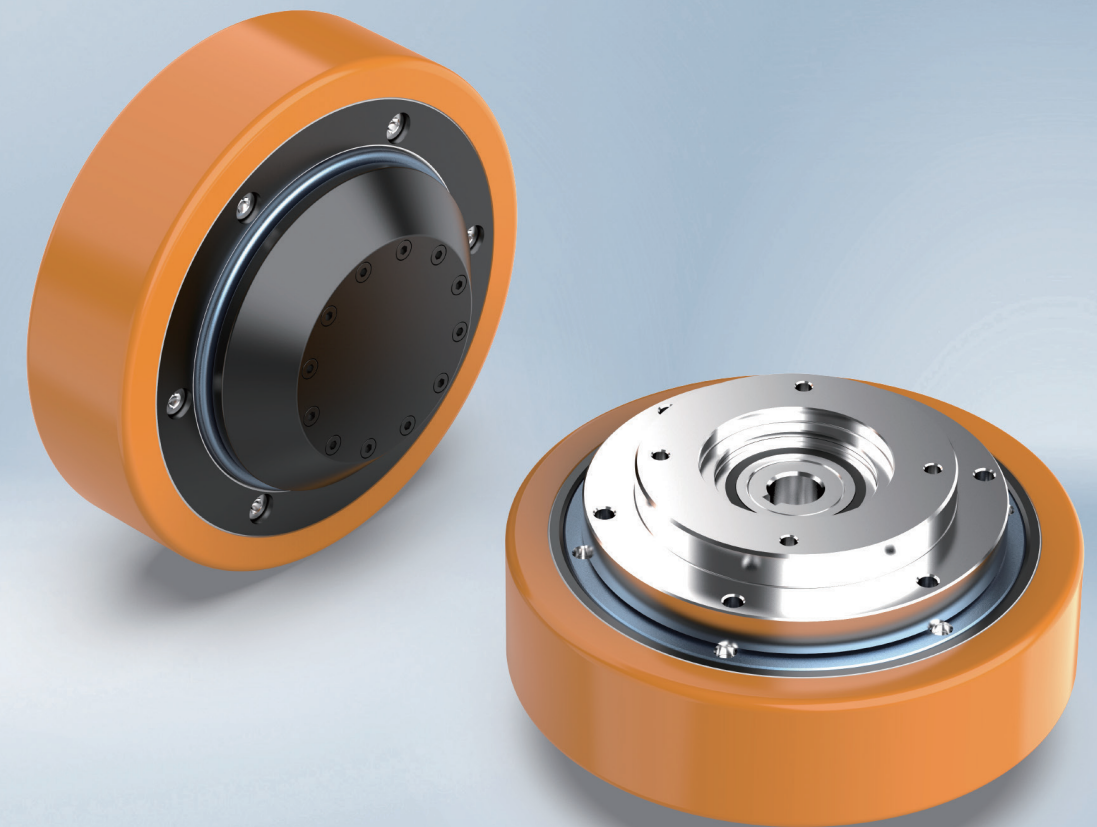


## WGV PLANETARY REDUCER FOR WHEEL HUB



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### WANSHSIN SEIKOU (HUNAN) CO., LTD

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Changsha City, Hunan Province, China 410600  
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## WANSHSIN Seikou(Hunan)Co., Ltd.

WANSHSIN is a professional gearbox, gear motor and inverter manufacturer and intelligent automation complete solution provider, integrating R&D, production, sales and service. The products cover the light and heavy industry, are widely used in new energy, robots, automobile manufacturing, warehousing, logistics, food industry and other industries. WANSHSIN has gradually become a reliable long-term partner of those leading enterprises of relevant industries.

### Enterprise Honor

| 2019                                                                          | 2020                                                                                                                                                                                                                                   | 2022                                                                                                                                                                       |
|-------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"><li>National high-tech enterprise</li></ul> | <ul style="list-style-type: none"><li>Ministry of Industry and Information Technology of the People's Republic of China "specialized, special and new" key small giant enterprise</li><li>Hunan Enterprise Technology Center</li></ul> | <ul style="list-style-type: none"><li>2022 Hunan Reducer Engineering Technology Research Center</li><li>2022 The 2nd Ningxiang Mayor Quality Award(Organization)</li></ul> |

## Product Advantages of WGV Planetary Reducer for Wheel Hub

### Direct Installation

With the installation interface, the reducer can be installed directly on the vehicle without requiring an additional adapters.

### Save Installation Space

The reducer is almost entirely enclosed by the wheel hub. Thus, it requires less installation space inside the vehicle

### High Load-bearing Capacity

Two large-sized deep groove ball bearings can withstand high radial forces while ensuring low operating resistance and higher efficiency.

### High Positioning Accuracy

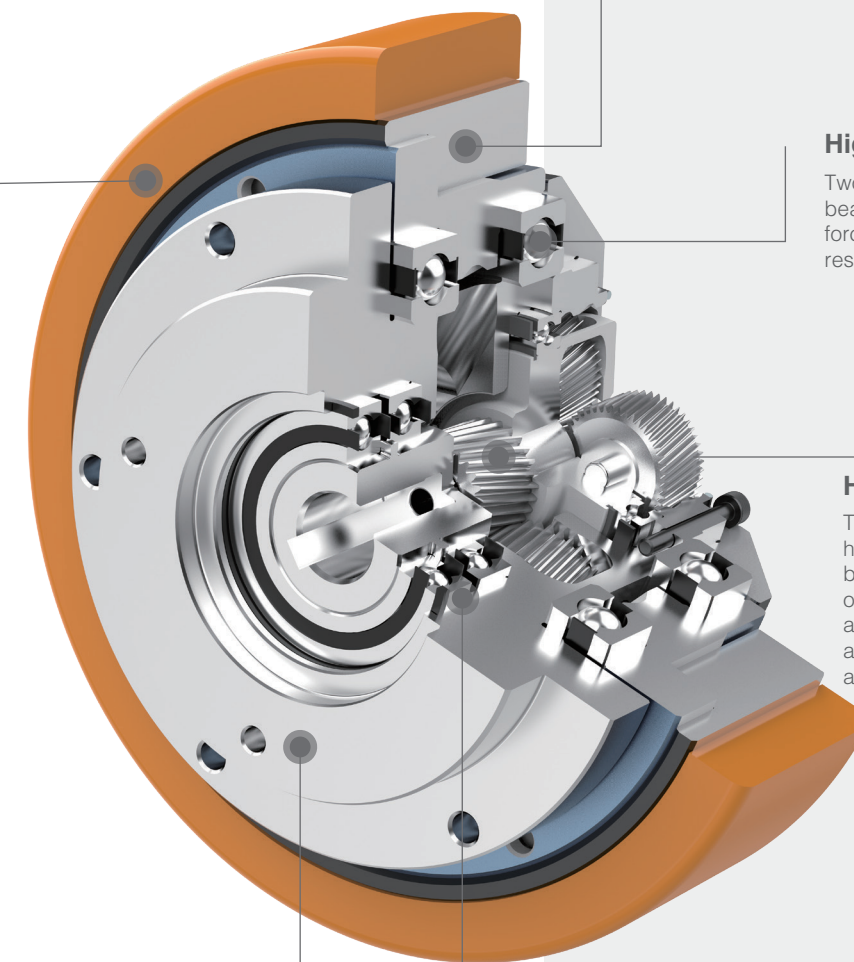
The product features a high-precision helical gear design, which reduces backlash and noise, enhances gear overload capacity, enabling more accurate positioning of the AGV operations, along with improves reliability and adaptability

