



# 传动科技匠心 驱动未来智造

## P2系列精密行星减速机 P2 Series Precision Planetary Reducer

### 浙江赛齿传动科技有限公司

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## ■ 公司简介 About Us

浙江赛齿传动科技有限公司，是一家专注于工业减速机与电机产品的研发、制造与销售的企业。我们以线上B2B模式为核心，致力于为全球工业客户提供高可靠性、高性能的传动解决方案。

自创立以来，公司始终秉持“传动科技匠心，驱动未来智造”的使命，坚持自建工厂、自产自销的经营模式，实现对产品从研发设计到生产交付的全流程把控，确保每一台减速机与电机都符合高标准的质量要求。

我们坚信，卓越的成果源于卓越的团队。赛齿传动以“以奋斗者为本，与卓越者同行”为核心价值观，不断汇聚行业优秀人才，激发团队创新活力，持续提升产品性能与服务体验，助力客户在自动化、智能化制造进程中赢得先机。

未来，我们将继续深耕工业传动领域，通过技术升级与服务优化，打造更高效、更可靠的动力传输产品，与合作伙伴共同推进智能制造新时代。

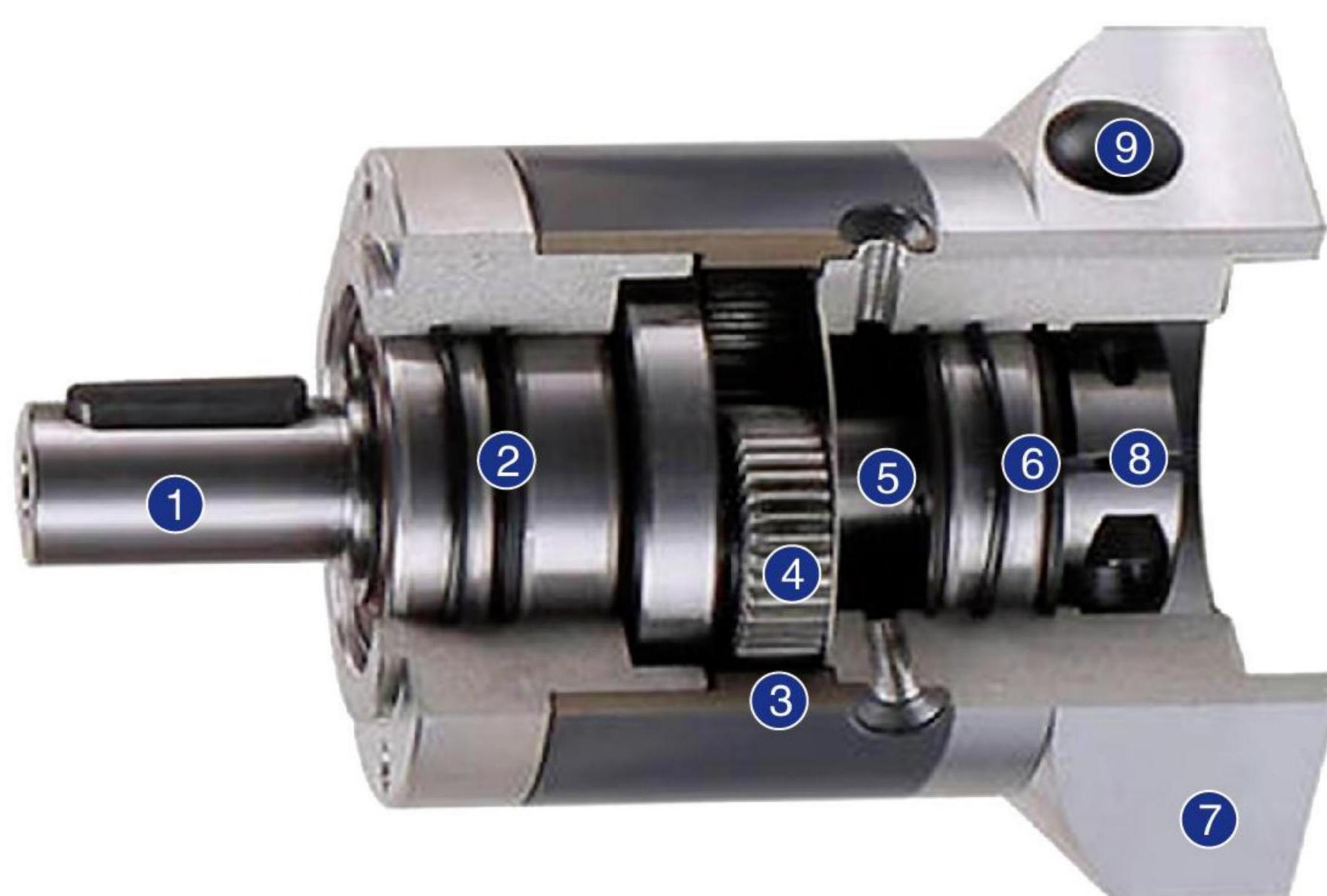
It is an enterprise dedicated to the research and development, manufacturing and sales of industrial reducers and motor products. We take the online B2B model as the core and are committed to providing high-reliability and high-performance transmission solutions for global industrial customers.

Since its establishment, the company has always adhered to the mission of "Craftsmanship in transmission technology, driving future intelligent manufacturing", and has persisted in the business model of self-built factories and self-production and self-sale. It has achieved full-process control over products from R&D and design to production and delivery, ensuring that every reducer and motor meets high-standard quality requirements.

We firmly believe that outstanding achievements stem from an outstanding team. SAICHI Drive adheres to the core values of "taking the strivers as the foundation and walking hand in hand with the outstanding", constantly gathering outstanding talents in the industry, stimulating the innovative vitality of the team, continuously improving product performance and service experience, and helping customers gain the initiative in the process of automation and intelligent manufacturing.

In the future, we will continue to focus on the industrial transmission field. Through technological upgrades and service optimizations, we will create more efficient and reliable power transmission products and work with our partners to promote the new era of intelligent manufacturing.

## ■ 剖视图 Sectional Drawing



- ① 输出轴 Output shaft
- ② 输出轴轴承 Bearing for the output shaft
- ③ 内齿圈 Internal gear
- ④ 行星轮 Planets wheel
- ⑤ 太阳轮 Sunwheel
- ⑥ 太阳轮轴承 Bearing for the sunwheel
- ⑦ 适配电机法兰 Appropriate motor flange
- ⑧ 精密装夹系统 Precision clamping system
- ⑨ 装配孔 Mounting hole

