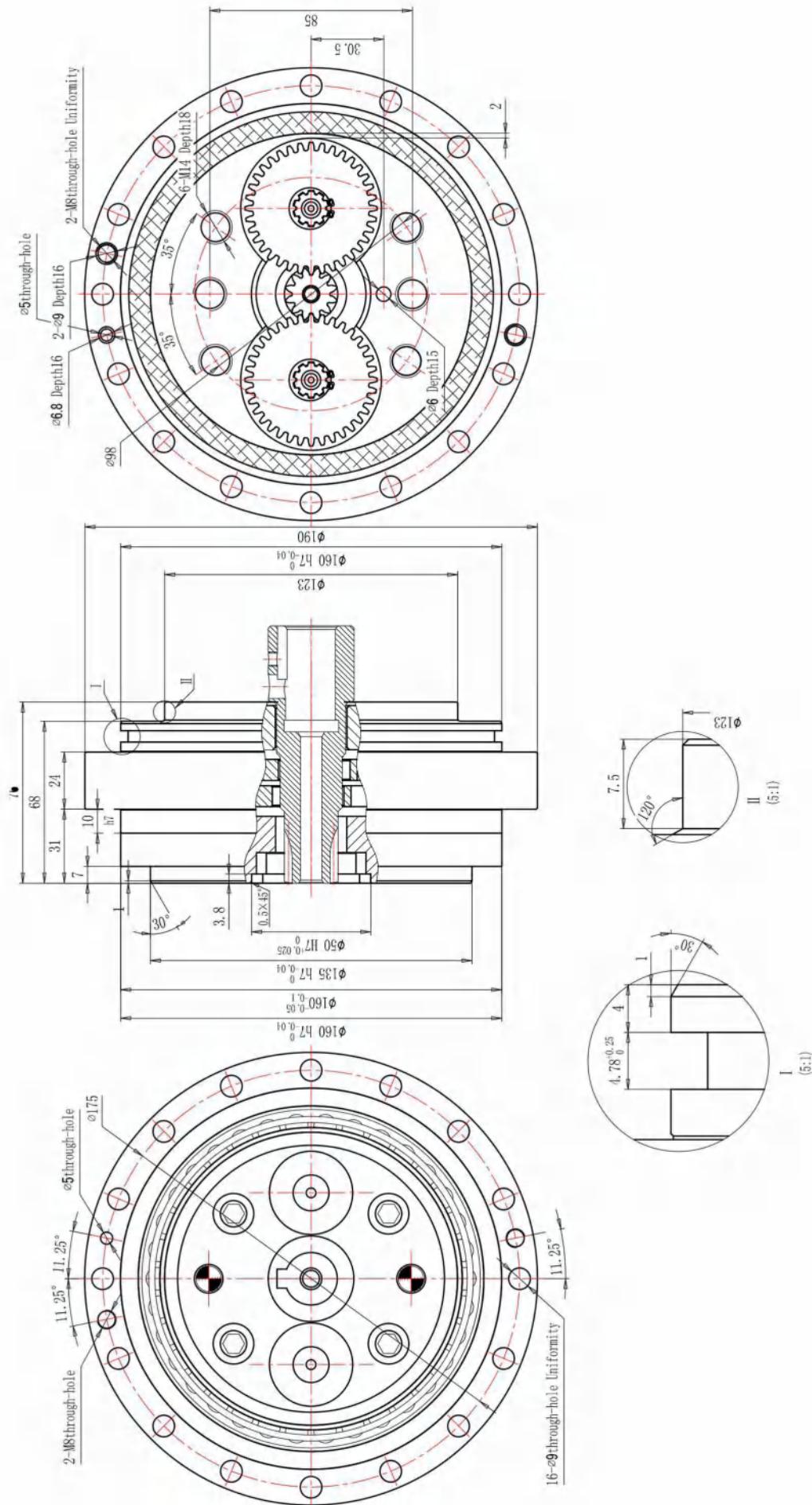
SMRV-20E External Dimension



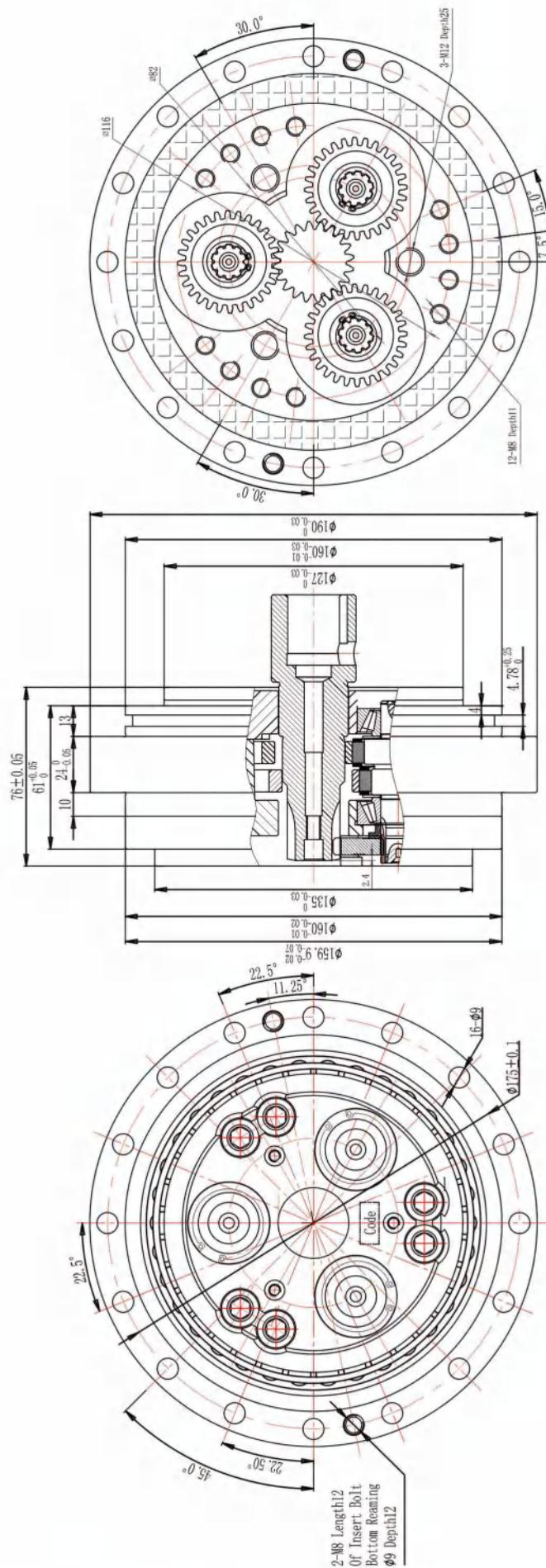
SMRV-35E External Dimension



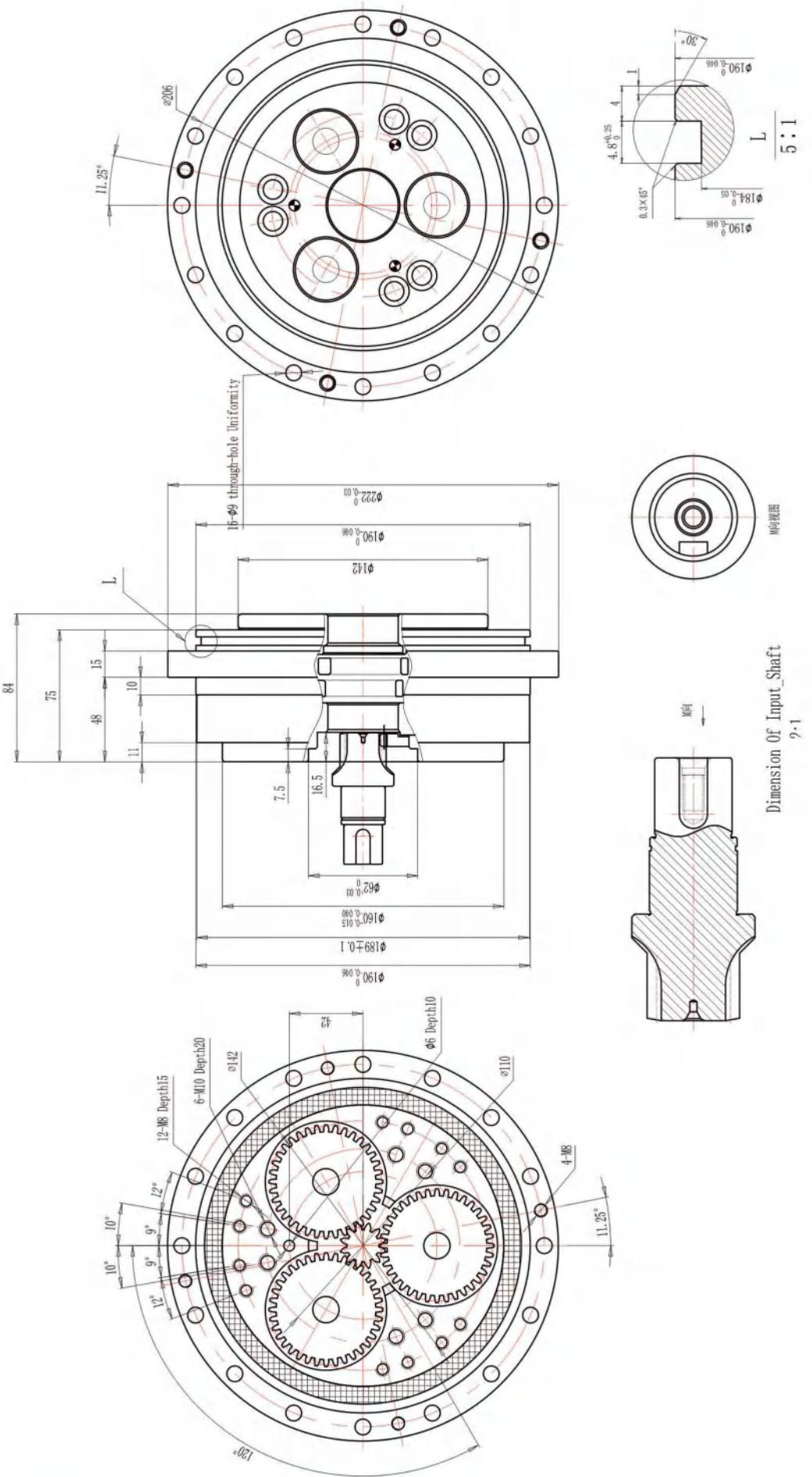
SMRV-40E External Dimension



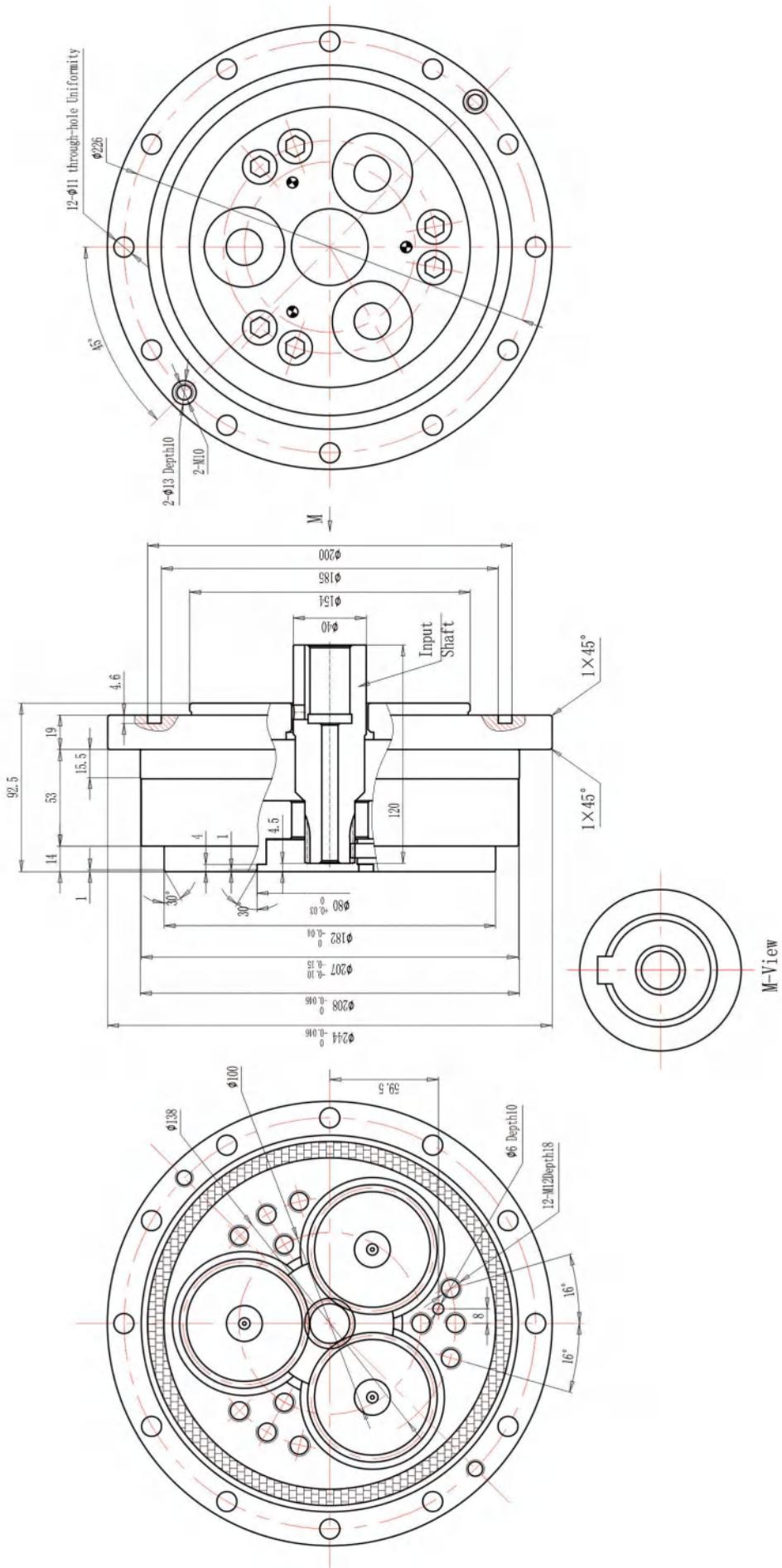
SMRV-65E External Dimensions



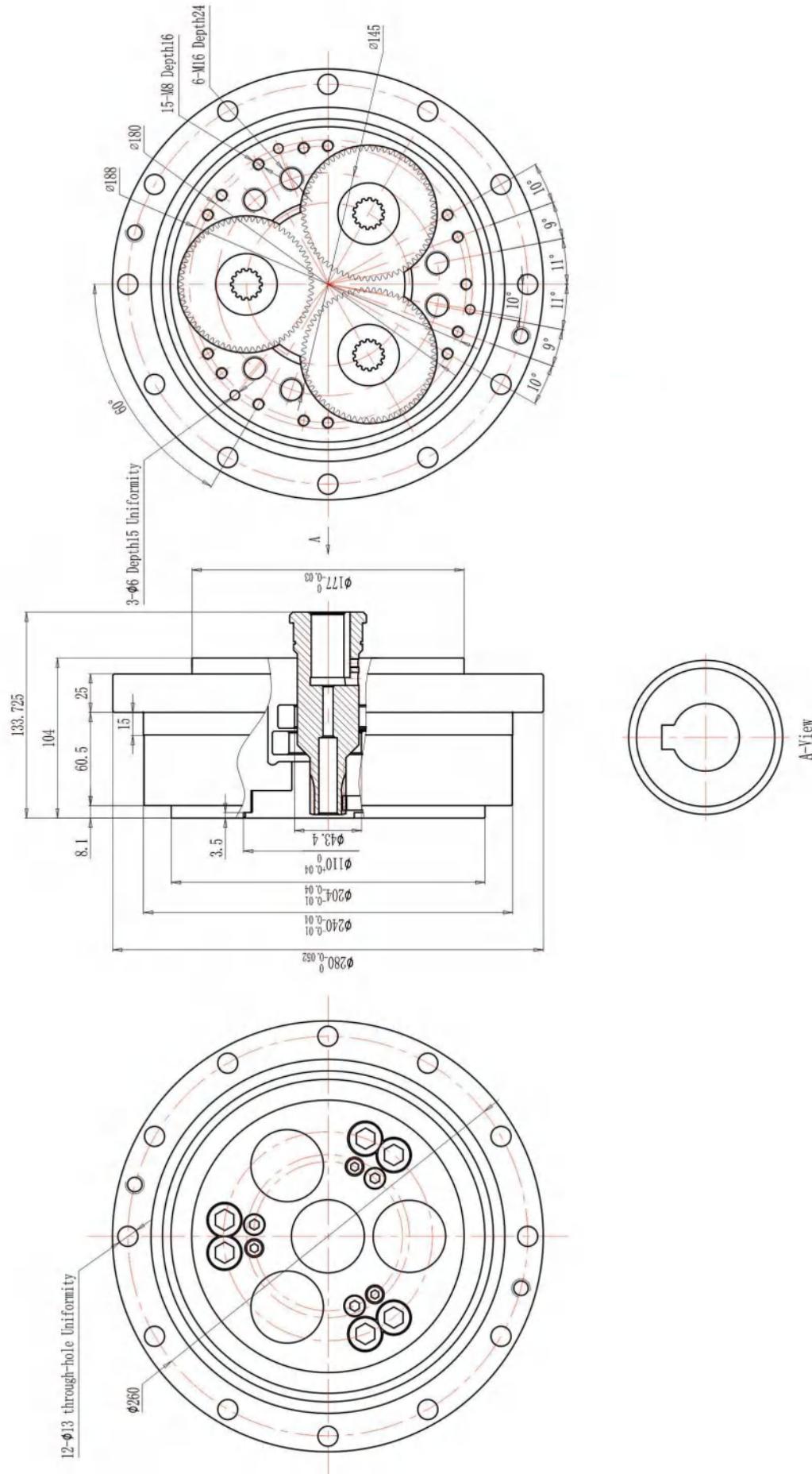
SMRV-80E External Dimension



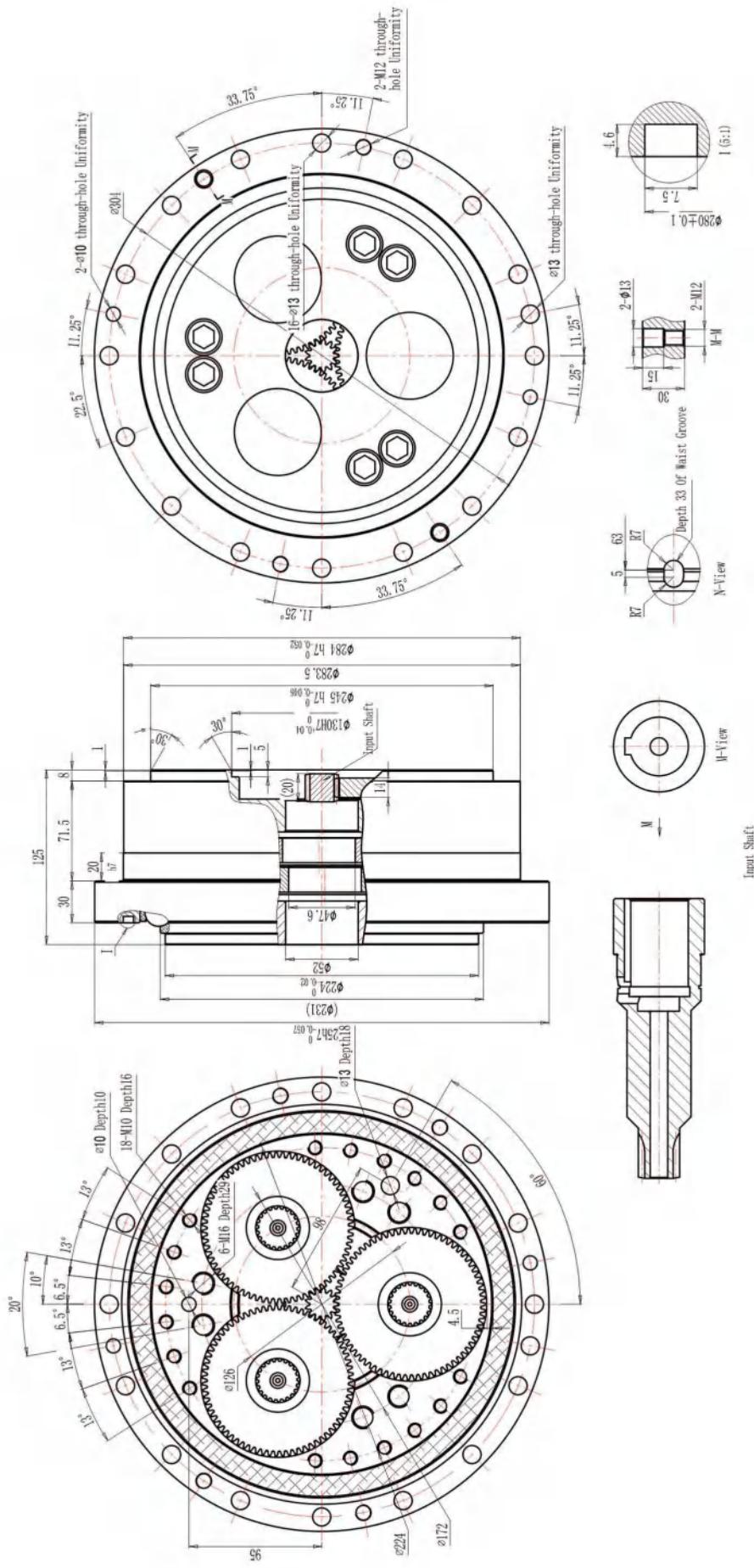
SMRV-110E External Dimension



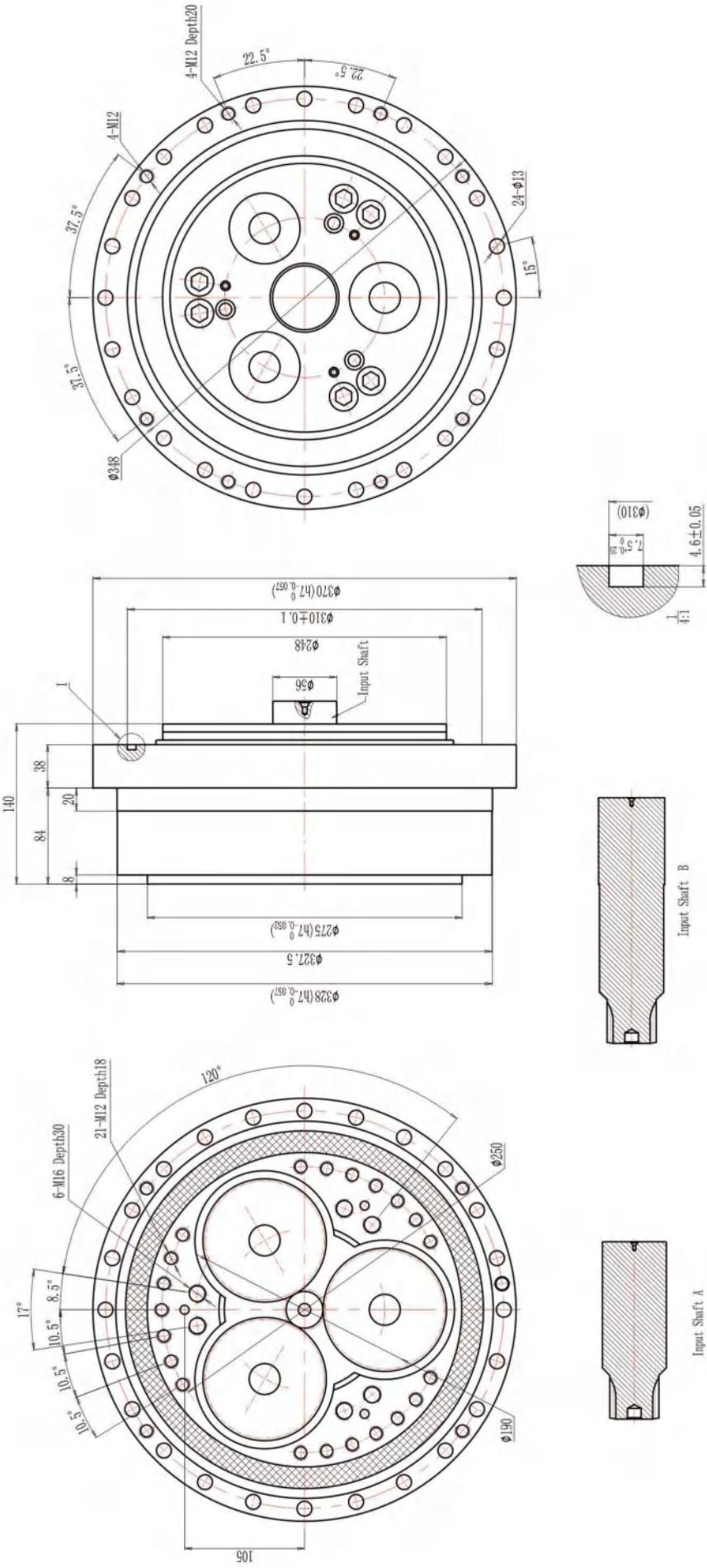
SMRV-160E External Dimension



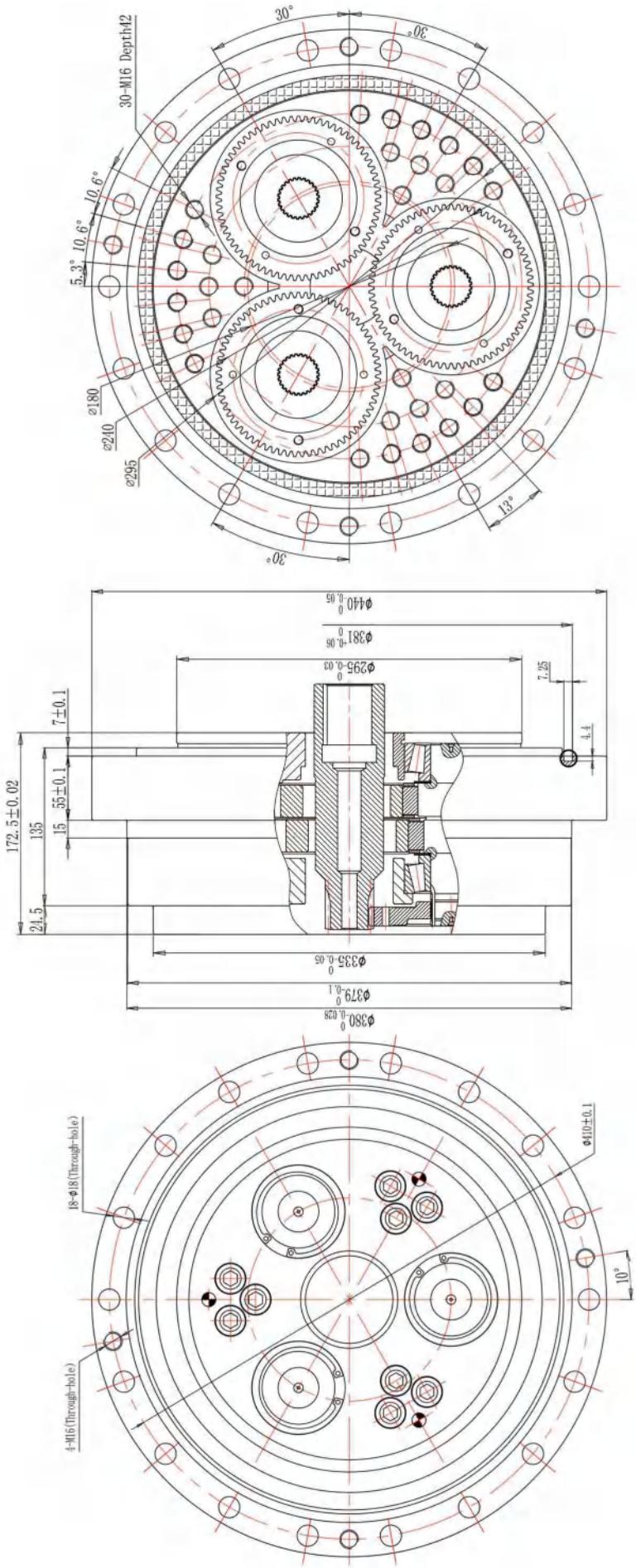
SMRV-320E External Dimension



SMRV-450E External Dimension



SMRV-700F External Dimension





SMRV-C Series >>

SMRV-C Series

Cycloidal Planetary Gear Reducer

- ▶ Excellent performance and high reliability
- ▶ The high load output end uses the pin tooth cycloid deceleration structure.
- ▶ Compact structure, good bearing capacity.
- ▶ High accuracy
- ▶ Have Greater Flexibility
- ▶ The inside of the reducer is hollow and easy to arrange wires.



SMRV-C Series

Cycloidal Planetary Gear Reducer

SMRV-C Series Model Specification

Model	Ratio		Weight	Rated Output Torque	Rated Output Speed	Transmission error	lost motion	back lash	Transfer efficiency	Torsional Rigidity
	Output By Planet Carrier	Output By Pin-toothed housing								