### Adapted to Various Motors

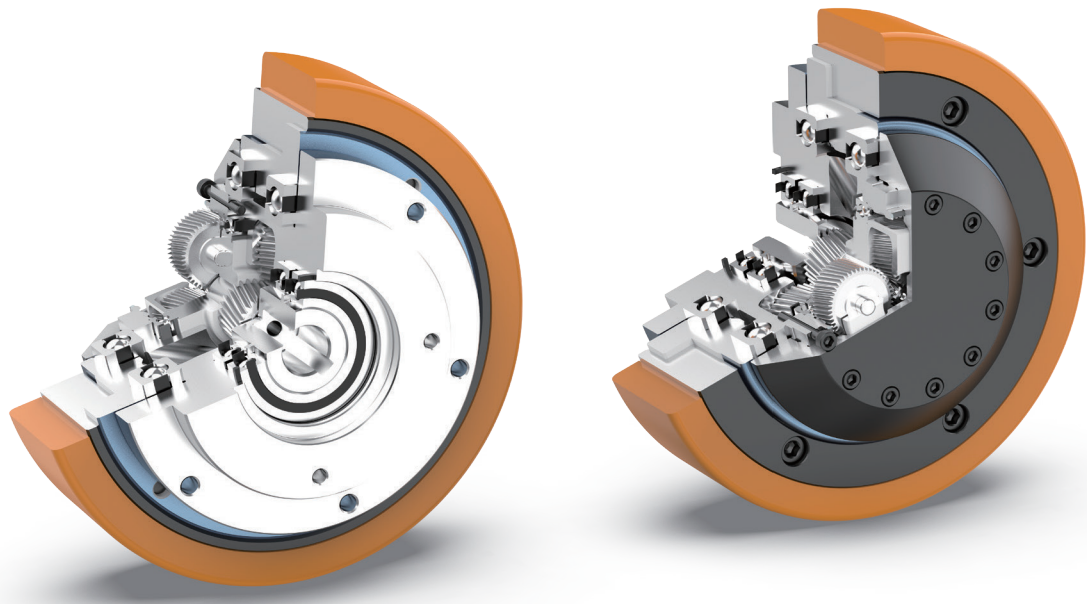
With various motor adapters, it can be assembled with almost any type of motor and even directly installed onto the motor.

### Highly Efficient & Reliable

With highly efficient and permanent lubrication, thus it requires no maintenance and remains extremely reliable even during continuous operation.



# Technical Parameters of WGV Planetary Reducer for Wheel Hub



| Specification         | Unit               | Stage | Ratio | WGV100 | WGV115 | WGV135 | WGV160 |
|-----------------------|--------------------|-------|-------|--------|--------|--------|--------|
| Rotational Inertia J1 | kg.cm <sup>2</sup> | 1     | 2     | 0.16   | 0.61   | 3.25   | 12.3   |
|                       |                    |       | 3     | 0.14   | 0.48   | 2.74   | 7.5    |
|                       |                    |       | 4     | 0.13   | 0.47   | 2.71   | 7.4    |
|                       |                    |       | 5     | 0.13   | 0.45   | 2.62   | 7.2    |
|                       |                    |       | 6     | 0.13   | 0.45   | 2.62   | 7.2    |
|                       |                    |       | 7     | 0.13   | 0.4    | 2.5    | 6.8    |
|                       |                    |       | 9     | 0.13   | 0.4    | 2.5    | 6.8    |
|                       |                    | 2     | 14    | 0.1    | 0.2    | 1.6    | 2      |
|                       |                    |       | 16    | 0.08   | 0.18   | 1.3    | 1.7    |
|                       |                    |       | 18*   | 0.09   | 0.19   | 1.4    | 1.8    |
|                       |                    |       | 20    | 0.08   | 0.18   | 1.3    | 1.7    |
|                       |                    |       | 21    | 0.09   | 0.19   | 1.4    | 1.8    |
|                       |                    |       | 24    | 0.08   | 0.18   | 1.3    | 1.7    |
|                       |                    |       | 28    | 0.09   | 0.19   | 1.4    | 1.8    |
|                       |                    |       | 30    | 0.08   | 0.18   | 1.3    | 1.7    |
|                       |                    |       | 32    | 0.08   | 0.18   | 1.3    | 1.7    |
|                       |                    |       | 40    | 0.08   | 0.18   | 1.3    | 1.7    |