## ■ 型号命名方式 Model Naming Mode

|  |             |            |  |  |  |  | / |  | A*B/C*D/E*F          |  |     |      |         |  |        |    |            |  |    |            |  |    |            |  |  |    |           |  |    |            |  |    |            |  |         |    |            |  |    |            |  |    |            |  |                                 |    |            |  |    |            |  |    |            |  |     |      |         |         |                    |    |           |           |    |            |           |    |            |            |                      |    |            |  |    |            |  |    |            |  |
|--|-------------|------------|--|--|--|--|---|--|----------------------|--|-----|------|---------|--|--------|----|------------|--|----|------------|--|----|------------|--|--|----|-----------|--|----|------------|--|----|------------|--|---------|----|------------|--|----|------------|--|----|------------|--|---------------------------------|----|------------|--|----|------------|--|----|------------|--|-----|------|---------|---------|--------------------|----|-----------|-----------|----|------------|-----------|----|------------|------------|----------------------|----|------------|--|----|------------|--|----|------------|--|
|  |             |            |  |  |  |  | / |  | ⑧ 电机主要安装尺寸           |  |     |      |         |  |        |    |            |  |    |            |  |    |            |  |  |    |           |  |    |            |  |    |            |  |         |    |            |  |    |            |  |    |            |  |                                 |    |            |  |    |            |  |    |            |  |     |      |         |         |                    |    |           |           |    |            |           |    |            |            |                      |    |            |  |    |            |  |    |            |  |
|  |             |            |  |  |  |  | / |  | 信捷130ST-M06025B-41P5 |  |     |      |         |  |        |    |            |  |    |            |  |    |            |  |  |    |           |  |    |            |  |    |            |  |         |    |            |  |    |            |  |    |            |  |                                 |    |            |  |    |            |  |    |            |  |     |      |         |         |                    |    |           |           |    |            |           |    |            |            |                      |    |            |  |    |            |  |    |            |  |
|  |             |            |  |  |  |  | / |  | ⑧ 电机品牌及电机型号          |  |     |      |         |  |        |    |            |  |    |            |  |    |            |  |  |    |           |  |    |            |  |    |            |  |         |    |            |  |    |            |  |    |            |  |                                 |    |            |  |    |            |  |    |            |  |     |      |         |         |                    |    |           |           |    |            |           |    |            |            |                      |    |            |  |    |            |  |    |            |  |
|  |             |            |  |  |  |  | / |  | AQA130/1             |  |     |      |         |  |        |    |            |  |    |            |  |    |            |  |  |    |           |  |    |            |  |    |            |  |         |    |            |  |    |            |  |    |            |  |                                 |    |            |  |    |            |  |    |            |  |     |      |         |         |                    |    |           |           |    |            |           |    |            |            |                      |    |            |  |    |            |  |    |            |  |
|  |             |            |  |  |  |  | / |  | ⑧ 输入接口适配器型号          |  |     |      |         |  |        |    |            |  |    |            |  |    |            |  |  |    |           |  |    |            |  |    |            |  |         |    |            |  |    |            |  |    |            |  |                                 |    |            |  |    |            |  |    |            |  |     |      |         |         |                    |    |           |           |    |            |           |    |            |            |                      |    |            |  |    |            |  |    |            |  |
| 1                                      | P           | 系列号:       | P: P系列一字轴型精密行星减速机<br>WP: WP系列十字轴型精密行星减速机: (仅限机座号60, 80,120,160型)   |  |  |  |   |  |                      |  |     |      |         |  |        |    |            |  |    |            |  |    |            |  |  |    |           |  |    |            |  |    |            |  |         |    |            |  |    |            |  |    |            |  |                                 |    |            |  |    |            |  |    |            |  |     |      |         |         |                    |    |           |           |    |            |           |    |            |            |                      |    |            |  |    |            |  |    |            |  |
| 2                                      | 2           | 版本号:       | 2: 直齿单支撑结构形式<br>3: 直齿双支撑结构形式 (仅限机座号120,160型, 承载扭矩是2号版本的2倍)   |  |  |  |   |  |                      |  |     |      |         |  |        |    |            |  |    |            |  |    |            |  |  |    |           |  |    |            |  |    |            |  |         |    |            |  |    |            |  |    |            |  |                                 |    |            |  |    |            |  |    |            |  |     |      |         |         |                    |    |           |           |    |            |           |    |            |            |                      |    |            |  |    |            |  |    |            |  |
| 3                                      | E           | 输出安装方式:    | E: 实心轴输出, B14输出法兰安装<br>F: 实心轴输出, B5输出法兰安装<br>G: 空心轴输出, B14输出法兰安装<br>H: 空心轴输出, B5输出法兰安装   |  |  |  |   |  |                      |  |     |      |         |  |        |    |            |  |    |            |  |    |            |  |  |    |           |  |    |            |  |    |            |  |         |    |            |  |    |            |  |    |            |  |                                 |    |            |  |    |            |  |    |            |  |     |      |         |         |                    |    |           |           |    |            |           |    |            |            |                      |    |            |  |    |            |  |    |            |  |
| 4                                      | 120         | 基座号:       | 40, 60, 80, 120, 160   |  |  |  |   |  |                      |  |     |      |         |  |        |    |            |  |    |            |  |    |            |  |  |    |           |  |    |            |  |    |            |  |         |    |            |  |    |            |  |    |            |  |                                 |    |            |  |    |            |  |    |            |  |     |      |         |         |                    |    |           |           |    |            |           |    |            |            |                      |    |            |  |    |            |  |    |            |  |
| 5                                      | 4           | 减速比:       | 单级(L1): 3, 4, 5, 8, 10<br>双级(L2): 9, 12, 15, 16, 20, 25, 32, 40, 64<br>三级(L3): 60, 80, 100, 120, 160, 200, 256, 320, 516   |  |  |  |   |  |                      |  |     |      |         |  |        |    |            |  |    |            |  |    |            |  |  |    |           |  |    |            |  |    |            |  |         |    |            |  |    |            |  |    |            |  |                                 |    |            |  |    |            |  |    |            |  |     |      |         |         |                    |    |           |           |    |            |           |    |            |            |                      |    |            |  |    |            |  |    |            |  |
| 6                                      | P2          | 回转精度等级:    | <table border="1"> <thead> <tr> <th>基座号</th> <th>传动级数</th> <th colspan="2">P2: 标准型</th> </tr> </thead> <tbody> <tr> <td rowspan="3">P2系列40</td> <td>L1</td> <td colspan="2">≤12arc-min</td> </tr> <tr> <td>L2</td> <td colspan="2">≤15arc-min</td> </tr> <tr> <td>L3</td> <td colspan="2">≤18arc-min</td> </tr> <tr> <td rowspan="3">P2系列60<br/>P2系列80<br/>P2系列120<br/>P2系列160</td> <td>L1</td> <td colspan="2">≤8arc-min</td> </tr> <tr> <td>L2</td> <td colspan="2">≤12arc-min</td> </tr> <tr> <td>L3</td> <td colspan="2">≤15arc-min</td> </tr> <tr> <td rowspan="3">WP2系列60</td> <td>L1</td> <td colspan="2">≤30arc-min</td> </tr> <tr> <td>L2</td> <td colspan="2">≤35arc-min</td> </tr> <tr> <td>L3</td> <td colspan="2">≤40arc-min</td> </tr> <tr> <td rowspan="3">WP2系列80<br/>WP2系列120<br/>WP2系列160</td> <td>L1</td> <td colspan="2">≤25arc-min</td> </tr> <tr> <td>L2</td> <td colspan="2">≤30arc-min</td> </tr> <tr> <td>L3</td> <td colspan="2">≤35arc-min</td> </tr> </tbody> </table><br><table border="1"> <thead> <tr> <th>基座号</th> <th>传动级数</th> <th>P2: 标准型</th> <th>P1: 标准型</th> </tr> </thead> <tbody> <tr> <td rowspan="3">P3系列120<br/>P3系列160</td> <td>L1</td> <td>≤8arc-min</td> <td>≤5arc-min</td> </tr> <tr> <td>L2</td> <td>≤12arc-min</td> <td>≤8arc-min</td> </tr> <tr> <td>L3</td> <td>≤15arc-min</td> <td>≤10arc-min</td> </tr> <tr> <td rowspan="3">WP3系列120<br/>WP3系列160</td> <td>L1</td> <td>≤13arc-min</td> <td></td> </tr> <tr> <td>L2</td> <td>≤16arc-min</td> <td></td> </tr> <tr> <td>L3</td> <td>≤20arc-min</td> <td></td> </tr> </tbody> </table> |  |  |  |   |  |                      |  | 基座号 | 传动级数 | P2: 标准型 |  | P2系列40 | L1 | ≤12arc-min |  | L2 | ≤15arc-min |  | L3 | ≤18arc-min |  | P2系列60<br>P2系列80<br>P2系列120<br>P2系列160 | L1 | ≤8arc-min |  | L2 | ≤12arc-min |  | L3 | ≤15arc-min |  | WP2系列60 | L1 | ≤30arc-min |  | L2 | ≤35arc-min |  | L3 | ≤40arc-min |  | WP2系列80<br>WP2系列120<br>WP2系列160 | L1 | ≤25arc-min |  | L2 | ≤30arc-min |  | L3 | ≤35arc-min |  | 基座号 | 传动级数 | P2: 标准型 | P1: 标准型 | P3系列120<br>P3系列160 | L1 | ≤8arc-min | ≤5arc-min | L2 | ≤12arc-min | ≤8arc-min | L3 | ≤15arc-min | ≤10arc-min | WP3系列120<br>WP3系列160 | L1 | ≤13arc-min |  | L2 | ≤16arc-min |  | L3 | ≤20arc-min |  |
| 基座号                                    | 传动级数        | P2: 标准型    |  |  |  |  |   |  |                      |  |     |      |         |  |        |    |            |  |    |            |  |    |            |  |  |    |           |  |    |            |  |    |            |  |         |    |            |  |    |            |  |    |            |  |                                 |    |            |  |    |            |  |    |            |  |     |      |         |         |                    |    |           |           |    |            |           |    |            |            |                      |    |            |  |    |            |  |    |            |  |
| P2系列40                                 | L1          | ≤12arc-min |  |  |  |  |   |  |                      |  |     |      |         |  |        |    |            |  |    |            |  |    |            |  |  |    |           |  |    |            |  |    |            |  |         |    |            |  |    |            |  |    |            |  |                                 |    |            |  |    |            |  |    |            |  |     |      |         |         |                    |    |           |           |    |            |           |    |            |            |                      |    |            |  |    |            |  |    |            |  |
|  | L2          | ≤15arc-min |  |  |  |  |   |  |                      |  |     |      |         |  |        |    |            |  |    |            |  |    |            |  |  |    |           |  |    |            |  |    |            |  |         |    |            |  |    |            |  |    |            |  |                                 |    |            |  |    |            |  |    |            |  |     |      |         |         |                    |    |           |           |    |            |           |    |            |            |                      |    |            |  |    |            |  |    |            |  |
|  | L3          | ≤18arc-min |  |  |  |  |   |  |                      |  |     |      |         |  |        |    |            |  |    |            |  |    |            |  |  |    |           |  |    |            |  |    |            |  |         |    |            |  |    |            |  |    |            |  |                                 |    |            |  |    |            |  |    |            |  |     |      |         |         |                    |    |           |           |    |            |           |    |            |            |                      |    |            |  |    |            |  |    |            |  |
| P2系列60<br>P2系列80<br>P2系列120<br>P2系列160 | L1          | ≤8arc-min  |  |  |  |  |   |  |                      |  |     |      |         |  |        |    |            |  |    |            |  |    |            |  |  |    |           |  |    |            |  |    |            |  |         |    |            |  |    |            |  |    |            |  |                                 |    |            |  |    |            |  |    |            |  |     |      |         |         |                    |    |           |           |    |            |           |    |            |            |                      |    |            |  |    |            |  |    |            |  |
|  | L2          | ≤12arc-min |  |  |  |  |   |  |                      |  |     |      |         |  |        |    |            |  |    |            |  |    |            |  |  |    |           |  |    |            |  |    |            |  |         |    |            |  |    |            |  |    |            |  |                                 |    |            |  |    |            |  |    |            |  |     |      |         |         |                    |    |           |           |    |            |           |    |            |            |                      |    |            |  |    |            |  |    |            |  |
|  | L3          | ≤15arc-min |  |  |  |  |   |  |                      |  |     |      |         |  |        |    |            |  |    |            |  |    |            |  |  |    |           |  |    |            |  |    |            |  |         |    |            |  |    |            |  |    |            |  |                                 |    |            |  |    |            |  |    |            |  |     |      |         |         |                    |    |           |           |    |            |           |    |            |            |                      |    |            |  |    |            |  |    |            |  |
| WP2系列60                                | L1          | ≤30arc-min |  |  |  |  |   |  |                      |  |     |      |         |  |        |    |            |  |    |            |  |    |            |  |  |    |           |  |    |            |  |    |            |  |         |    |            |  |    |            |  |    |            |  |                                 |    |            |  |    |            |  |    |            |  |     |      |         |         |                    |    |           |           |    |            |           |    |            |            |                      |    |            |  |    |            |  |    |            |  |
|  | L2          | ≤35arc-min |  |  |  |  |   |  |                      |  |     |      |         |  |        |    |            |  |    |            |  |    |            |  |  |    |           |  |    |            |  |    |            |  |         |    |            |  |    |            |  |    |            |  |                                 |    |            |  |    |            |  |    |            |  |     |      |         |         |                    |    |           |           |    |            |           |    |            |            |                      |    |            |  |    |            |  |    |            |  |
|  | L3          | ≤40arc-min |  |  |  |  |   |  |                      |  |     |      |         |  |        |    |            |  |    |            |  |    |            |  |  |    |           |  |    |            |  |    |            |  |         |    |            |  |    |            |  |    |            |  |                                 |    |            |  |    |            |  |    |            |  |     |      |         |         |                    |    |           |           |    |            |           |    |            |            |                      |    |            |  |    |            |  |    |            |  |
| WP2系列80<br>WP2系列120<br>WP2系列160        | L1          | ≤25arc-min |  |  |  |  |   |  |                      |  |     |      |         |  |        |    |            |  |    |            |  |    |            |  |  |    |           |  |    |            |  |    |            |  |         |    |            |  |    |            |  |    |            |  |                                 |    |            |  |    |            |  |    |            |  |     |      |         |         |                    |    |           |           |    |            |           |    |            |            |                      |    |            |  |    |            |  |    |            |  |
|  | L2          | ≤30arc-min |  |  |  |  |   |  |                      |  |     |      |         |  |        |    |            |  |    |            |  |    |            |  |  |    |           |  |    |            |  |    |            |  |         |    |            |  |    |            |  |    |            |  |                                 |    |            |  |    |            |  |    |            |  |     |      |         |         |                    |    |           |           |    |            |           |    |            |            |                      |    |            |  |    |            |  |    |            |  |
|  | L3          | ≤35arc-min |  |  |  |  |   |  |                      |  |     |      |         |  |        |    |            |  |    |            |  |    |            |  |  |    |           |  |    |            |  |    |            |  |         |    |            |  |    |            |  |    |            |  |                                 |    |            |  |    |            |  |    |            |  |     |      |         |         |                    |    |           |           |    |            |           |    |            |            |                      |    |            |  |    |            |  |    |            |  |
| 基座号                                    | 传动级数        | P2: 标准型    | P1: 标准型  |  |  |  |   |  |                      |  |     |      |         |  |        |    |            |  |    |            |  |    |            |  |  |    |           |  |    |            |  |    |            |  |         |    |            |  |    |            |  |    |            |  |                                 |    |            |  |    |            |  |    |            |  |     |      |         |         |                    |    |           |           |    |            |           |    |            |            |                      |    |            |  |    |            |  |    |            |  |
| P3系列120<br>P3系列160                     | L1          | ≤8arc-min  | ≤5arc-min  |  |  |  |   |  |                      |  |     |      |         |  |        |    |            |  |    |            |  |    |            |  |  |    |           |  |    |            |  |    |            |  |         |    |            |  |    |            |  |    |            |  |                                 |    |            |  |    |            |  |    |            |  |     |      |         |         |                    |    |           |           |    |            |           |    |            |            |                      |    |            |  |    |            |  |    |            |  |
|  | L2          | ≤12arc-min | ≤8arc-min  |  |  |  |   |  |                      |  |     |      |         |  |        |    |            |  |    |            |  |    |            |  |  |    |           |  |    |            |  |    |            |  |         |    |            |  |    |            |  |    |            |  |                                 |    |            |  |    |            |  |    |            |  |     |      |         |         |                    |    |           |           |    |            |           |    |            |            |                      |    |            |  |    |            |  |    |            |  |
|  | L3          | ≤15arc-min | ≤10arc-min   |  |  |  |   |  |                      |  |     |      |         |  |        |    |            |  |    |            |  |    |            |  |  |    |           |  |    |            |  |    |            |  |         |    |            |  |    |            |  |    |            |  |                                 |    |            |  |    |            |  |    |            |  |     |      |         |         |                    |    |           |           |    |            |           |    |            |            |                      |    |            |  |    |            |  |    |            |  |
| WP3系列120<br>WP3系列160                   | L1          | ≤13arc-min |  |  |  |  |   |  |                      |  |     |      |         |  |        |    |            |  |    |            |  |    |            |  |  |    |           |  |    |            |  |    |            |  |         |    |            |  |    |            |  |    |            |  |                                 |    |            |  |    |            |  |    |            |  |     |      |         |         |                    |    |           |           |    |            |           |    |            |            |                      |    |            |  |    |            |  |    |            |  |
|  | L2          | ≤16arc-min |  |  |  |  |   |  |                      |  |     |      |         |  |        |    |            |  |    |            |  |    |            |  |  |    |           |  |    |            |  |    |            |  |         |    |            |  |    |            |  |    |            |  |                                 |    |            |  |    |            |  |    |            |  |     |      |         |         |                    |    |           |           |    |            |           |    |            |            |                      |    |            |  |    |            |  |    |            |  |
|  | L3          | ≤20arc-min |  |  |  |  |   |  |                      |  |     |      |         |  |        |    |            |  |    |            |  |    |            |  |  |    |           |  |    |            |  |    |            |  |         |    |            |  |    |            |  |    |            |  |                                 |    |            |  |    |            |  |    |            |  |     |      |         |         |                    |    |           |           |    |            |           |    |            |            |                      |    |            |  |    |            |  |    |            |  |
| 7                                      | OP1         | 输入联轴器形式:   | OP1: 光孔, 锁紧联轴器式适配器<br>OP2: 键槽孔, 锁紧联轴器式适配器<br>OP3: 键槽孔, 非锁紧普通联轴器式适配器<br>OP4: 实心轴式适配器  |  |  |  |   |  |                      |  |     |      |         |  |        |    |            |  |    |            |  |    |            |  |  |    |           |  |    |            |  |    |            |  |         |    |            |  |    |            |  |    |            |  |                                 |    |            |  |    |            |  |    |            |  |     |      |         |         |                    |    |           |           |    |            |           |    |            |            |                      |    |            |  |    |            |  |    |            |  |
| 8                                      | A*B/C*D/E*F | 电机主要安装尺寸:  | 轴径*轴伸长/止口*止口长/安装孔分布圆*安装孔径 (详见P13)  |  |  |  |   |  |                      |  |     |      |         |  |        |    |            |  |    |            |  |    |            |  |  |    |           |  |    |            |  |    |            |  |         |    |            |  |    |            |  |    |            |  |                                 |    |            |  |    |            |  |    |            |  |     |      |         |         |                    |    |           |           |    |            |           |    |            |            |                      |    |            |  |    |            |  |    |            |  |
|  | 信捷130ST     | 电机品牌及电机型号: | 电机品牌及电机型号  |  |  |  |   |  |                      |  |     |      |         |  |        |    |            |  |    |            |  |    |            |  |  |    |           |  |    |            |  |    |            |  |         |    |            |  |    |            |  |    |            |  |                                 |    |            |  |    |            |  |    |            |  |     |      |         |         |                    |    |           |           |    |            |           |    |            |            |                      |    |            |  |    |            |  |    |            |  |
|  | AQA130/1    | 输入接口适配器型号: | AQA40 - AQA175 (详见P13)   |  |  |  |   |  |                      |  |     |      |         |  |        |    |            |  |    |            |  |    |            |  |  |    |           |  |    |            |  |    |            |  |         |    |            |  |    |            |  |    |            |  |                                 |    |            |  |    |            |  |    |            |  |     |      |         |         |                    |    |           |           |    |            |           |    |            |            |                      |    |            |  |    |            |  |    |            |  |