10C	27	120	4.6kg	98N·m	15 r/min	<1 arc.min	<1 arc.min	<1 arc.min	≥80%	47N·m/arc.min.
27C	36.57	35.57	8.5kg	265N·m	15 r/min	<1 arc.min	<1 arc.min	<1 arc.min	≥80%	147N·m/arc.min.
50C	32.54	31.54	14.6 kg	490N·m	15 r/min	<1 arc.min	<1 arc.min	<1 arc.min	≥80%	255N·m/arc.min.
100C	36.75	35.75	19.5 kg	980N·m	15 r/min	<1 arc.min	<1 arc.min	<1 arc.min	≥80%	510N·m/arc.min.
120C	36.75	35.75	21.2kg	1176N·m	15 r/min	<1 arc.min	<1 arc.min	<1 arc.min	≥80%	588 N·m/arc.min.
200C	34.86	33.86	55.6 kg	1960 N·m	15 r/min	<1 arc.min	<1 arc.min	<1 arc.min	≥80%	980N·m/arc.min.
260CA	—	138.75	68.5kg	2548N·m	15 r/min	<1 arc.min	<1 arc.min	<1 arc.min	≥80%	1540N·m/arc.min.
320CA	—	210	79.5 kg	3136 N·m	15 r/min	<1 arc.min	<1 arc.min	<1 arc.min	≥80%	1960N·m/arc.min.
320C	35.61	34.61	79.5 kg	3136 N·m	15 r/min	<1 arc.min	<1 arc.min	<1 arc.min	≥80%	1960N·m/arc.min.
500C	37.34	36.34	154kg	4900 N·m	15 r/min	<1 arc.min	<1 arc.min	<1 arc.min	≥80%	3430N·m/arc.min.

Characteristic

The C series Gear Reducer is a three-stage reducer structure. The first stage and second stage low load input end adopts precision involutes gear and precision planetary reducer structure.