| Specification                             | Unit   | Stage | Ratio                        | WGV100      | WGV115 | WGV135 | WGV160 |
|-------------------------------------------|--------|-------|------------------------------|-------------|--------|--------|--------|
| Rated Output Torque T2N <sup>(b)</sup>    | Nm     | 1     | 2                            | 75          | 90     | 135    | 250    |
|                                           |        |       | 3                            | 90          | 115    | 200    | 400    |
|                                           |        |       | 4                            | 95          | 115    | 200    | 520    |
|                                           |        |       | 5                            | 90          | 110    | 200    | 480    |
|                                           |        |       | 6                            | 90          | 110    | 200    | 430    |
|                                           |        |       | 7                            | 75          | 85     | 150    | 400    |
|                                           |        |       | 9                            | 75          | 85     | 150    | 340    |
|                                           |        | 2     | 14                           | 75          | 100    | 150    | 250    |
|                                           |        |       | 16                           | 75          | 100    | 150    | 220    |
|                                           |        |       | 18*                          | 90          | 115    | 240    | 450    |
|                                           |        |       | 20                           | 70          | 70     | 150    | 180    |
|                                           |        |       | 21                           | 90          | 115    | 240    | 420    |
|                                           |        |       | 24                           | 90          | 115    | 240    | 330    |
|                                           |        |       | 28                           | 95          | 125    | 260    | 520    |
|                                           |        |       | 30                           | 90          | 105    | 240    | 270    |
|                                           |        |       | 32                           | 95          | 125    | 260    | 440    |
|                                           |        | 40    | 95                           | 125         | 260    | 360    |        |
| Rated Input Speed n1N <sup>(a)</sup>      | rpm    | 1     | 2 ~ 9                        | 3000        | 3000   | 3000   | 3000   |
|                                           |        | 2     | 14 ~ 40                      | 4000        | 4000   | 4000   | 4000   |
| Max Input Speed n1B <sup>(a)</sup>        | rpm    | 1     | 2 ~ 9                        | 5000        | 5000   | 5000   | 5000   |
|                                           |        | 2     | 14 ~ 40                      | 6000        | 6000   | 6000   | 6000   |
| Standard Backlash P2                      | arcmin | 1     | 2 ~ 9                        | ≤5          | ≤5     | ≤5     | ≤5     |
|                                           |        | 2     | 14 ~ 40                      | ≤8          | ≤8     | ≤8     | ≤8     |
| Weight                                    | kg     | 1     | 2 ~ 9                        | 4.5         | 7.5    | 11     | 15     |
|                                           |        | 2     | 14 ~ 40                      | 5.5         | 9      | 13.5   | 18     |
| Efficiency                                | %      | 1     | 2 ~ 9                        | ≥95         |        |        |        |
|                                           |        | 2     | 14 ~ 40                      | ≥93         |        |        |        |
| Allowable Radial Force F2R <sup>(b)</sup> | N      | 1-2   | 2 ~ 40                       | 4000        | 8000   | 10000  | 13000  |
| Emergency Stop Torque T2NOT               | Nm     | 1-2   | 2 ~ 40                       | 2 Times T2N |        |        |        |
| Service Life                              | h      | 1-2   | 2 ~ 40                       | 20000       |        |        |        |
| Operating Temperature                     | ℃      | 1-2   | 2 ~ 40                       | -20℃ ~ 90℃  |        |        |        |
| Protection Class                          | /      | 1-2   | 2 ~ 40                       | IP64        |        |        |        |
| Lubrication                               | /      | /     | Synthetic Lubricating Grease |             |        |        |        |
| Noise <sup>(c)</sup>                      | dB(A)  | /     | /                            | ≤58         | ≤60    | ≤63    | ≤65    |
| Mounting Position                         | /      | /     | In Any Direction             |             |        |        |        |

a. When the ambient temperature exceeds 20°C, it is recommended to appropriately reduce the speed for use.

b. When the output speed exceeds 100 rpm, it is recommended to appropriately reduce the load and output torque for use.

c. The noise is measured at 1 meter away with no load and an input speed of 3000 rpm.

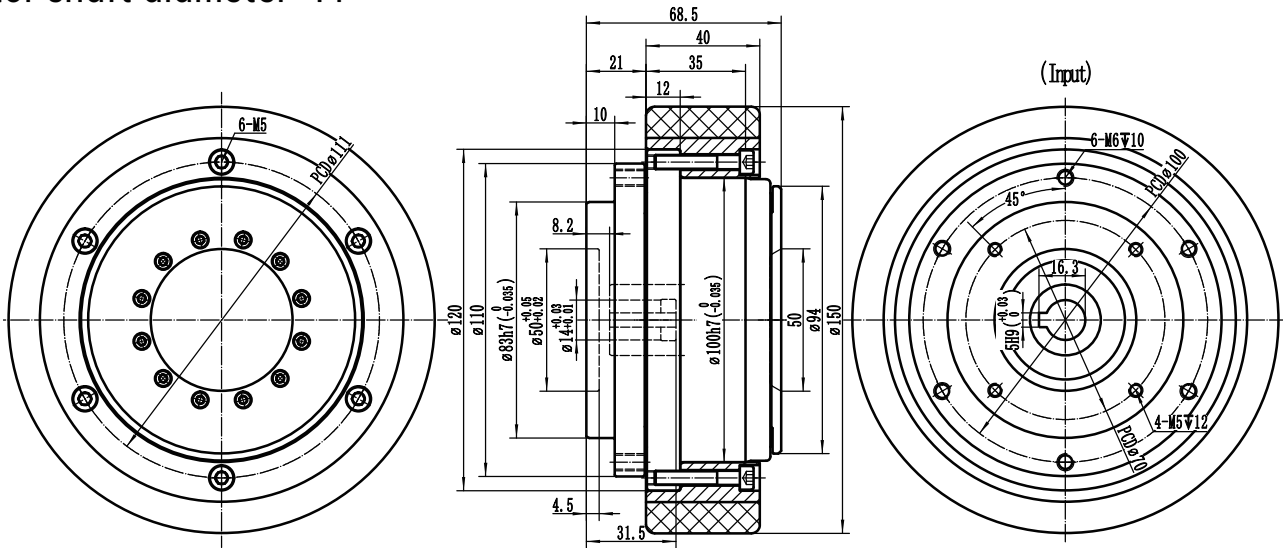
◆ 18 ratio is not recommended for selection.

◆ The input rotation direction of the drive wheel is opposite to the output rotation direction.