## P2E/P2F系列精密行星减速机

P2E/P2F series precision planetary reducer

### 产品图 Product Graph



### 技术参数 Technical Parameters

| 产品型号 Product type             |         | 40   | 60  | 80  | 120  | 160  | 减速比 Reduction ratio | 级数 Number of stage |
|-------------------------------|---------|--|-----|-----|------|------|---------------------|--------------------|
| 额定输出扭矩<br>Rated output torque | N.M     | 4.5  | 12  | 40  | 80   | 400  | 3                   | L1                 |
|                               |         | 6  | 16  | 50  | 110  | 450  | 4                   |                    |
|                               |         | 6  | 16  | 50  | 110  | 450  | 5                   |                    |
|                               |         | 5  | 15  | 45  | 100  | 400  | 8                   |                    |
|                               |         | 4  | 12  | 40  | 80   | 305  | 10                  |                    |
|                               |         | /  | 40  | 100 | 210  | /    | 9                   | L2                 |
|                               |         | 16.5                                       | 40  | 100 | 210  | 700  | 12                  |                    |
|                               |         | 16.5                                       | 40  | 100 | 210  | 700  | 15                  |                    |
|                               |         | 20   | 44  | 120 | 260  | 800  | 16                  |                    |
|                               |         | 20   | 44  | 120 | 260  | 800  | 20                  |                    |
|                               |         | 18   | 40  | 110 | 230  | 700  | 25                  |                    |
|                               |         | 20   | 44  | 120 | 260  | 800  | 32                  |                    |
|                               |         | 18   | 40  | 110 | 230  | 700  | 40                  |                    |
|                               |         | 7.5  | 18  | 45  | 100  | 400  | 64                  |                    |
|                               |         | 16.5                                       | 40  | 100 | 210  | /    | 60                  |                    |
|                               |         | 20   | 44  | 120 | 260  | /    | 80                  |                    |
|                               |         | 20   | 44  | 120 | 260  | /    | 100                 |                    |
|                               |         | 16.5                                       | 40  | 100 | 210  | /    | 120                 |                    |
|                               |         | 20   | 44  | 120 | 260  | /    | 160                 |                    |
|                               |         | 18   | 40  | 110 | 230  | /    | 200                 |                    |
| 20                            | 44      | 120  | 260 | /   | 256  |      |                     |                    |
| 18                            | 40      | 110  | 230 | /   | 320  |      |                     |                    |
| 7.5                           | 18      | 45   | 100 | /   | 512  |      |                     |                    |
| 寿命 Life                       | 小时 Hour | 20000                                      |     |     |      |      |                     |                    |
| 瞬间急停扭矩 Instant stop torque    | N.M     | 2倍于额定输出扭矩 Two times of rated output torque |     |     |      |      |                     |                    |
| 产品型号 Product type             |         | 40   | 60  | 80  | 120  | 160  | 单位 Unit             | 级数 Number of stage |
| 最大径向力 Max radial force        |         | 160  | 450 | 900 | 2100 | 6000 | N                   |                    |
| 最大轴向力 Max axial force         |         | 80   | 225 | 450 | 1050 | 3000 | N                   |                    |
| 满载效率 Full load efficiency     |         | 96   |     |     |      |      | %                   | L1                 |
|                               |         | 94   |     |     |      |      |                     | L2                 |
|                               |         | 90   |     |     |      |      |                     | L3                 |
| 重量 Weight                     |         | 0.4  | 0.8 | 2.1 | 6    | 18   | Kg                  | L1                 |
|                               |         | 0.5  | 1.1 | 2.6 | 8    | 22   |                     | L2                 |
|                               |         | 0.6  | 1.3 | 3.1 | 9.5  | /    |                     | L3                 |
| 工作温度 Operating temperature    |         | -25~+90                                    |     |     |      |      | °C                  |                    |
| 保护等级 IP                       |         | IP54                                       |     |     |      |      |                     |                    |
| 润滑方式 Lubrication type         |         | 终身润滑 Lifetime lubrication                  |     |     |      |      |                     |                    |
| 安装方式 Mounting type            |         | 任意 Any                                     |     |     |      |      |                     |                    |

最大径向力与最大轴向力，输出100RPM时，作用于输出轴中心位置(L/2)处。

The max radial and axial torque work in the location of the center of output shaft when the out speed is 100RPM.