The company has mature and perfect manufacturing experience with high quality, which can be customized to meet various needs, with superior performance and high reliability. The high load output end adopts precision pin gear cycloid. The speed structure has tight structure; It has the characteristics of good bearing capacity and high precision.

The structure of C series Gear Reducer determines greater flexibility to meet all kinds of non coaxial and deceleration requirements. Hollow of the center providing more choices of space for the equipment leads and sensors.



Assembling

Assembly Precision

Please design the motor and input shaft according to the following accuracy, if the installation accuracy is poor, it is easy to cause vibration and noise.

Model	Center distance tolerance	Coaxiality	Parallelism
SMRV-10C	±0.03	±0.03	±0.03
SMRV-27C	±0.03	±0.03	±0.03
SMRV-50C	±0.03	±0.03	±0.03
SMRV-100C	±0.03	±0.03	±0.03
SMRV-200C	±0.03	±0.03	±0.03
SMRV-260CA	±0.03	±0.03	±0.03
SMRV-320C	±0.03	±0.03	±0.03
SMRV-320CA	±0.03	±0.03	±0.03
SMRV-500C	±0.03	±0.03	±0.03

Remarks:

1) The tolerance in the above table is the maximum allowable tolerance.

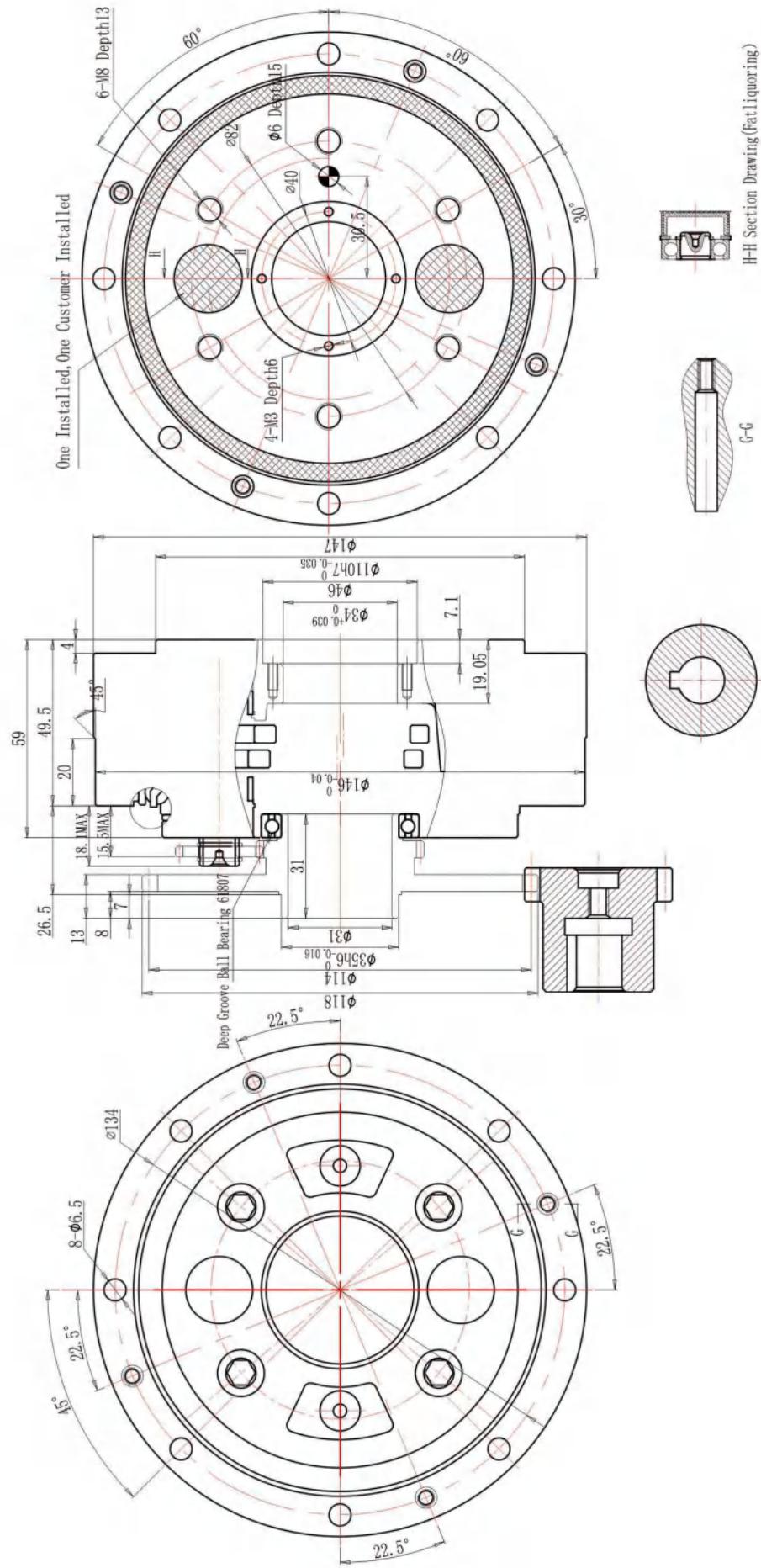
2) Selection of datum for coaxiality tolerance: I. The selected surface must be a smooth grinding cylindrical surface of Ra0.8 without scratch damage. II. Prioritize the position of reference plane: Planet carrier > needle case > other.