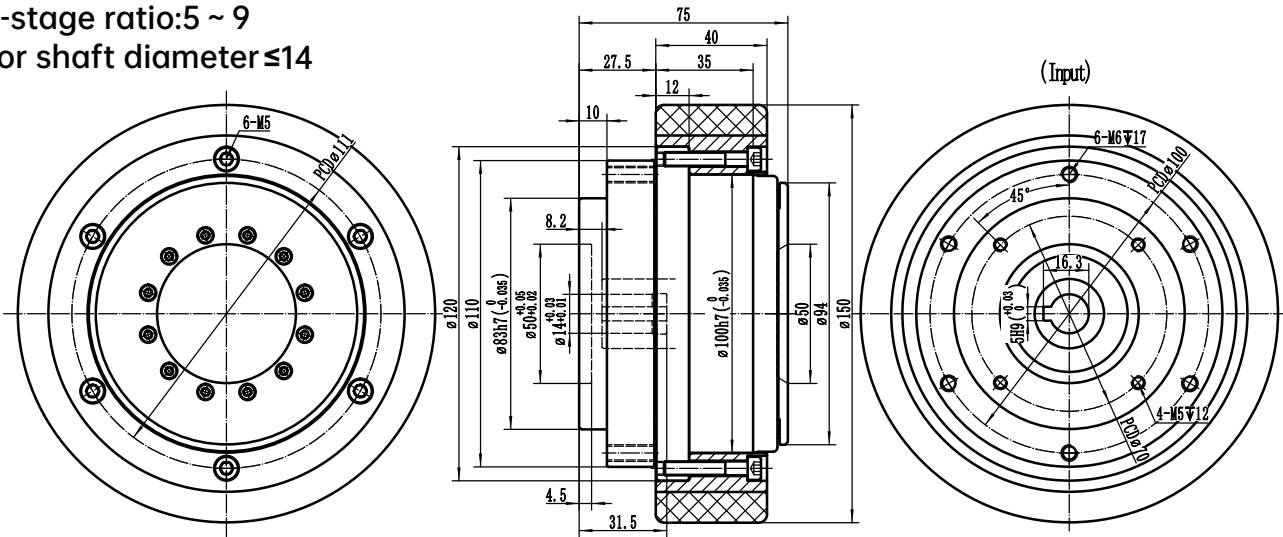
◆ Wheel material: yellow-orange polyurethane, hardness A90±2. For other requirements, please contact the factory.

# WGV100 Outline Drawing

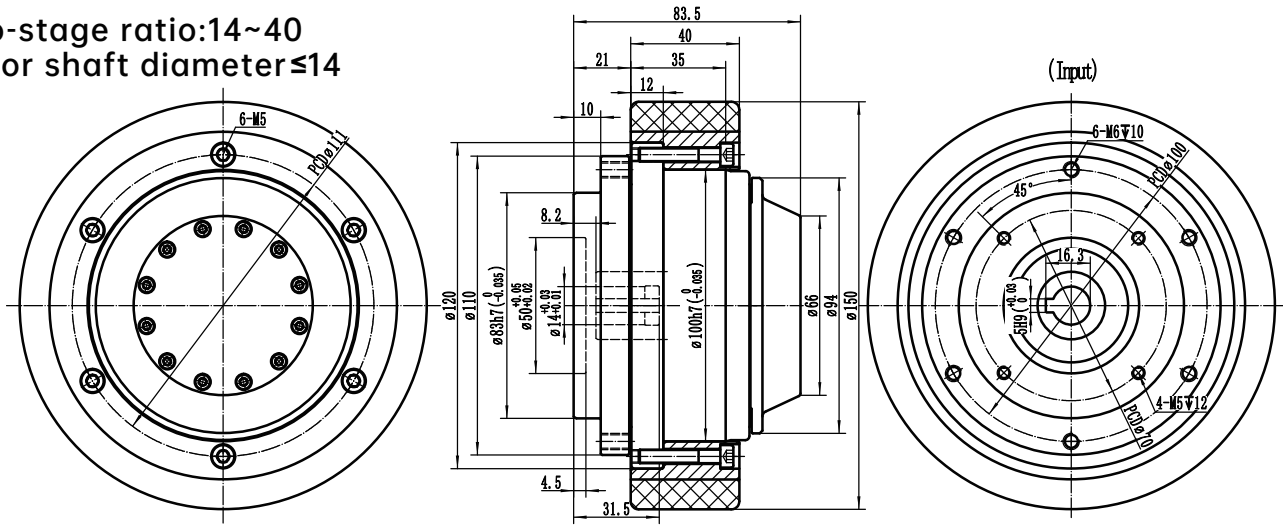
One-stage ratio:2 ~ 4  
Motor shaft diameter≤14