## P2E/P2F系列精密行星减速机

P2E/P2F series precision planetary reducer

### ■ 技术参数 Technical Parameters

| 产品型号 Product type           |                   | 40    | 60    | 80   | 120  | 160   | 减速比 Reduction ratio |
|-----------------------------|-------------------|-------|-------|------|------|-------|---------------------|
| 转动惯量<br>Moment of inertia   | Kgcm <sup>2</sup> | 0.031 | 0.135 | 0.77 | 2.63 | 12.14 | 3                   |
|                             |                   | 0.022 | 0.093 | 0.52 | 1.79 | 7.78  | 4                   |
|                             |                   | 0.019 | 0.078 | 0.45 | 1.53 | 6.07  | 5                   |
|                             |                   | 0.017 | 0.065 | 0.39 | 1.32 | 4.63  | 8                   |
|                             |                   | 0.015 | 0.054 | 0.34 | 1.14 | 3.52  | 10                  |
|                             |                   | /     | 0.131 | 0.74 | 2.62 | /     | 9                   |
|                             |                   | 0.022 | 0.088 | 0.50 | 2.56 | 7.47  | 12                  |
|                             |                   | 0.019 | 0.077 | 0.44 | 1.79 | 6.65  | 15                  |
|                             |                   | 0.022 | 0.088 | 0.50 | 1.75 | 7.47  | 16                  |
|                             |                   | 0.019 | 0.075 | 0.44 | 1.50 | 6.65  | 20                  |
|                             |                   | 0.019 | 0.075 | 0.44 | 1.49 | 5.81  | 25                  |
|                             |                   | 0.017 | 0.064 | 0.39 | 1.30 | 4.50  | 32                  |
|                             |                   | 0.016 | 0.064 | 0.39 | 1.30 | 4.50  | 40                  |
|                             |                   | 0.016 | 0.064 | 0.39 | 1.30 | 4.50  | 64                  |
|                             |                   | 0.019 | 0.075 | 0.50 | 1.50 | /     | 60                  |
|                             |                   | 0.019 | 0.075 | 0.50 | 1.50 | /     | 80                  |
|                             |                   | 0.019 | 0.075 | 0.44 | 1.49 | /     | 100                 |
|                             |                   | 0.016 | 0.064 | 0.39 | 1.30 | /     | 120                 |
|                             |                   | 0.016 | 0.064 | 0.39 | 1.30 | /     | 160                 |
|                             |                   | 0.016 | 0.064 | 0.39 | 1.30 | /     | 200                 |
| 0.016                       | 0.064             | 0.39  | 1.30  | /    | 256  |       |                     |
| 0.016                       | 0.064             | 0.39  | 1.30  | /    | 320  |       |                     |
| 0.016                       | 0.064             | 0.39  | 1.30  | /    | 512  |       |                     |
| 产品型号 Product type           |                   | 40    | 60    | 80   | 120  | 160   | 级数 Number of stage  |
| 回程间隙<br>Backlash            | 弧分<br>Arcmin      | < 12  | < 8   | < 8  | < 8  | < 8   | L1                  |
|                             |                   | < 15  | < 12  | < 12 | < 12 | < 12  | L2                  |
|                             |                   | < 18  | < 15  | < 15 | < 15 | /     | L3                  |
| 产品型号 Product type           |                   | 40    | 60    | 80   | 120  | 160   | 级数 Number of stage  |
| 抗扭刚性 Torsional stiffness    | N.M/arcmin        | 0.7   | 1.8   | 4.5  | 12   | 38    | L1                  |
| 噪声 Noise                    | db(A)             | 55    | 58    | 60   | 65   | 70    | L2                  |
| 最高输入转速 Max input speed      | min <sup>-1</sup> | 4500  | 4500  | 4500 | 4500 | 4500  | L3                  |
| 推荐输入转速 Recommnd input speed | min <sup>-1</sup> | 3000  | 3000  | 3000 | 3000 | 3000  |                     |

1、转动惯量与输入轴有关。

The moment of inertia is related with input shaft.

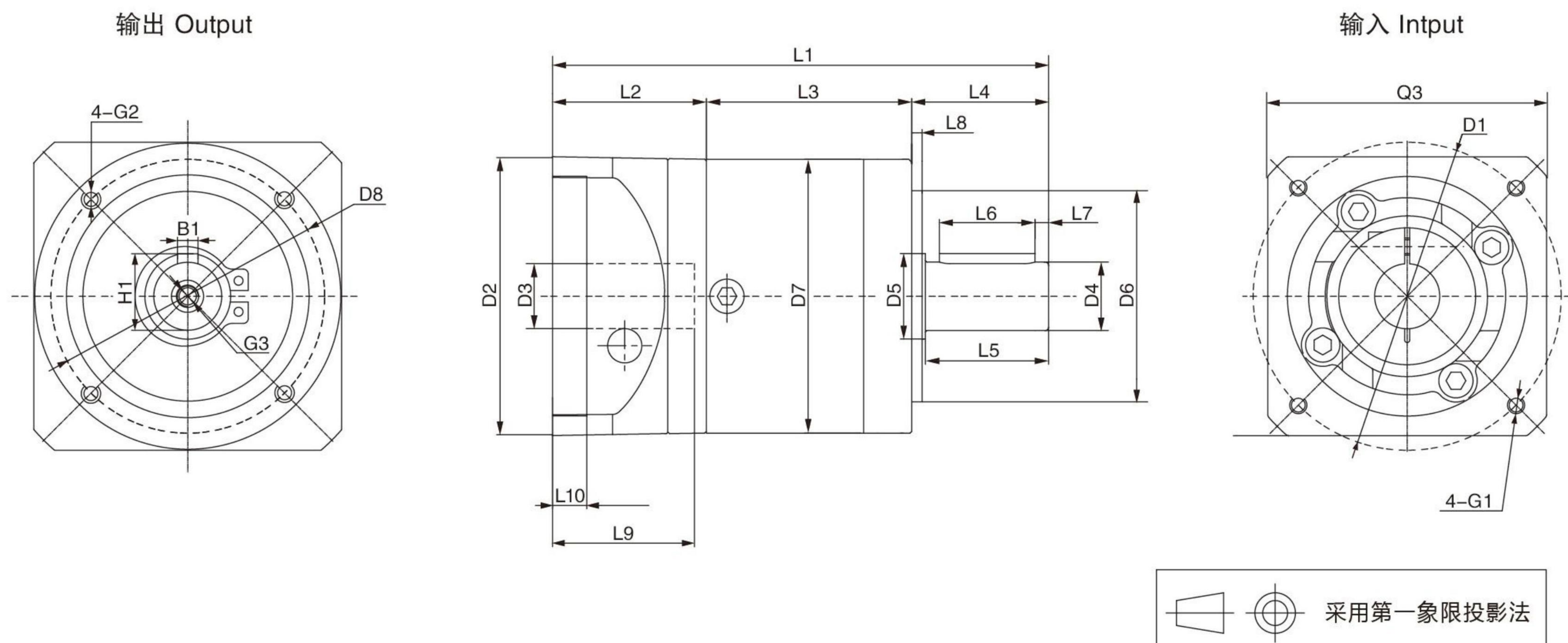
2、噪声检测标准，距离1米，在输入转速3000转/分空载时测得。

Noise test standard pressure level, distance 1 m, measured on idle running with an input speed of 3000rpm.