Assembly Key Point

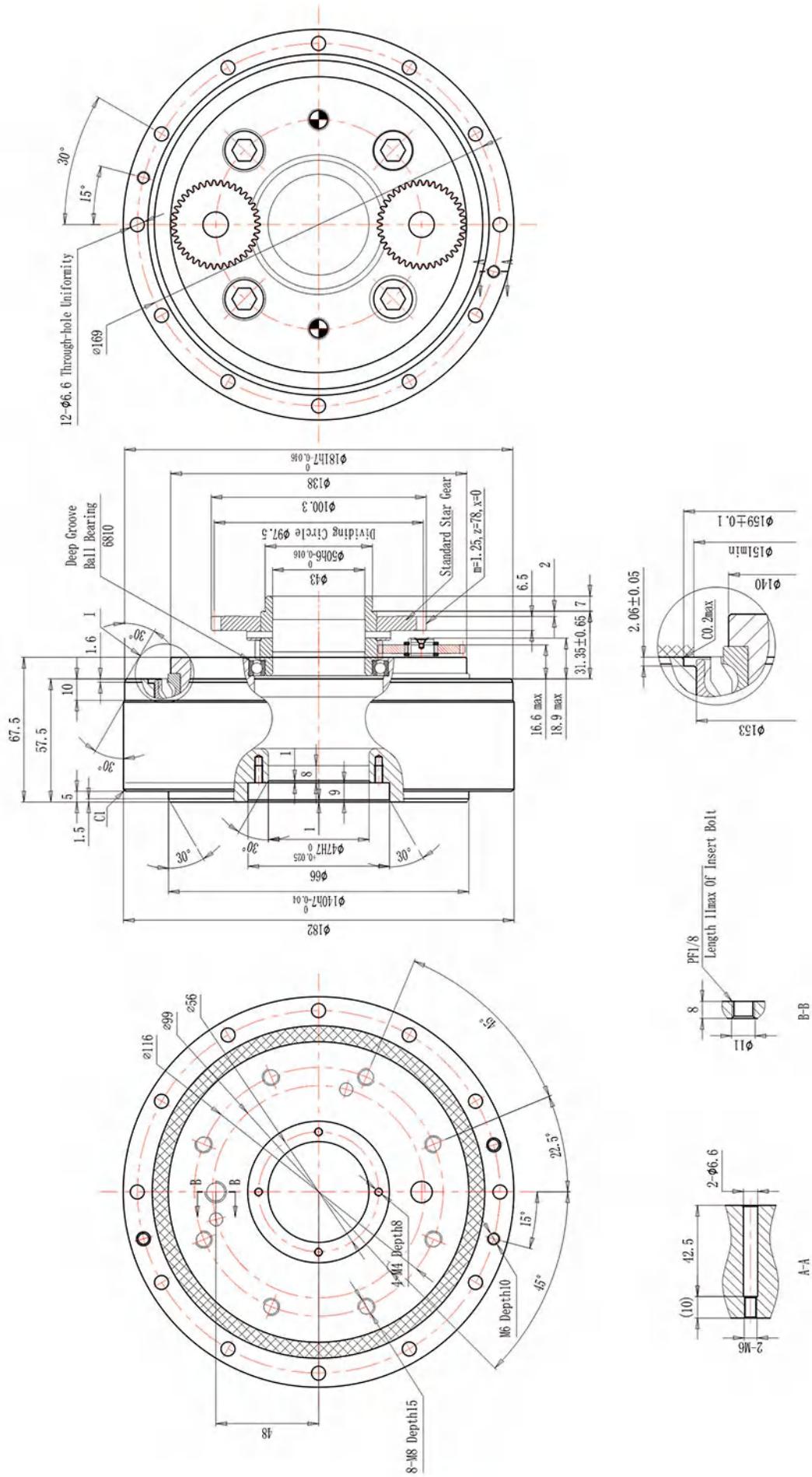
- 1) When assembling, specified amount of grease must be sealed in
- 2) The sealing O-ring position is generally in the cylindrical grinding surface of the needle housing. Please make a reasonable sealing design at this position, otherwise it will affect the service life. The following table is the recommended model and size for O-ring installation.

Model	O Ring			Groove size	
	Nominal number	Line Diameter	Inner Diameter	Outer Diameter	Width
SMRV-10C	CO 0625	Φ2.4±0.07	Φ29.7	Φ30.2	3.2 ^{+0.25} ₀
SMRV-27C	CO 0634	Φ2.4±0.07	Φ42.2	Φ43.2	3.2 ^{+0.25} ₀
SMRV-50C	CO 0643	Φ3.5±0.1	Φ59.6	Φ60.3	4.7 ^{+0.25} ₀
SMRV-100C	S70	Φ2.0±0.1	Φ69.5	Φ70.0	2.7 ^{+0.25} ₀
SMRV-200C	JISB2401G95	Φ3.1±0.1	Φ94.4	Φ95.0	4.1 ^{+0.25} ₀
SMRV-260CA	JISB2401G95	Φ3.1±0.1	Φ94.4	Φ95.0	4.1 ^{+0.25} ₀
SMRV-320C	JISB2401G135	Φ3.1±0.1	Φ134.4	Φ135.0	4.1 ^{+0.25} ₀
SMRV-320CA	JISB2401G135	Φ3.1±0.1	Φ134.4	Φ135.0	4.1 ^{+0.25} ₀
SMRV-500C	JISB2401G145	Φ3.1±0.1	Φ144.4	Φ145.0	4.1 ^{+0.25} ₀