One-stage ratio:5 ~ 9  
Motor shaft diameter≤14

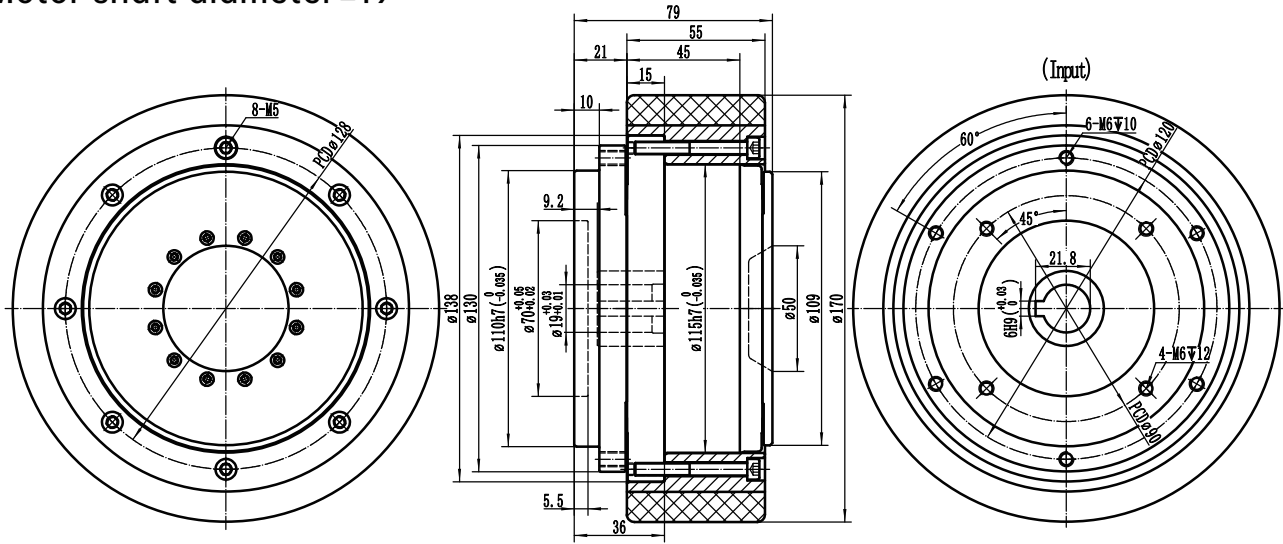


Two-stage ratio:14~40  
Motor shaft diameter≤14

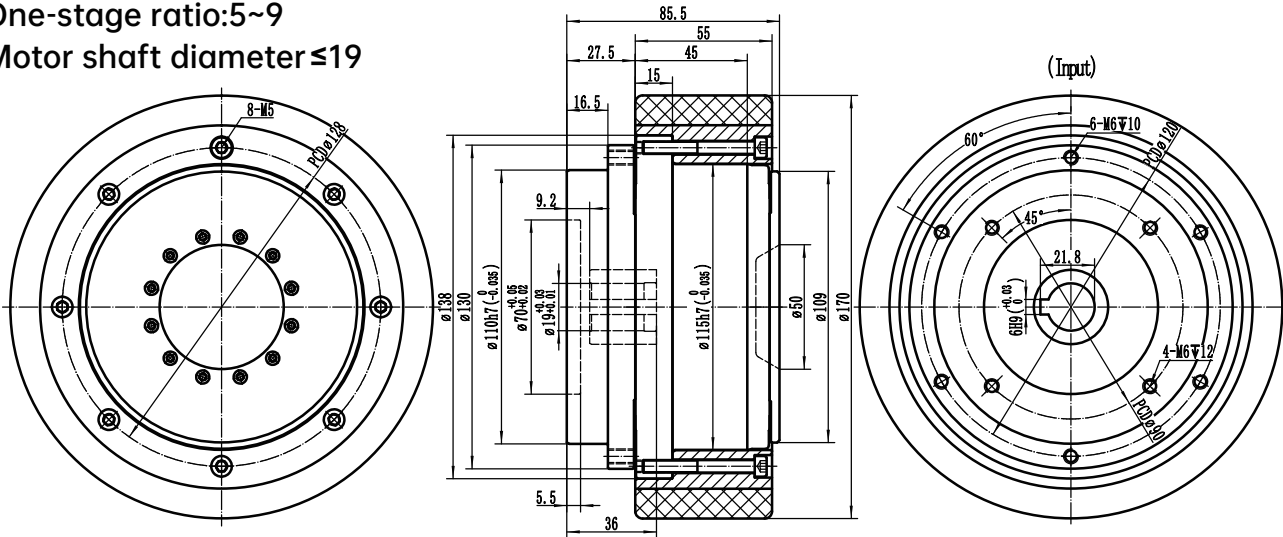


# WGV115 Outline Drawing

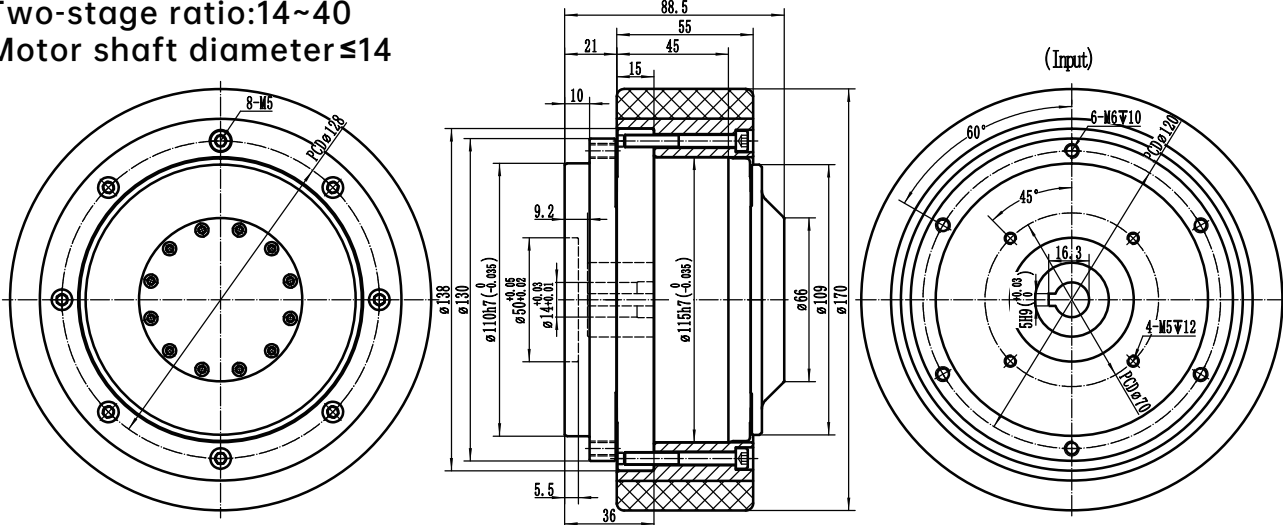
One-stage ratio:2~4  
Motor shaft diameter≤19