## P2E系列精密行星减速机

P2E series precision planetary reducer

### 机械参数 Dimensions



### 单位 Unit: mm

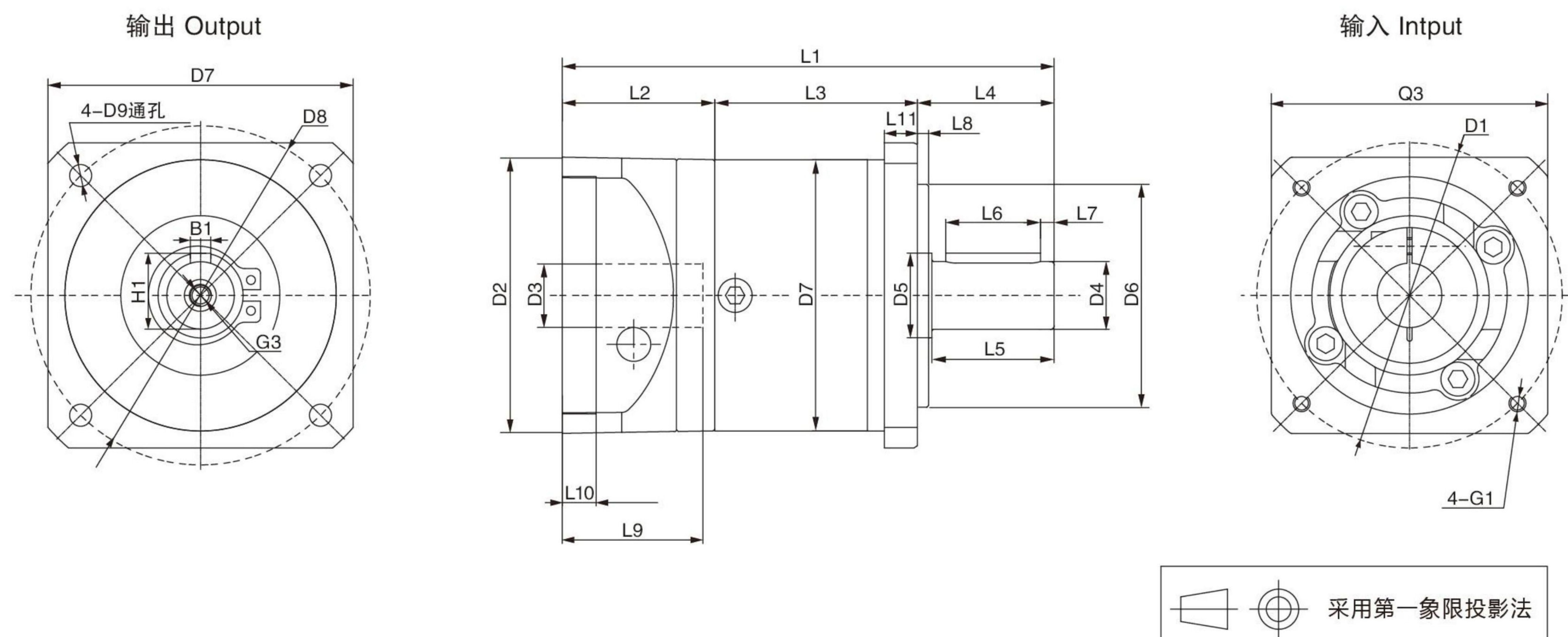
| 产品型号 Product type                                | P2E40   |       |      | P2E60   |       |     | P2E80   |     |       | P2E120   |       |       | P2E160   |       |
|--|---------|-------|------|---------|-------|-----|---------|-----|-------|----------|-------|-------|----------|-------|
| 级数 Number of stage                               | 1       | 2     | 3    | 1       | 2     | 3   | 1       | 2   | 3     | 1        | 2     | 3     | 1        | 2     |
| L1 箱体总长 L1 overall length                        | 93.5    | 106.5 | 119  | 113.5   | 126.5 | 139 | 144     | 162 | 179.5 | 195.2    | 223   | 250.5 | 291      | 340.5 |
| L3 箱体长度 L3 body length                           | 39      | 52    | 64.5 | 46.5    | 59.5  | 72  | 60      | 78  | 95.5  | 73.7     | 101.5 | 129   | 104      | 153.5 |
| 输出端 Output                                       |         |       |      |         |       |     |         |     |       |          |       |       |          |       |
| L4 出轴长度 L4 output shaft length                   | 26      |       |      | 35      |       |     | 40      |     |       | 55       |       |       | 87       |       |
| L5 出轴长至轴肩 L5 output length to the shaft shoulder | 24      |       |      | 30.5    |       |     | 36      |     |       | 50       |       |       | 80       |       |
| L6 键长度 L6 key length                             | 16      |       |      | 25      |       |     | 28      |     |       | 40       |       |       | 70       |       |
| L7 键至轴末端长 L7 key length to the shaft end         | 2.5     |       |      | 2.5     |       |     | 4       |     |       | 5        |       |       | 5        |       |
| L8 定位凸台直径 L8 spigot length                       | 2       |       |      | 3       |       |     | 3       |     |       | 4        |       |       | 5        |       |
| D4 出轴直径 D4 output shaft diameter                 | φ10h7   |       |      | φ14h7   |       |     | φ20h7   |     |       | φ25h7    |       |       | φ40h7    |       |
| D5 轴肩直径 D5 shaft shouder diameter                | φ12     |       |      | φ17     |       |     | φ25     |     |       | φ35      |       |       | φ55      |       |
| D6 定位凸台直径 D6 spigot diameter                     | φ26h7   |       |      | φ40h7   |       |     | φ60h7   |     |       | φ80h7    |       |       | φ130h7   |       |
| D7 箱体直径 D7 body diameter                         | φ40     |       |      | φ60     |       |     | φ80     |     |       | φ115     |       |       | φ160     |       |
| D8 安装孔分布圆 D8 hole circle                         | φ34     |       |      | φ52     |       |     | φ70     |     |       | φ100     |       |       | φ145     |       |
| B1 键宽 B1 key width                               | 3       |       |      | 5       |       |     | 6       |     |       | 8        |       |       | 12       |       |
| H1 键高 H1 key height                              | 11.2    |       |      | 16      |       |     | 22.5    |     |       | 28       |       |       | 43       |       |
| G2 安装螺纹孔 G2 mounting screw hole                  | M4 × 6  |       |      | M5 × 8  |       |     | M6 × 10 |     |       | M10 × 16 |       |       | M12 × 20 |       |
| G3 中心螺纹孔 G3 center screw hole                    | M3 × 9  |       |      | M5 × 12 |       |     | M6 × 16 |     |       | M10 × 22 |       |       | M12 × 25 |       |
| 输入端 Input  |         |       |      |         |       |     |         |     |       |          |       |       |          |       |
| L2 输入法兰长度 L2 input flange length                 | 28.5    |       |      | 32      |       |     | 44      |     |       | 66.5     |       |       | 99       |       |
| L9 电机轴长度 L9 motor shaft length                   | 26      |       |      | 30      |       |     | 40      |     |       | 58       |       |       | 79       |       |
| L10 定位凸台深 L10 spigot depth                       | 6       |       |      | 10      |       |     | 10      |     |       | 10       |       |       | 10       |       |
| D1 安装孔分布圆 D1 mounting hole distribution circle   | φ46     |       |      | φ70     |       |     | φ90     |     |       | φ145     |       |       | φ200     |       |
| D2 定位凸台直径 D2 spigot diameter                     | φ30G7   |       |      | φ50G7   |       |     | φ70G7   |     |       | φ110G7   |       |       | φ114.3G7 |       |
| D3 输入轴轴径 D3 input shaft diameter                 | ≤ φ8G7  |       |      | ≤ φ14G7 |       |     | ≤ φ19G7 |     |       | ≤ φ24G7  |       |       | ≤ φ35G7  |       |
| G1 安装螺纹孔 × 深度 G1 mounting threads × depth        | M4 × 10 |       |      | M5 × 12 |       |     | M6 × 15 |     |       | M8 × 22  |       |       | M12 × 25 |       |
| Q3 输入法兰 Q3input flange                           | □40     |       |      | □60     |       |     | □80     |     |       | □130     |       |       | □175     |       |

输入端尺寸可根据电机尺寸制作。  
Input size made according to motor size.

## P2F系列精密行星减速机

P2F series precision planetary reducer

### 机械参数 Dimensions



### 单位 Unit: mm

| 产品型号 Product type                                | P2F40   |       |      | P2F60   |       |     | P2F80   |     |       | P2F120   |       |       | P2F160    |       |
|--|---------|-------|------|---------|-------|-----|---------|-----|-------|----------|-------|-------|-----------|-------|
| 级数 Number of stage                               | 1       | 2     | 3    | 1       | 2     | 3   | 1       | 2   | 3     | 1        | 2     | 3     | 1         | 2     |
| L1 箱体总长 L1 overall length                        | 93.5    | 106.5 | 119  | 113.5   | 126.5 | 139 | 144     | 162 | 179.5 | 195.2    | 223   | 250.5 | 291       | 340.5 |
| L3 箱体长度 L3 body length                           | 39      | 52    | 64.5 | 46.5    | 59.5  | 72  | 60      | 78  | 95.5  | 73.7     | 101.5 | 129   | 104       | 153.5 |
| 输出端 Output                                       |         |       |      |         |       |     |         |     |       |          |       |       |           |       |
| L4 出轴长度 L4 output shaft length                   | 26      |       |      | 35      |       |     | 40      |     |       | 55       |       |       | 87        |       |
| L5 出轴长至轴肩 L5 output length to the shaft shoulder | 24      |       |      | 30.5    |       |     | 36      |     |       | 50       |       |       | 80        |       |
| L6 键长度 L6 key length                             | 16      |       |      | 25      |       |     | 28      |     |       | 40       |       |       | 70        |       |
| L7 键至轴末端长 L7 key length to the shaft end         | 2.5     |       |      | 2.5     |       |     | 4       |     |       | 5        |       |       | 5         |       |
| L8 定位凸台直径 L8 spigot length                       | 2       |       |      | 3       |       |     | 3       |     |       | 4        |       |       | 5         |       |
| L11 输出法兰厚度 L11 output flange thickness           | 6       |       |      | 8       |       |     | 10      |     |       | 15       |       |       | 15        |       |
| D4 出轴直径 D4 output shaft diameter                 | φ10h7   |       |      | φ14h7   |       |     | φ20h7   |     |       | φ25h7    |       |       | φ40h7     |       |
| D5 轴肩直径 D5 shaft shouder diameter                | φ12     |       |      | φ17     |       |     | φ25     |     |       | φ35      |       |       | φ55       |       |
| D6 定位凸台直径 D6 spigot diameter                     | φ26h7   |       |      | φ50h7   |       |     | φ80h7   |     |       | φ110h7   |       |       | φ130h7    |       |
| D7 箱体直径 D7 body diameter                         | □45     |       |      | □60     |       |     | □90     |     |       | □120     |       |       | □160/□175 |       |
| D8 安装孔分布圆 D8 hole circle                         | φ50     |       |      | φ70     |       |     | φ100    |     |       | φ130     |       |       | φ185/φ200 |       |
| D9 法兰安装孔 D9 mounting hole                        | φ3.5    |       |      | φ5.5    |       |     | φ6.5    |     |       | φ8.5     |       |       | φ11/φ13.5 |       |
| B1 键宽 B1 key width                               | 3       |       |      | 5       |       |     | 6       |     |       | 8        |       |       | 12        |       |
| H1 键高 H1 key height                              | 11.2    |       |      | 16      |       |     | 22.5    |     |       | 28       |       |       | 43        |       |
| G3 中心螺纹孔 G3 center screw hole                    | M3 × 9  |       |      | M5 × 12 |       |     | M6 × 16 |     |       | M10 × 22 |       |       | M12 × 25  |       |
| 输入端 Input  |         |       |      |         |       |     |         |     |       |          |       |       |           |       |
| L2 输入法兰长度 L2 input flange length                 | 28.5    |       |      | 32      |       |     | 44      |     |       | 66.5     |       |       | 99        |       |
| L9 电机轴长度 L9 motor shaft length                   | 26      |       |      | 30      |       |     | 40      |     |       | 58       |       |       | 79        |       |
| L10 定位凸台深 L10 spigot depth                       | 6       |       |      | 10      |       |     | 10      |     |       | 10       |       |       | 10        |       |
| D1 安装孔分布圆 D1 mounting hole distribution circle   | φ46     |       |      | φ70     |       |     | φ90     |     |       | φ145     |       |       | φ200      |       |
| D2 定位凸台直径 D2 spigot diameter                     | φ30G7   |       |      | φ50G7   |       |     | φ70G7   |     |       | φ110G7   |       |       | φ114.3G7  |       |
| D3 输入轴轴径 D3 input shaft diameter                 | ≤ φ8G7  |       |      | ≤ φ14G7 |       |     | ≤ φ19G7 |     |       | ≤ φ24G7  |       |       | ≤ φ35G7   |       |
| G1 安装螺纹孔 × 深度 G1 mounting threads × depth        | M4 × 10 |       |      | M5 × 12 |       |     | M6 × 15 |     |       | M8 × 22  |       |       | M12 × 25  |       |
| Q3 输入法兰 Q3input flange                           | □40     |       |      | □60     |       |     | □80     |     |       | □130     |       |       | □175      |       |