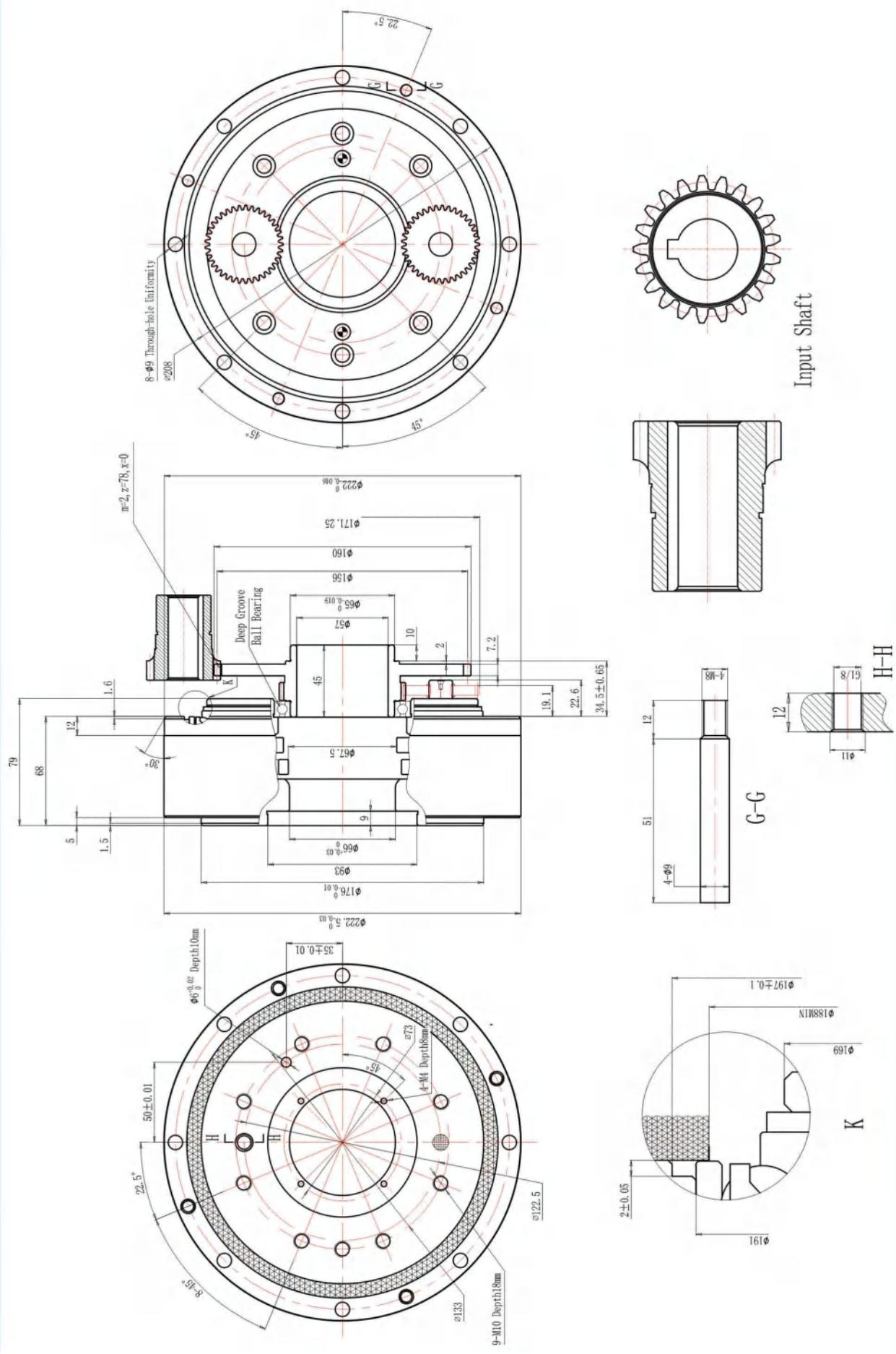
SMRV-10C External Dimension



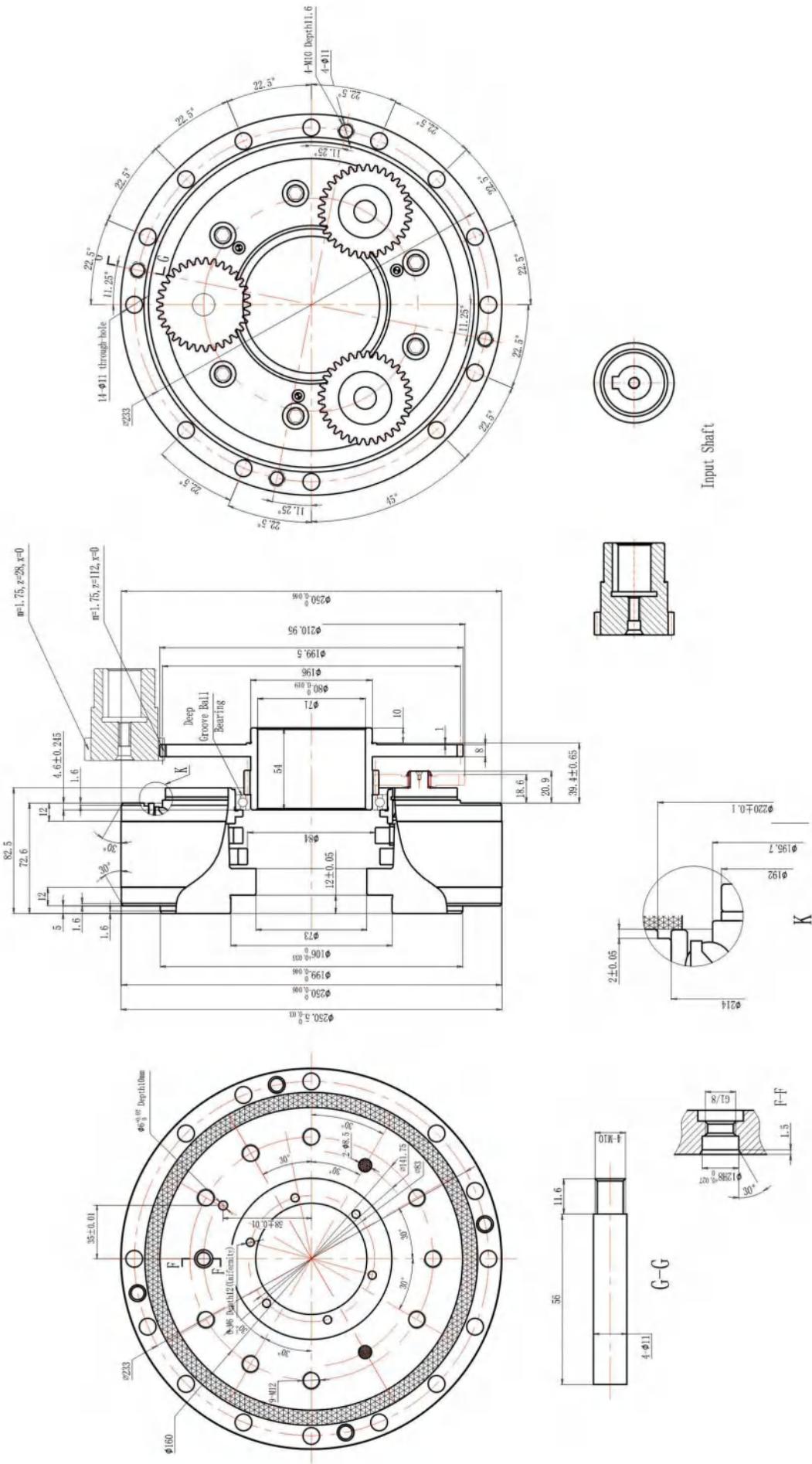
SMRV-27C External Dimension



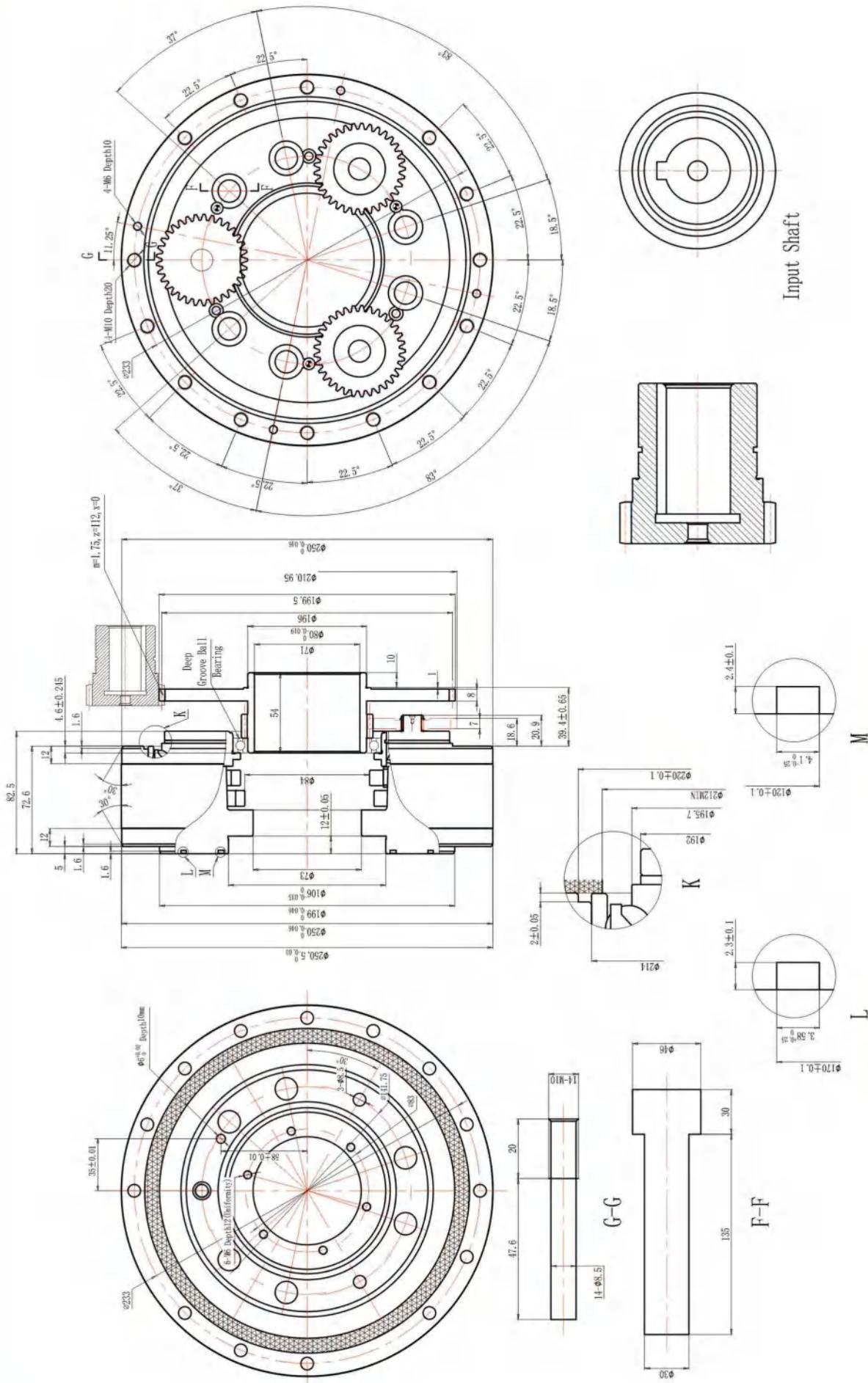
SMRV-50C External Dimension



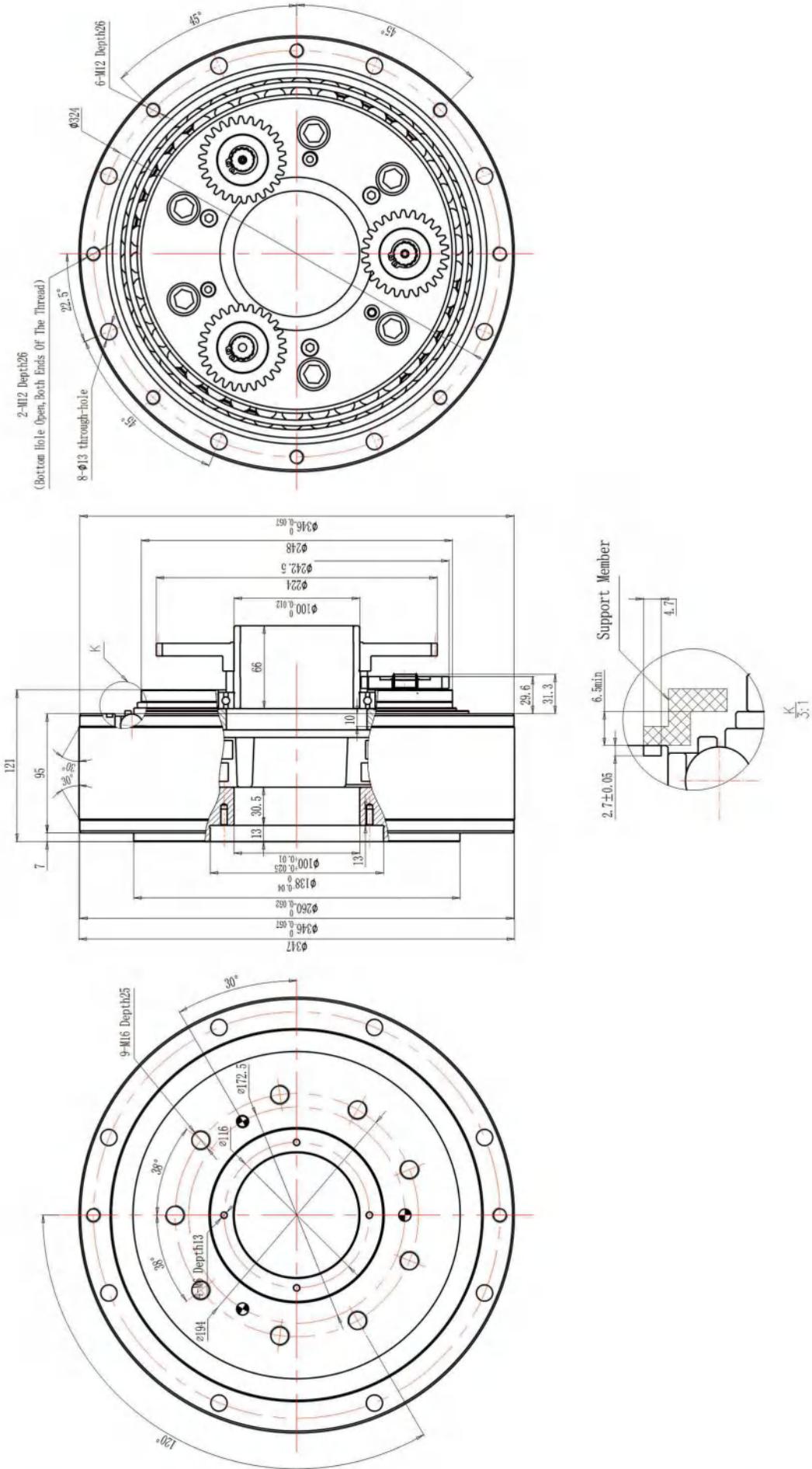
SMRV-100C External Dimension



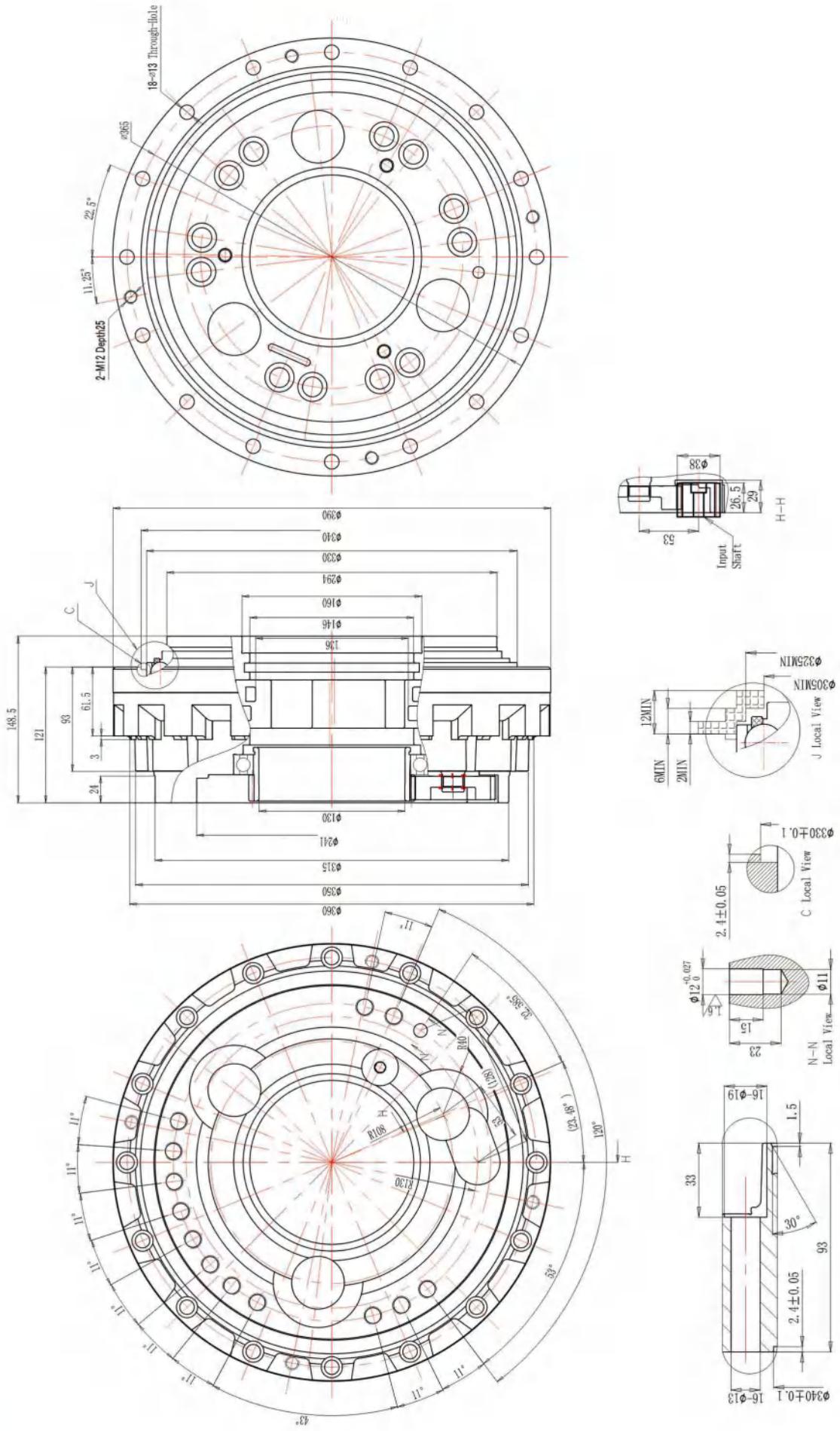
SMRV-120C External Dimension



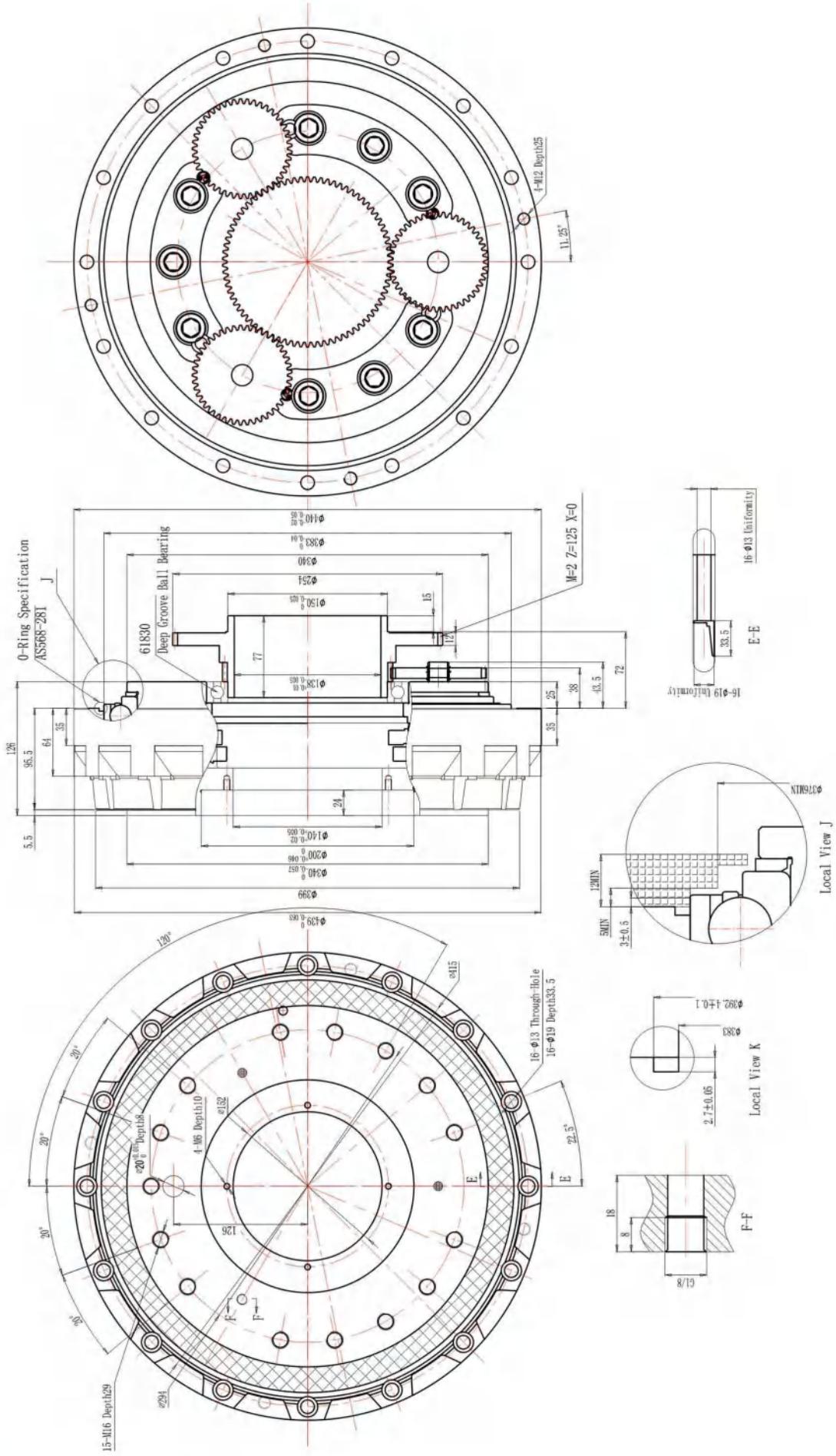
SMRV-200C External Dimension



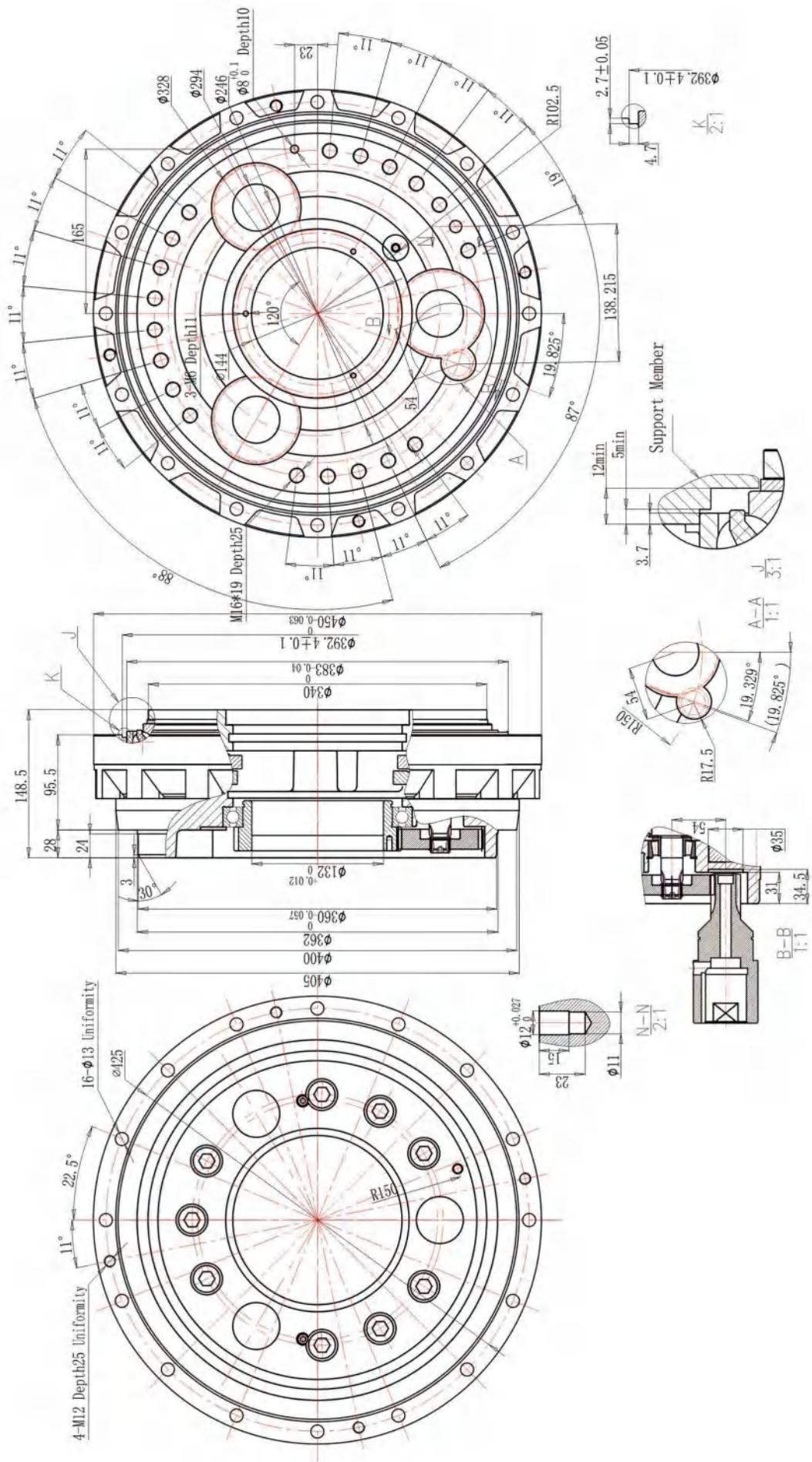
SMRV-260C External Dimension



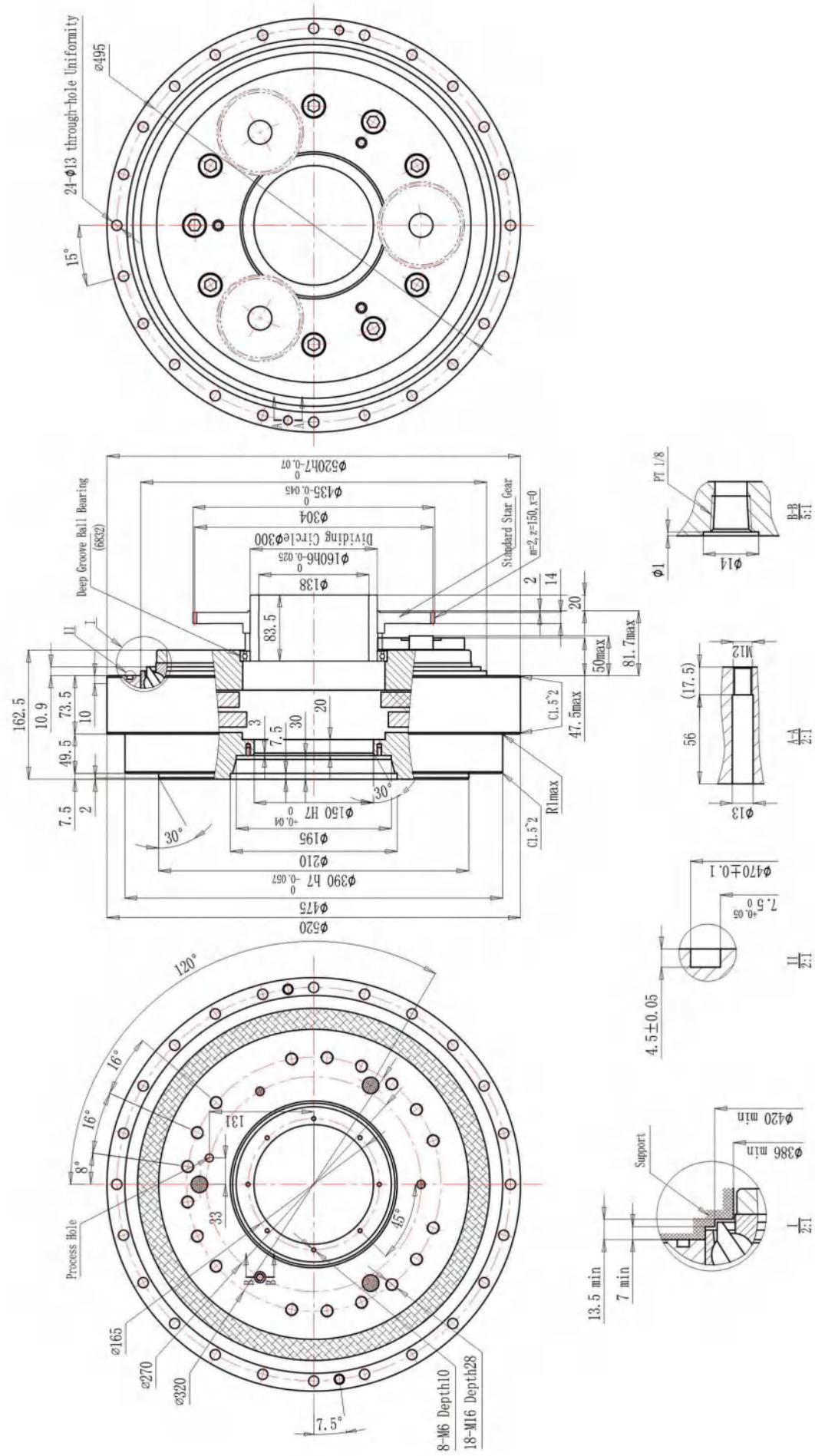
SMRV-320C External Dimension



SMRV-320CA External Dimension

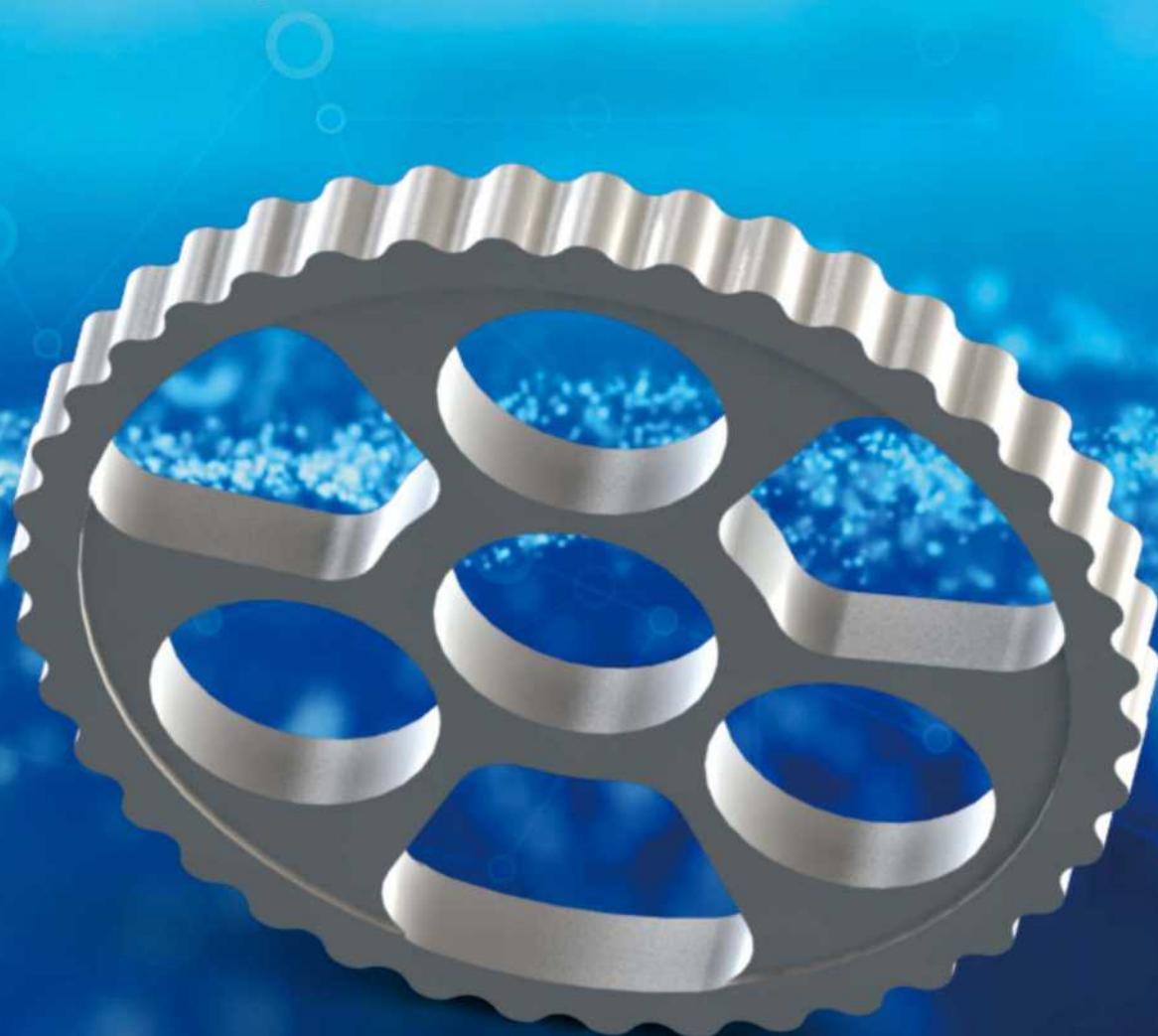


SMRV-500C External Dimension



SMRV-other Series Cycloidal Planetary Gear Reducer

- High rigidity and low vibration
- High efficiency and other excellent characteristics in low-speed operation area
- Able to support large external load
- Unique advantages in life and impact resistance