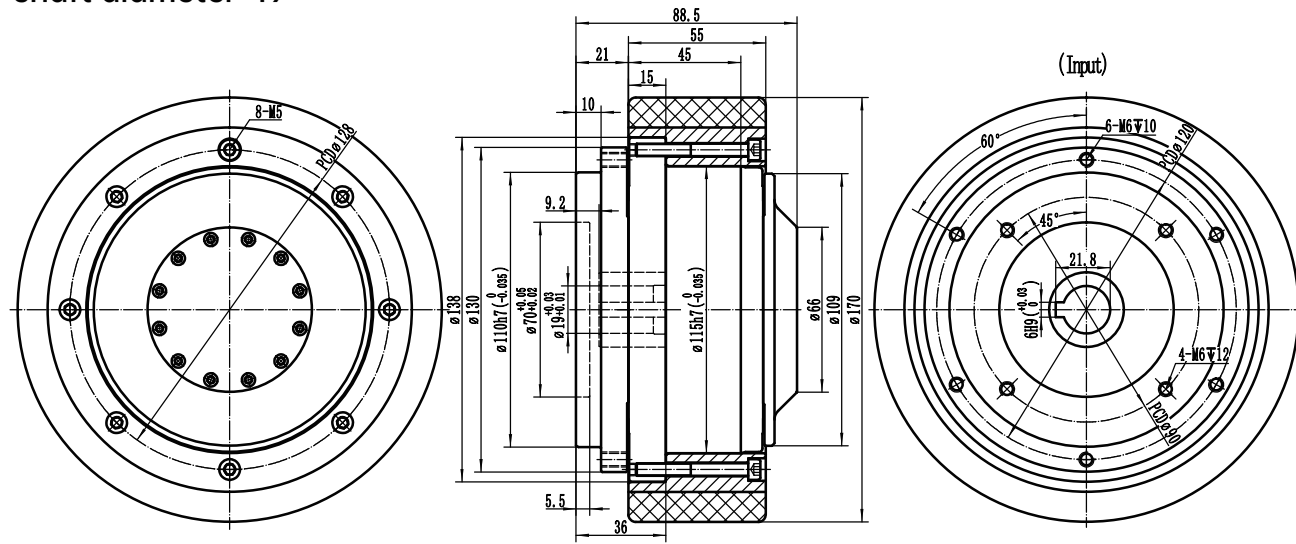
One-stage ratio:5~9  
Motor shaft diameter≤19