输入端尺寸可根据电机尺寸制作。  
Input size made according to motor size.

# WP2E/WP2F系列精密行星减速机

WP2E/WP2F series precision planetary reducer

## 产品图 Product Graph



## 技术参数 Technical Parameters

| 产品型号 Product type             |         | 60   | 80  | 120  | 160  | 减速比 Reduction ratio | 级数 Number of stage |
|-------------------------------|---------|--|-----|------|------|---------------------|--------------------|
| 额定输出扭矩<br>Rated output torque | N.M     | 12   | 40  | 80   | 400  | 3                   | L1                 |
|                               |         | 16   | 50  | 110  | 450  | 4                   |                    |
|                               |         | 16   | 50  | 110  | 450  | 5                   |                    |
|                               |         | 15   | 45  | 100  | 400  | 8                   |                    |
|                               |         | 12   | 40  | 80   | 305  | 10                  |                    |
|                               |         | 40   | 100 | 210  | /    | 9                   | L2                 |
|                               |         | 40   | 100 | 210  | 700  | 12                  |                    |
|                               |         | 40   | 100 | 210  | 700  | 15                  |                    |
|                               |         | 44   | 120 | 260  | 800  | 16                  |                    |
|                               |         | 44   | 120 | 260  | 800  | 20                  |                    |
|                               |         | 40   | 110 | 230  | 700  | 25                  |                    |
|                               |         | 44   | 120 | 260  | 800  | 32                  |                    |
|                               |         | 40   | 110 | 230  | 700  | 40                  |                    |
|                               |         | 18   | 45  | 100  | 400  | 64                  | L3                 |
|                               |         | 40   | 100 | 210  | /    | 60                  |                    |
|                               |         | 44   | 120 | 260  | /    | 80                  |                    |
|                               |         | 44   | 120 | 260  | /    | 100                 |                    |
|                               |         | 40   | 100 | 210  | /    | 120                 |                    |
|                               |         | 44   | 120 | 260  | /    | 160                 |                    |
|                               |         | 40   | 110 | 230  | /    | 200                 |                    |
| 44                            | 120     | 260  | /   | 256  |      |                     |                    |
| 40                            | 110     | 230  | /   | 320  |      |                     |                    |
| 18                            | 45      | 100  | /   | 512  |      |                     |                    |
| 寿命 Life                       | 小时 Hour | 20000                                      |     |      |      |                     |                    |
| 瞬间急停扭矩 Instant stop torque    | N.M     | 2倍于额定输出扭矩 Two times of rated output torque |     |      |      |                     |                    |
| 产品型号 Product type             |         | 60   | 80  | 120  | 160  | 单位 Unit             | 级数 Number of stage |
| 最大径向力 Max radial force        |         | 450  | 900 | 2100 | 6000 | N                   |                    |
| 最大轴向力 Max axial force         |         | 225  | 450 | 1050 | 3000 | N                   |                    |
| 满载效率 Full load efficiency     |         | 94   |     |      |      | %                   | L1                 |
|                               |         | 92   |     |      |      |                     | L2                 |
|                               |         | 88   |     |      |      |                     | L3                 |
| 重量 Weight                     |         | 1.7  | 4.4 | 12   | 36   | Kg                  | L1                 |
|                               |         | 1.9  | 5   | 14   | 40   |                     | L2                 |
|                               |         | 2.1  | 5.5 | 16   | /    |                     | L3                 |
| 工作温度 Operating temperature    |         | -25~+90                                    |     |      |      | ℃                   |                    |
| 保护等级 IP                       |         | IP54                                       |     |      |      |                     |                    |
| 润滑方式 Lubrication type         |         | 终身润滑 Lifetime lubrication                  |     |      |      |                     |                    |
| 安装方式 Mounting type            |         | 任意 Any                                     |     |      |      |                     |                    |

最大径向力与最大轴向力，输出100RPM时，作用于输出轴中心位置(L/2)处。

The max radial and axial torque work in the location of the center of output shaft when the out speed is 100RPM.

## WP2E/WP2F系列精密行星减速机

WP2E/WP2F series precision planetary reducer

### ■ 技术参数 Technical Parameters

| 产品型号 Product type         |                   | 60    | 80    | 120  | 160  | 减速比 Reduction ratio |
|---------------------------|-------------------|-------|-------|------|------|---------------------|
| 转动惯量<br>Moment of inertia | Kgcm <sup>2</sup> | 0.246 | 1.189 | 5.75 | 24.5 | 3                   |
|                           |                   | 0.204 | 0.939 | 3.91 | 19.4 | 4                   |
|                           |                   | 0.189 | 0.869 | 3.35 | 17.5 | 5                   |
|                           |                   | 0.176 | 0.809 | 2.89 | 15.9 | 8                   |
|                           |                   | 0.152 | 0.730 | 2.54 | 15.5 | 10                  |
|                           |                   | 0.242 | 1.159 | 5.73 | /    | 9                   |
|                           |                   | 0.199 | 0.919 | 3.83 | /    | 12                  |
|                           |                   | 0.188 | 0.859 | 3.28 | 17.5 | 15                  |
|                           |                   | 0.199 | 0.919 | 3.83 | 19.4 | 16                  |
|                           |                   | 0.186 | 0.859 | 3.28 | 17.5 | 20                  |
|                           |                   | 0.186 | 0.859 | 3.26 | 17.5 | 25                  |
|                           |                   | 0.175 | 0.809 | 2.84 | 15.9 | 32                  |
|                           |                   | 0.175 | 0.809 | 2.84 | 15.9 | 40                  |
|                           |                   | 0.175 | 0.809 | 2.84 | 15.9 | 64                  |
|                           |                   | 0.186 | 0.919 | 3.28 | /    | 60                  |
|                           |                   | 0.186 | 0.919 | 3.28 | /    | 80                  |
|                           |                   | 0.175 | 0.859 | 3.26 | /    | 100                 |
|                           |                   | 0.175 | 0.809 | 2.84 | /    | 120                 |
|                           |                   | 0.175 | 0.809 | 2.84 | /    | 160                 |
|                           |                   | 0.175 | 0.809 | 2.84 | /    | 200                 |
| 0.175                     | 0.809             | 2.84  | /     | 256  |      |                     |
| 0.175                     | 0.809             | 2.84  | /     | 320  |      |                     |
| 0.175                     | 0.809             | 2.84  | /     | 512  |      |                     |

| 产品型号 Product type           |                   | 60   | 80   | 120  | 160  | 级数 Number of stage |
|-----------------------------|-------------------|------|------|------|------|--------------------|
| 回程间隙<br>Backlash            | 弧分<br>Arcmin      | < 30 | < 25 | < 25 | < 25 | L1                 |
|                             |                   | < 35 | < 30 | < 30 | < 30 | L2                 |
|                             |                   | < 40 | < 35 | < 35 | /    | L3                 |
| 抗扭刚性 Torsional stiffness    | N.M/arcmin        | 1.5  | 4.5  | 10   | 38   | L1                 |
|                             |                   | 2.5  | 6.5  | 13   | 43   | L2                 |
|                             |                   | 2.5  | 6.3  | 12   | /    | L3                 |
| 噪声 Noise                    | db(A)             | 65   | 68   | 70   | 70   |                    |
| 最高输入转速 Max input speed      | min <sup>-1</sup> | 4500 | 4500 | 4500 | 4500 |                    |
| 推荐输入转速 Recommnd input speed | min <sup>-1</sup> | 3000 | 3000 | 3000 | 3000 |                    |

1、转动惯量与输入轴有关。

The moment of inertia is related with input shaft.