SMRV-other Series

Cycloidal Planetary Gear Reducer

SMRV- other Series Model Specification

Model	Ratio	Weight	Rated Output Torque	Rated Output Speed	Transmission error	lost motion	back lash	Transfer efficiency	Torsional Rigidity
T155	81	4.8kg	167 N•m	15 r/min	<1 arc.min.	<1 arc.min.	<1 arc.min.	≥75%	392N•m/arc.min.
	119	4.8kg	167 N•m	15 r/min	<1 arc.min.	<1 arc.min.	<1 arc.min.	≥75%	392N•m/arc.min.
	141	4.8kg	167 N•m	15 r/min	<1 arc.min.	<1 arc.min.	<1 arc.min.	≥75%	392N•m/arc.min.
W55	64	75kg	2453 N•m	15 r/min	<1 arc.min.	<1 arc.min.	<1 arc.min.	≥75%	5757N•m/arc.min.



Characteristic

- This series gear reducer adopts the technology of double tooth difference with the advantages of high rigidity, low vibration, high efficiency in low speed operation area, etc. It can support external loads (lower total cost, higher reliability) because of its structural characteristics.

Assembling

Assembly Precision

- Please design the motor and input shaft according to the following accuracy, if the installation accuracy is poor, it is easy to cause vibration and noise

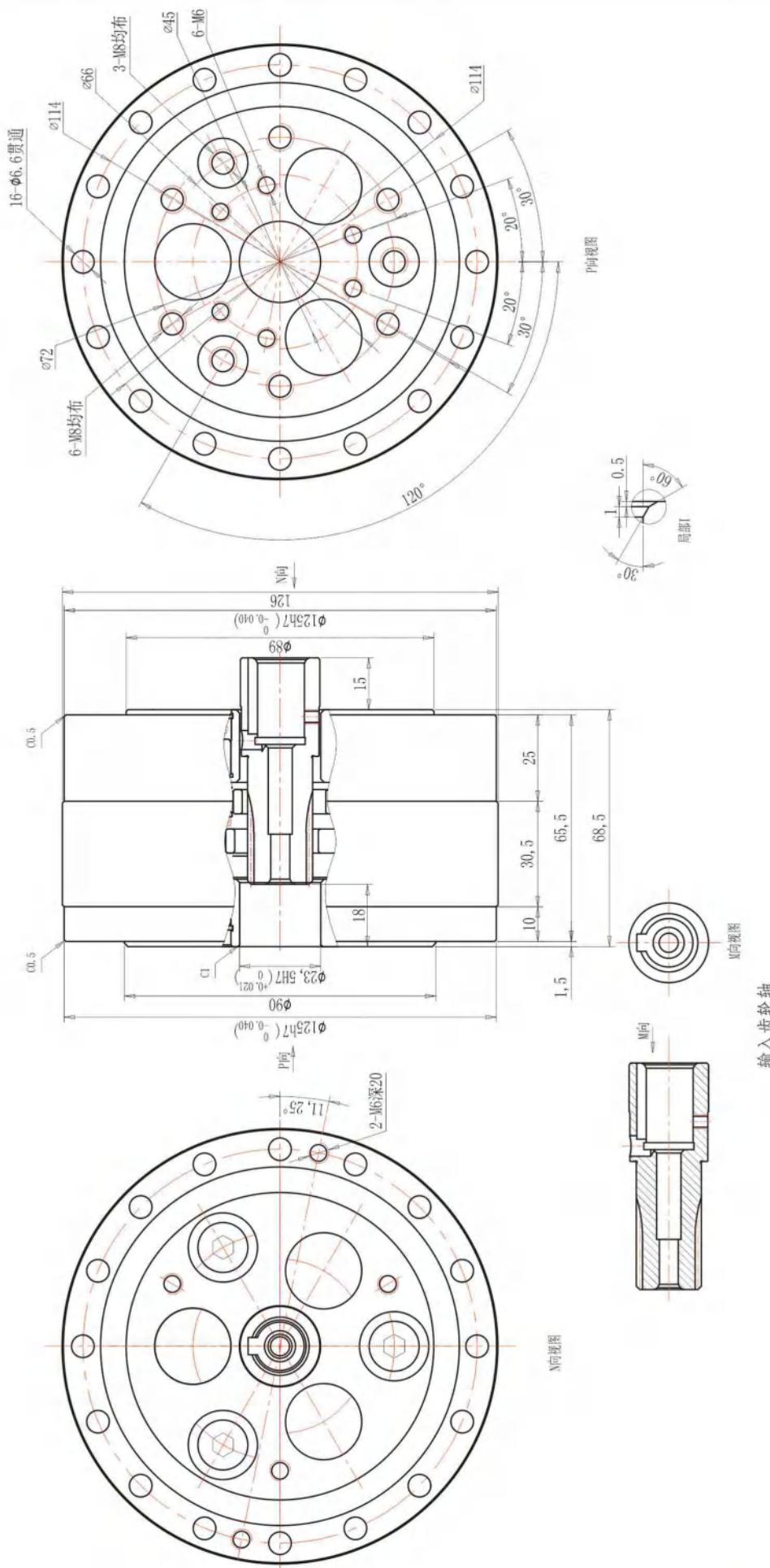
Model	Coaxiality
SMRV-T155	0.03
SMRV-W55	0.03

- Remarks:
 - The tolerance in the above table is the maximum allowable tolerance
 - Selection of datum for coaxiality tolerance:
 - The selected surface must be a smooth grinding cylindrical surface of Ra0.8 without scratch damage
 - Prioritize the position of reference plane. Planet carrier > needle case > other.

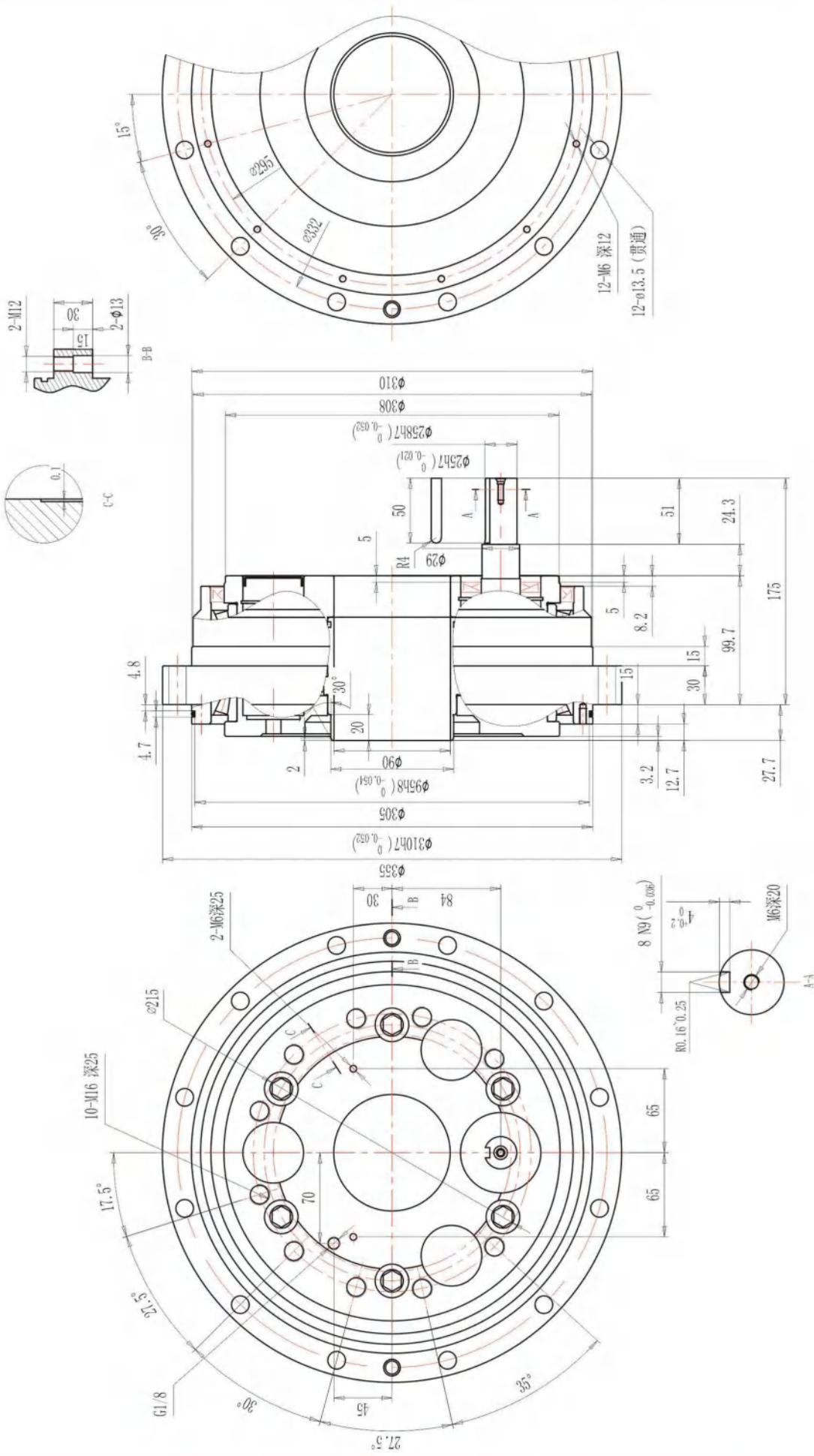
Assembly Key Point

- When assembling please make sure to seal in the specified amount of grease.
- The sealing O-ring position is generally in the cylindrical grinding surface of the needle housing. Please make reasonable sealing design at this position; otherwise it will affect the service life.