Two-stage ratio:14~40  
Motor shaft diameter≤14

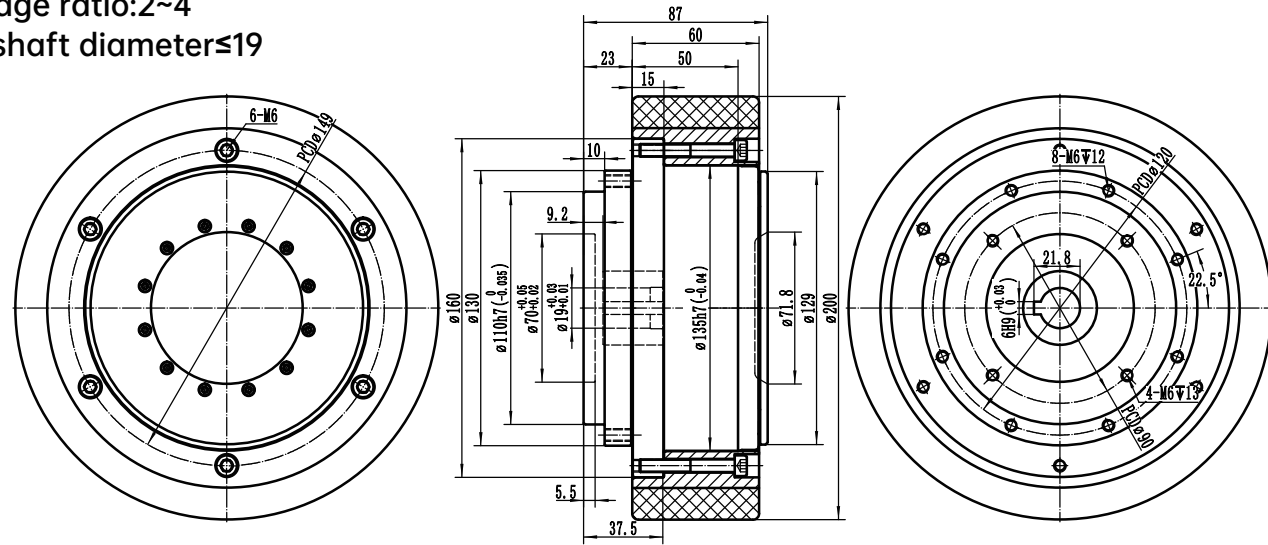


Two-stage ratio:14~40  
Motor shaft diameter≤19

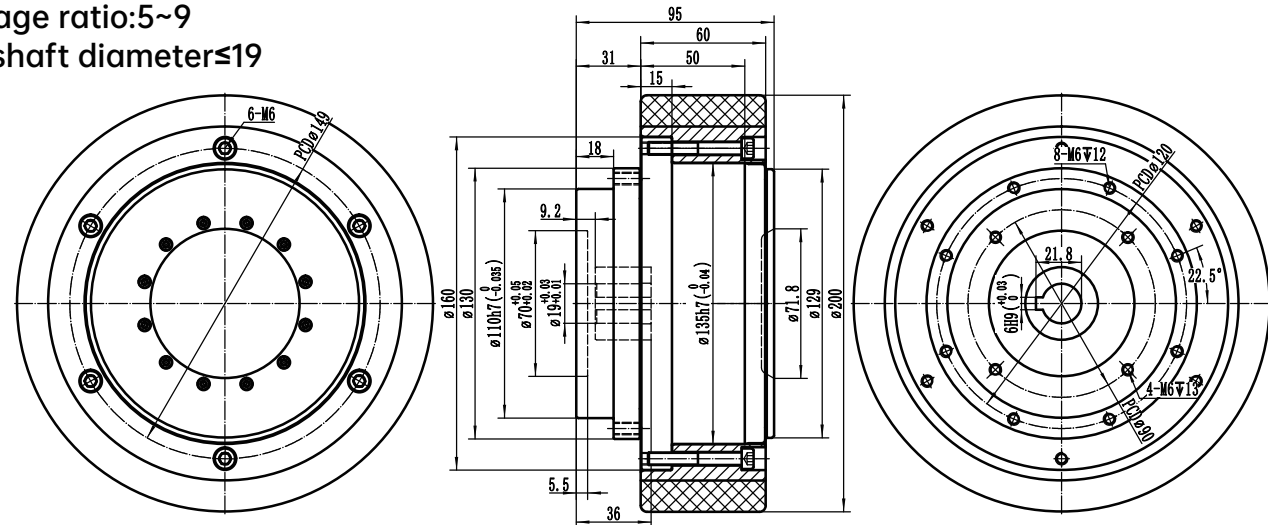


# WGV135 Outline Drawing

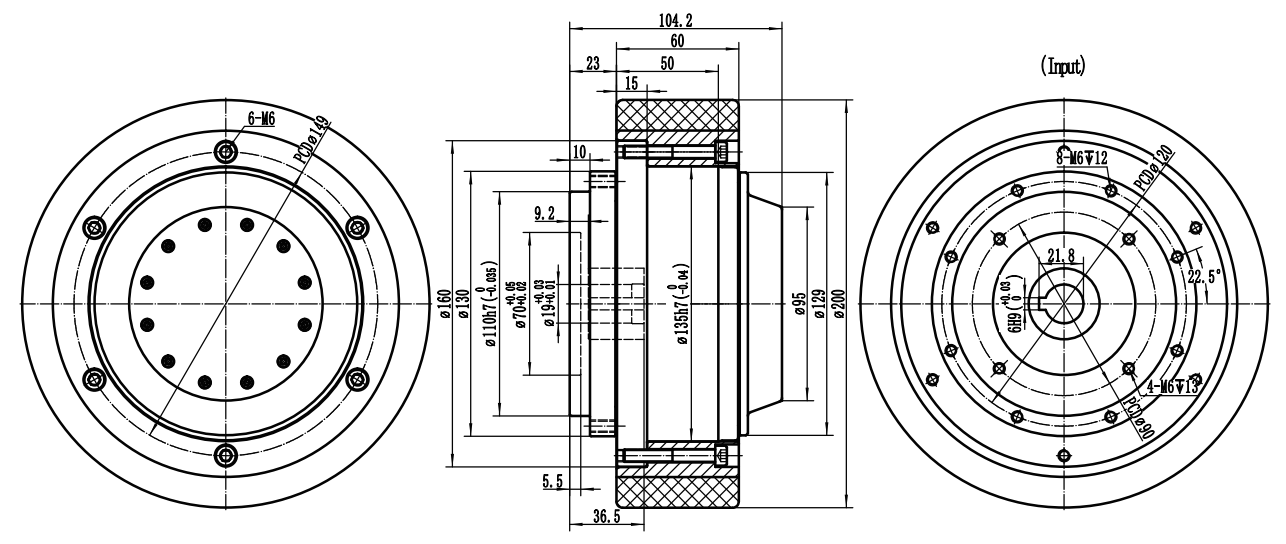
One-stage ratio:2~4  
Motor shaft diameter≤19