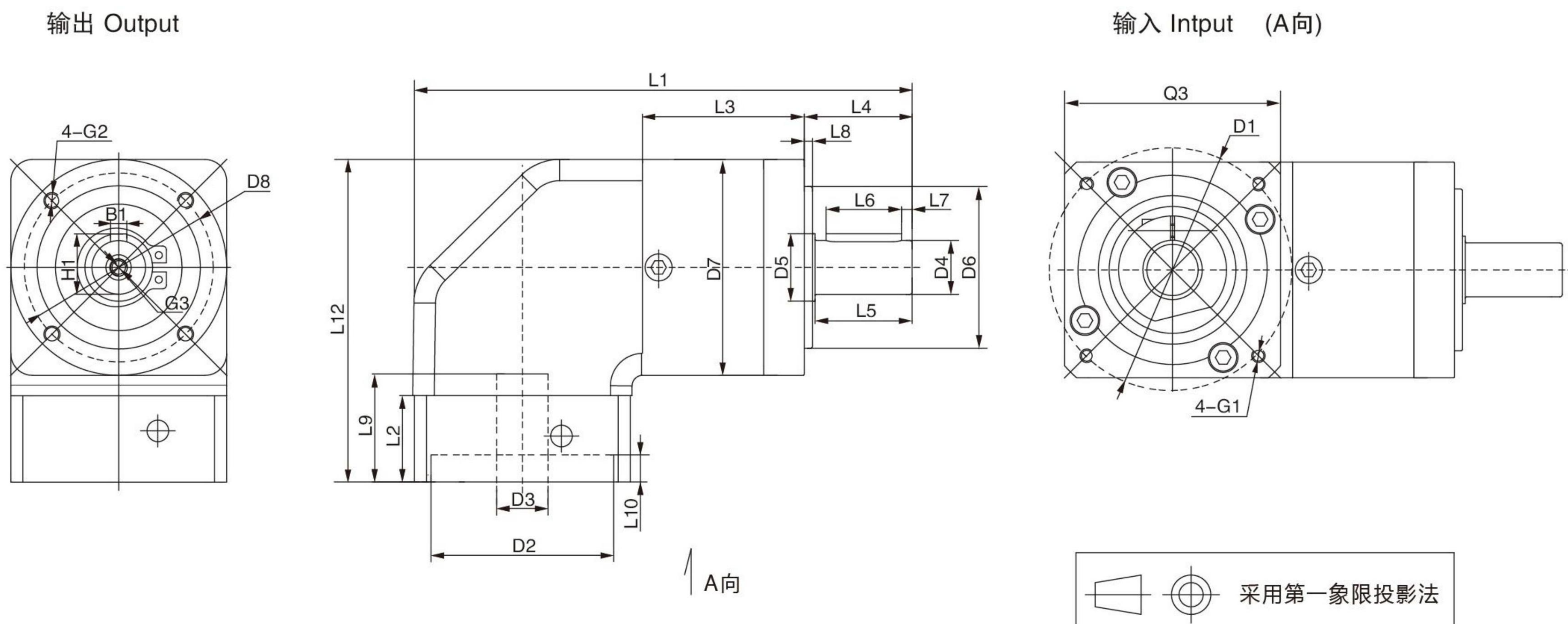
2、噪声检测标准，距离1米，在输入转速3000转/分空载时测得。

Noise test standard pressure level, distance 1 m, measured on idle running with an input speed of 3000rpm.

## WP2E系列精密行星减速机

WP2E series precision planetary reducer

### 机械参数 Dimensions



### 单位 Unit: mm

| 产品型号 Product type                                | WP2E60  |      |       | WP2E80  |       |      | WP2E120  |       |       | WP2E160  |       |
|--|---------|------|-------|---------|-------|------|----------|-------|-------|----------|-------|
| 级数 Number of stage                               | L1      | L2   | L3    | L1      | L2    | L3   | L1       | L2    | L3    | L1       | L2    |
| L1 箱体总长 L1 overall length                        | 150     | 163  | 175.5 | 184.5   | 202.5 | 220  | 249.2    | 277   | 304.5 | 368      | 417.5 |
| L3 箱体长度 L3 body length                           | 46.5    | 59.5 | 72    | 60      | 78    | 95.5 | 73.7     | 101.5 | 129   | 129      | 178.5 |
| L12 总高 L12 overall hights                        | 93      |      |       | 119.5   |       |      | 167.5    |       |       | 229      |       |
| 输出端 Output                                       |         |      |       |         |       |      |          |       |       |          |       |
| L4 出轴长度 L4 output shaft length                   | 35      |      |       | 40      |       |      | 55       |       |       | 87       |       |
| L5 出轴长至轴肩 L5 output length to the shaft shoulder | 30.5    |      |       | 36      |       |      | 50       |       |       | 80       |       |
| L6 键长度 L6 key length                             | 25      |      |       | 28      |       |      | 40       |       |       | 70       |       |
| L7 键至轴末端长 L7 key length to the shaft end         | 2.5     |      |       | 4       |       |      | 5        |       |       | 5        |       |
| L8 定位凸台直径 L8 spigot length                       | 3       |      |       | 3       |       |      | 4        |       |       | 5        |       |
| D4 出轴直径 D4 output shaft diameter                 | φ14h7   |      |       | φ20h7   |       |      | φ25h7    |       |       | φ40h7    |       |
| D5 轴肩直径 D5 shaft shouder diameter                | φ17     |      |       | φ25     |       |      | φ35      |       |       | φ55      |       |
| D6 定位凸台直径 D6 spigot diameter                     | φ40h7   |      |       | φ60h7   |       |      | φ80h7    |       |       | φ130h7   |       |
| D7 箱体直径 D7 body diameter                         | φ60     |      |       | φ80     |       |      | φ115     |       |       | φ160     |       |
| D8 安装孔分布圆 D8 hole circle                         | φ52     |      |       | φ70     |       |      | φ100     |       |       | φ145     |       |
| B1 键宽 B1 key width                               | 5       |      |       | 6       |       |      | 8        |       |       | 12       |       |
| H1 键高 H1 key height                              | 16      |      |       | 22.5    |       |      | 28       |       |       | 43       |       |
| G2 安装螺纹孔 G2 mounting screw hole                  | M5 × 8  |      |       | M6 × 10 |       |      | M10 × 16 |       |       | M12 × 20 |       |
| G3 中心螺纹孔 G3 center screw hole                    | M5 × 12 |      |       | M6 × 16 |       |      | M10 × 22 |       |       | M12 × 25 |       |
| 输入端 Input  |         |      |       |         |       |      |          |       |       |          |       |
| L2 输入法兰长度 L2 input flange length                 | 20      |      |       | 32      |       |      | 38       |       |       | 66       |       |
| L9 电机轴长度 L9 motor shaft length                   | 30      |      |       | 40      |       |      | 58       |       |       | 81       |       |
| L10 定位凸台深 L10 spigot depth                       | 5       |      |       | 10      |       |      | 10       |       |       | 10       |       |
| D1 安装孔分布圆 D1 mounting hole distribution circle   | φ70     |      |       | φ90     |       |      | φ145     |       |       | φ200     |       |
| D2 定位凸台直径 D2 spigot diameter                     | φ50G7   |      |       | φ70G7   |       |      | φ110G7   |       |       | φ114.3G7 |       |
| D3 输入轴轴径 D3 input shaft diameter                 | ≤ φ14G7 |      |       | ≤ φ19G7 |       |      | ≤ φ24G7  |       |       | ≤ φ35G7  |       |
| G1 安装螺纹孔 × 深度 G1 mounting threads × depth        | M5 × 12 |      |       | M6 × 15 |       |      | M8 × 22  |       |       | M12 × 25 |       |
| Q3 输入法兰 Q3input flange                           | □60     |      |       | □80     |       |      | □130     |       |       | □175     |       |