SMRV-T155 External Dimension



SMRV-W55 External Dimension



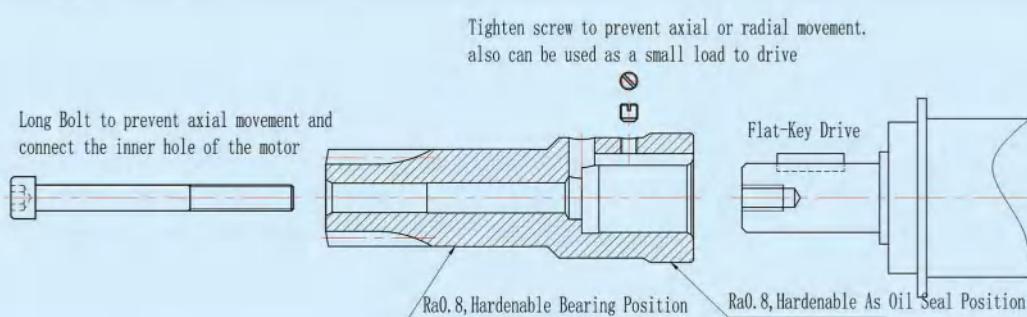
Installation and maintenance

Install the input shaft (gear)

The input shaft (gear) is the input structure from the motor to the reducer. The customer can design the input end butt joint shape of the input shaft according to the size of the input motor whereas the complete design will be followed up by the company's technical team. The installation examples of the input shaft (gear) of the reducer and the motor shaft with different shapes are as follows. Please refer to the relevant design and requirements for completing the input shaft.

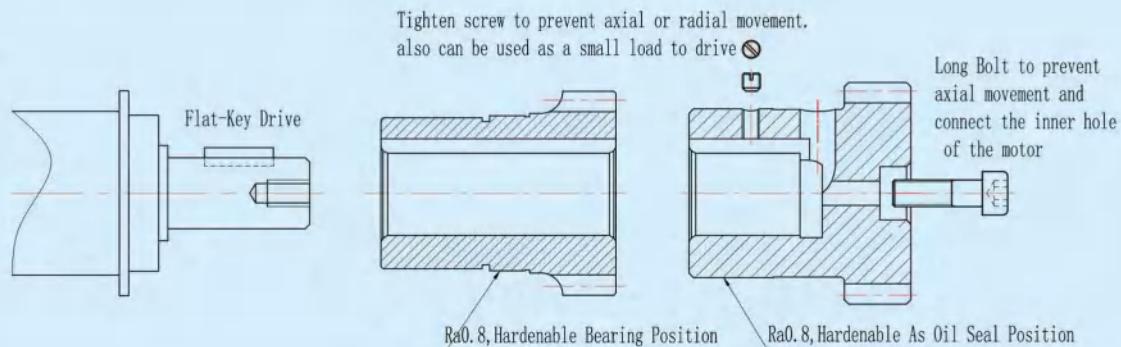
► SMRV-E Series

The E Series input is generally the central input gear shaft input mode. The input shaft and input gear are integrally formed with high precision and compact structure. The design of oil seal position and bearing position can also be increased to improve the operating efficiency. The general form of the input gear shaft is as follows:



► SMRV-C Series

Generally the C series input form is the first stage deceleration input of the double teeth, and the input shaft does not need to pass through the gear reducer. However it needs high requirements for the center distance and parallelism with the double teeth to mesh with the double teeth gear plate. The general form of the input gear shaft is as follows:



Installation and maintenance

Lubrication

- In order to achieve full performance and guarantee usage life, all gear reducers must be reasonably sealed with assigned lubricating grease. It is also recommended using oil seal design in structure.
- It is recommended to use the lubricating grease MolywhiteRE00 manufactured by Nebtesco. Please do not mix with other different brand. The temperature range is - 10 °C ~ 40 °C.
- The lubricating parts of the gear reducer include planetary gear, cycloidal gear pin gear, eccentric shaft and planetary carrier bearing. Please design the oil filling hole and oil drain hole at reasonable position for maintenance.
- The grease injection of gear reducer should match the reducer cavity and the injection volume should refer to following table:

Horizontal installation

Model	SMRV-20E	SMRV-35E	SMRV-40E	SMRV-65E	SMRV-80E	SMRV-110E	SMRV-160E	SMRV-320E	SMRV-450E	SMRV-700F
Oil injection quantity(g)	78	78	176	176	345	389	567	936	1436	2170
Model	SMRV-10C	SMRV-27C	SMRV-50C	SMRV-100C	SMRV-120C	SMRV-200C	SMRV-260CA	SMRV-320C	SMRV-320CA	SMRV-500C
Oil injection quantity(g)	132	239	448	680	680	1648	2587	3182	3182	5341
Model	SMRV-T155	SMRV-W55								
Oil injection quantity(g)	60	3451								

Vertical installation

Model	SMRV-20E	SMRV-35E	SMRV-40E	SMRV-65E	SMRV-80E	SMRV-110E	SMRV-160E	SMRV-320E	SMRV-450E	SMRV-700F
Oil injection quantity(g)	90	90	202	202	395	446	625	1074	1648	2520
Model	SMRV-10C	SMRV-27C	SMRV-50C	SMRV-100C	SMRV-120C	SMRV-200C	SMRV-260CA	SMRV-320C	SMRV-320CA	SMRV-500C
Oil injection quantity(g)	150	275	514	771	771	1868	2821	3642	3642	6210
Model	SMRV-T155	SMRV-W55								
Oil injection quantity(g)	80	3624								

Order confirmation form

Customer Name:

Customer Address:

Contact information:

Model selection:

1.If the model has been selected, Please do not fill in

A Type of Input Shaft Installation

Output input coaxial Output input parallel

B Rated output torque:

C speed ratio requirements:

2.If the rated output torque is known, Please do not fill in

A.Maximum output torque:

B.Stable output torque:

C.Maximum output speed:

D.Stable Working Output Speed:

3.If the speed ratio is known, Please do not fill in

A.Power of motor:

B.Rated speed:

4.Input shaft dimensions (Please fill in the following dimensions if appropriate, preferably with drawings or contact us)

A.Total Length:

B.External diameter of motor end input shaft:

C.Inner diameter of motor end input shaft:

D.Motor end input shaft inner hole length:

E.Motor end input shaft keyway specification:

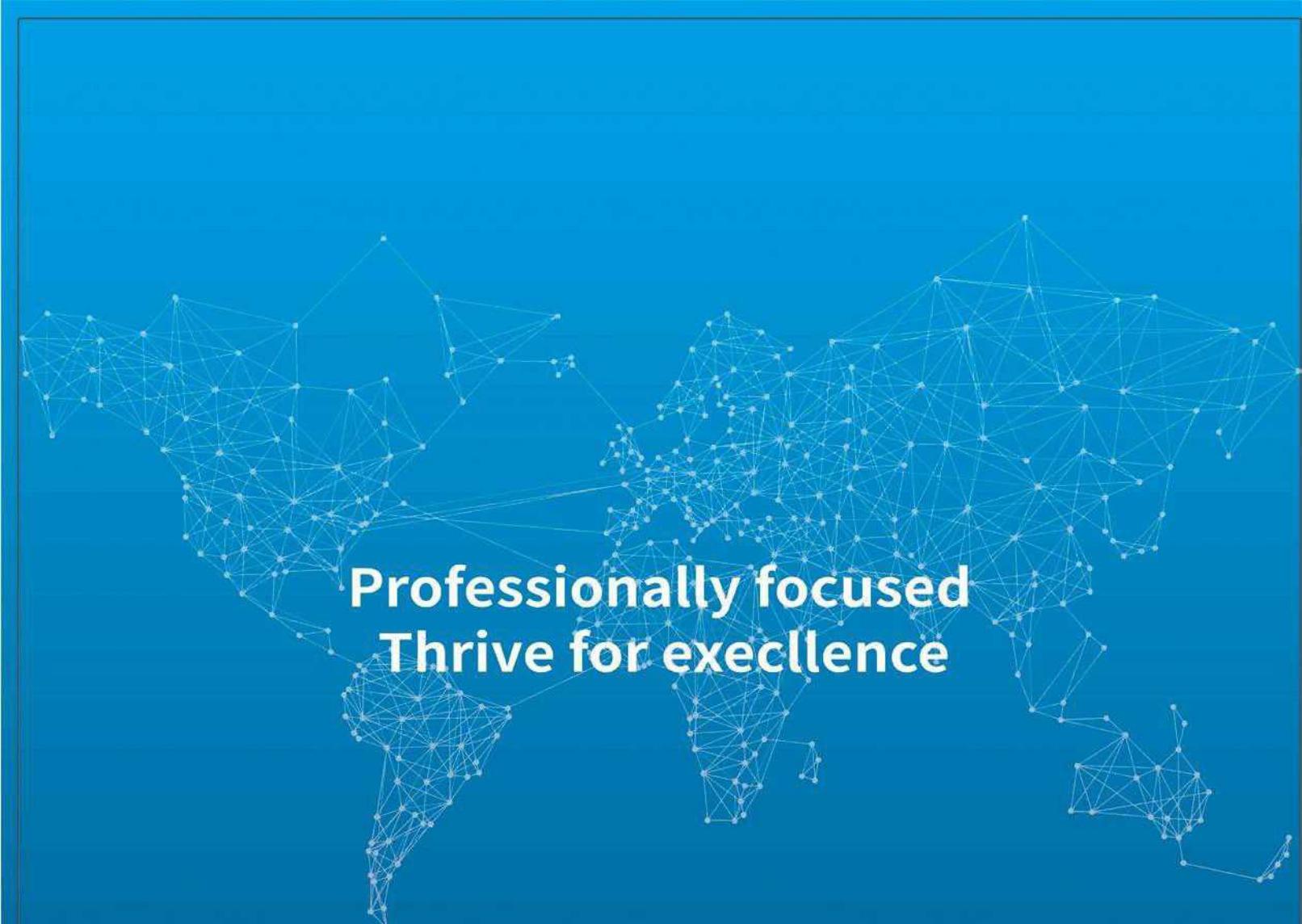
F.Motor shaft end thread hole specification:

G.If need for a fixed screw: No Yes

(Distance from input end surface of motor × Screw thread specification)

H.Oil seal position dimension (Distance from input end surface of motor × Diameter × width,):

I.Bearing position dimension (Distance from input end surface of motor × Diameter × width):



**Professionally focused
Thrive for excellence**

Shanghai Goldgun M&E Hi-tech Co., Ltd

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