One-stage ratio:5~9  
Motor shaft diameter≤19

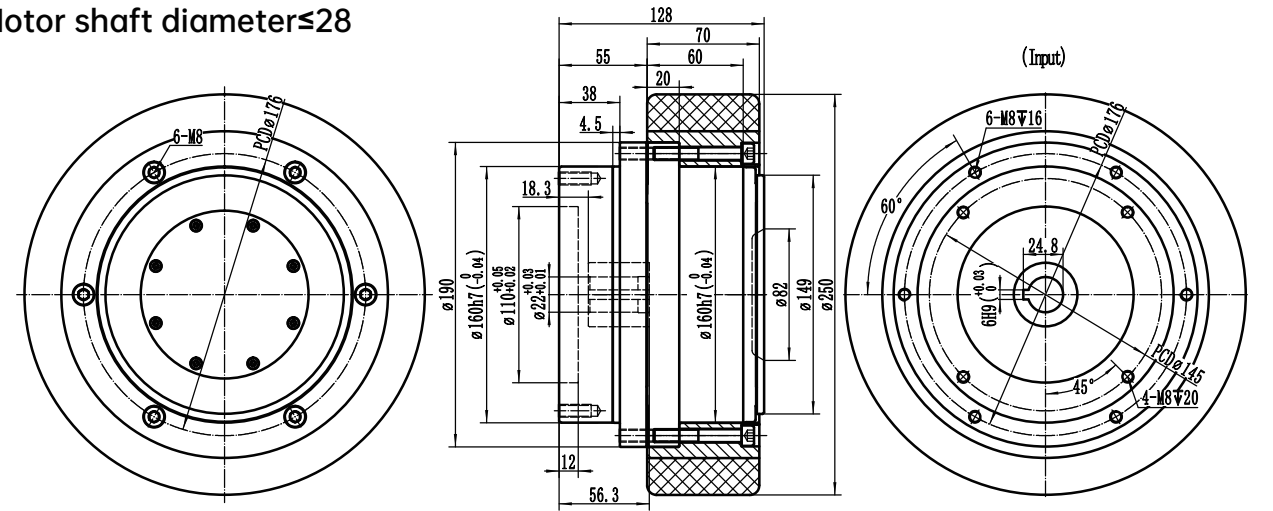


Two-stage ratio:14~40  
Motor shaft diameter≤19

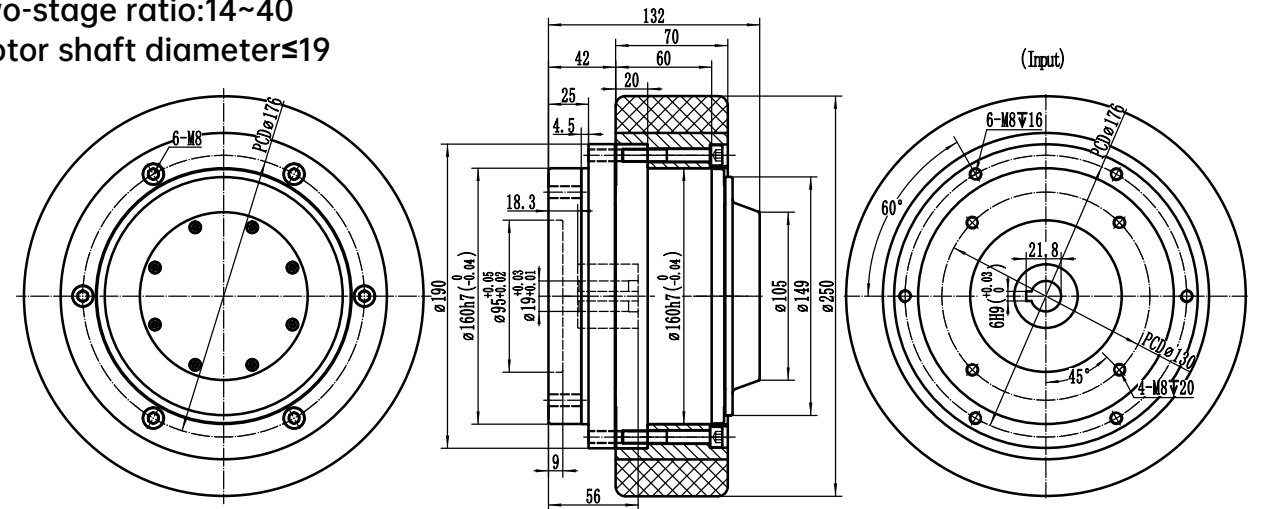


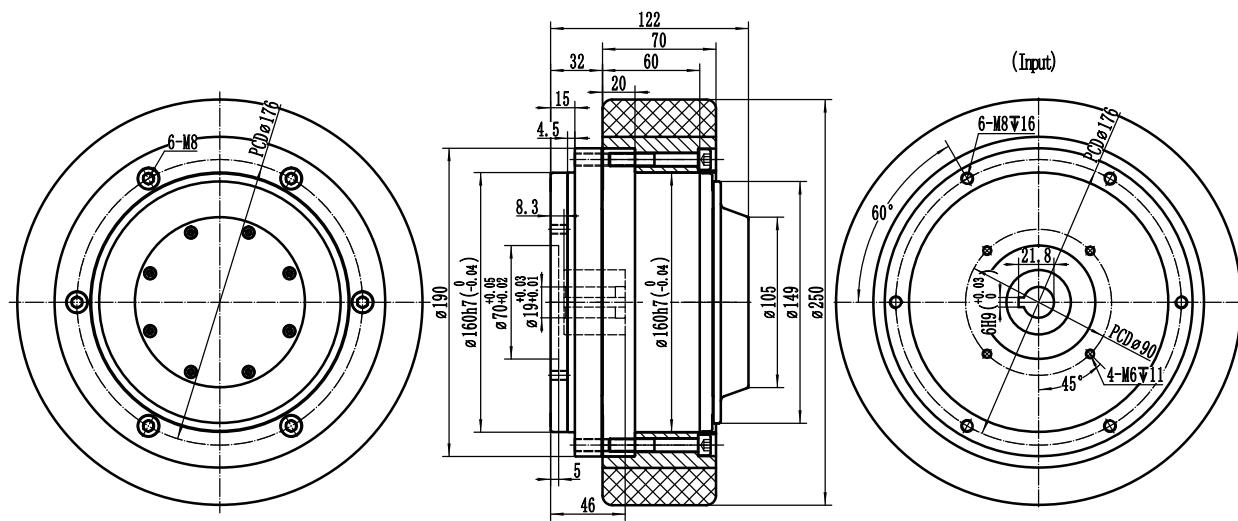
## WGV160 Outline Drawing

One-stage ratio:2~9  
Motor shaft diameter≤28

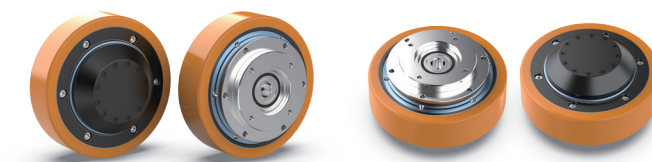
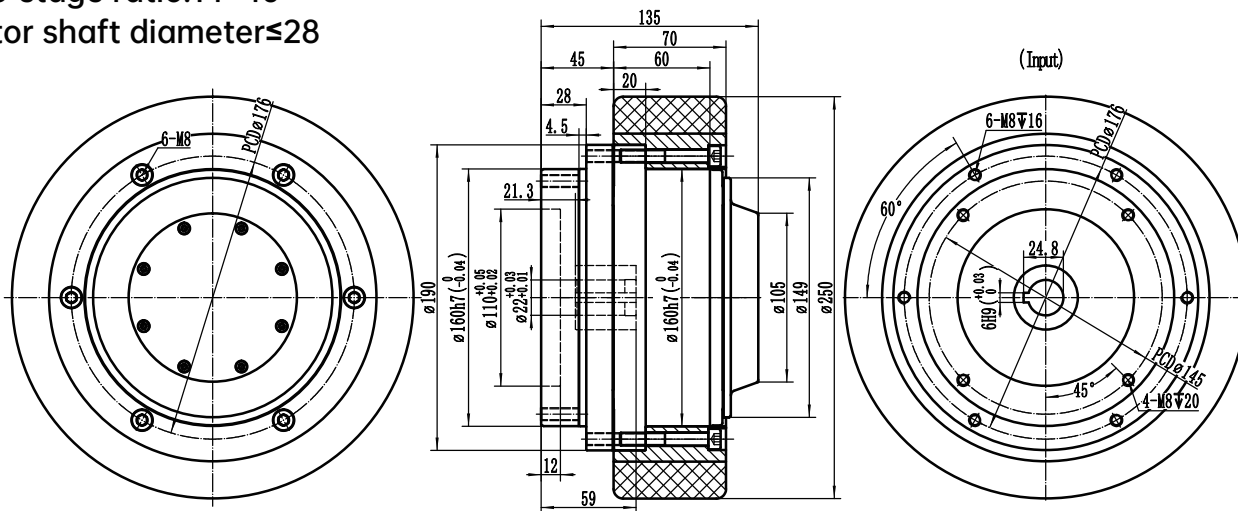


Two-stage ratio:14~40  
Motor shaft diameter≤19





Two-stage ratio:14~40  
Motor shaft diameter≤28



- Widely used in AGV, RGV and AMR driving systems.
- Low noise, high torque, strong radial bearing capacity
- Compact structure, easy to install
- Customizable production