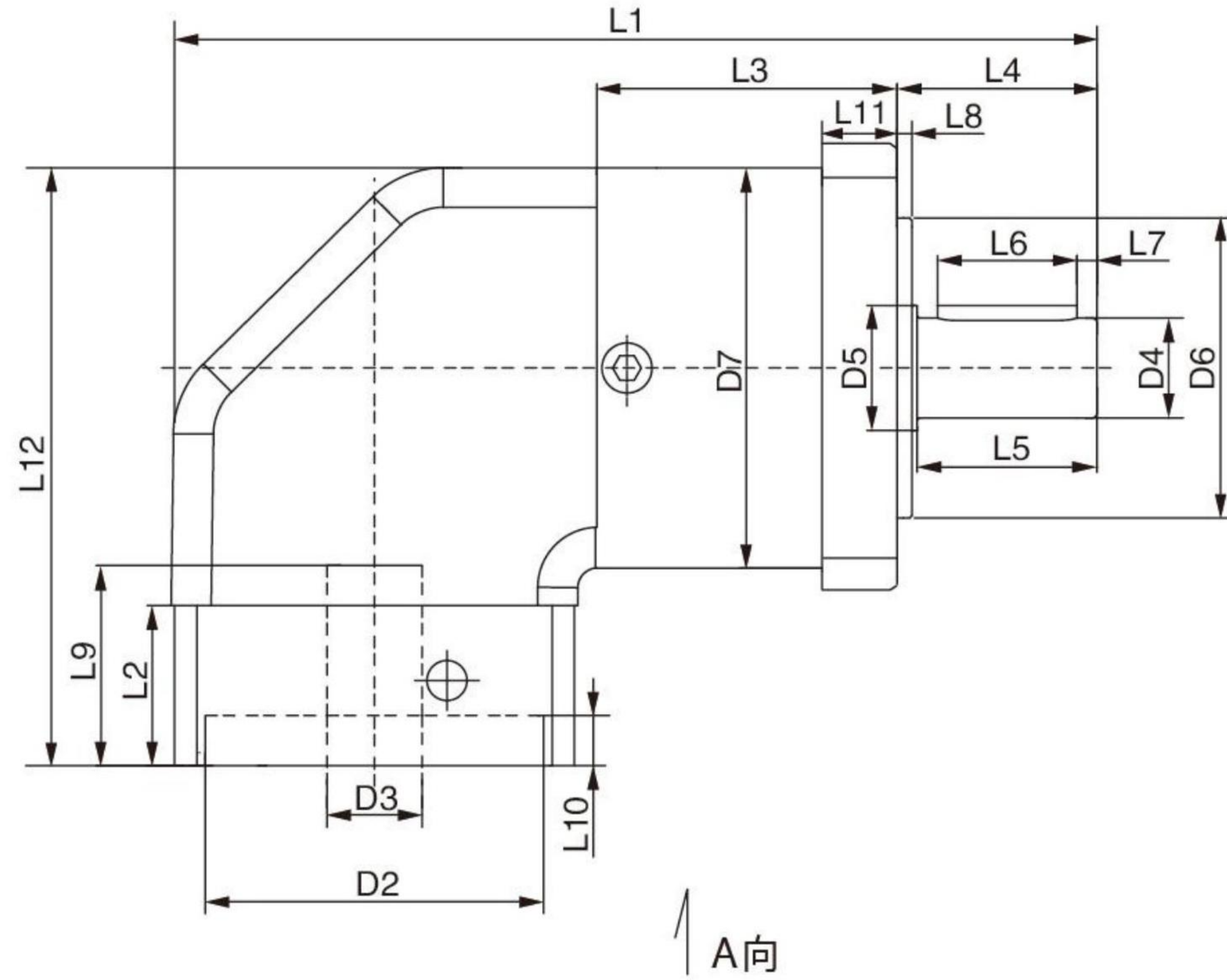
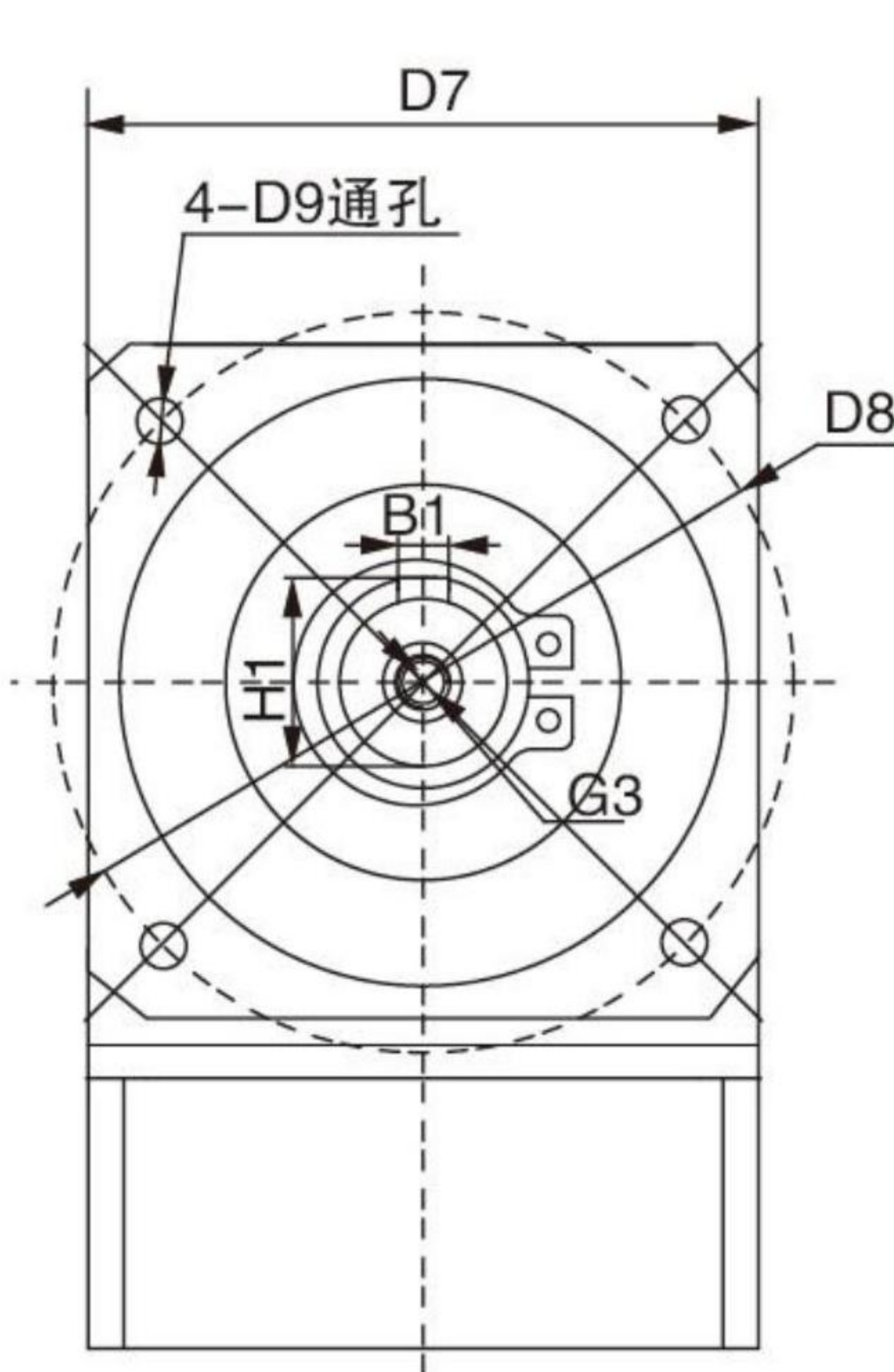
输入端尺寸可根据电机尺寸制作。  
Input size made according to motor size.

## WP2F系列精密行星减速机

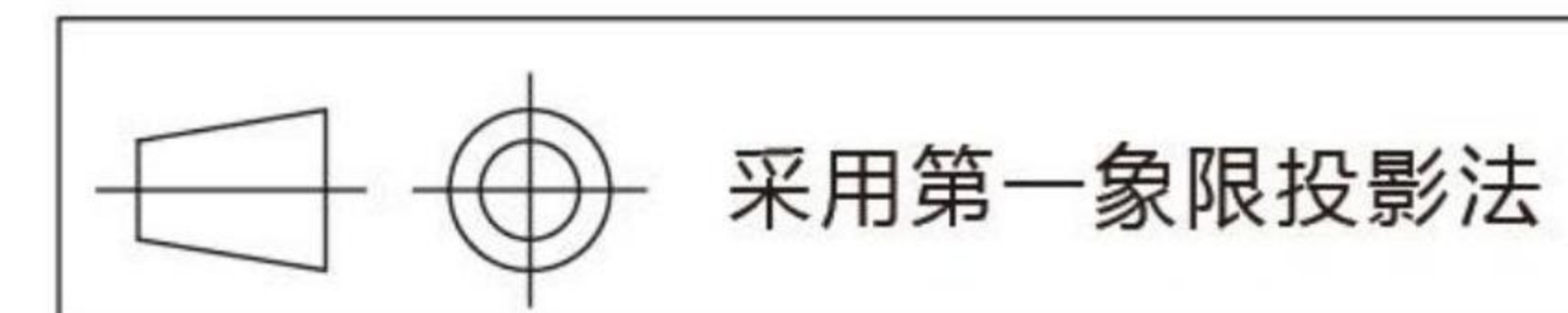
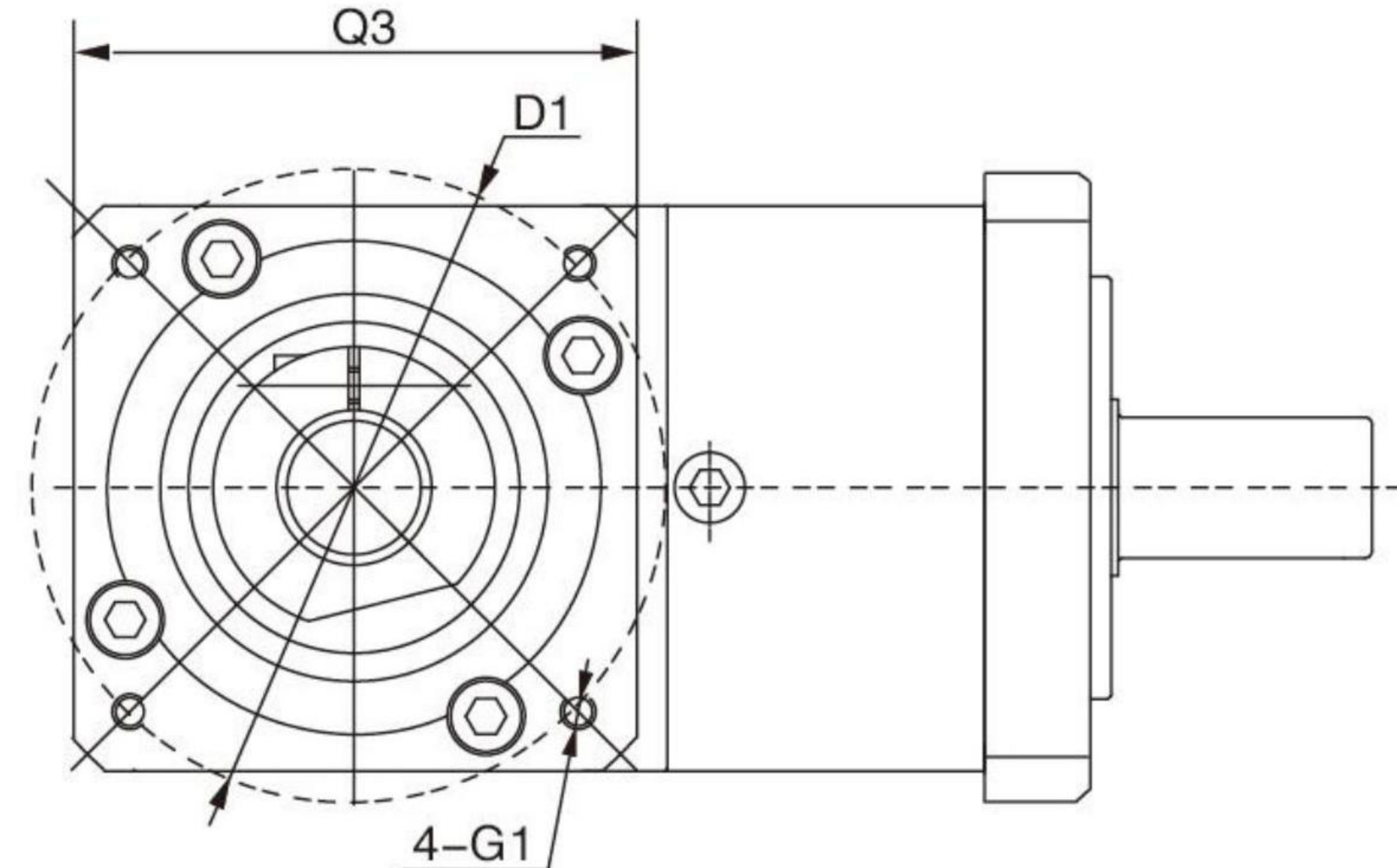
WP2F series precision planetary reducer

### 机械参数 Dimensions

输出 Output



输入 Input (A向)



### 单位 Unit: mm

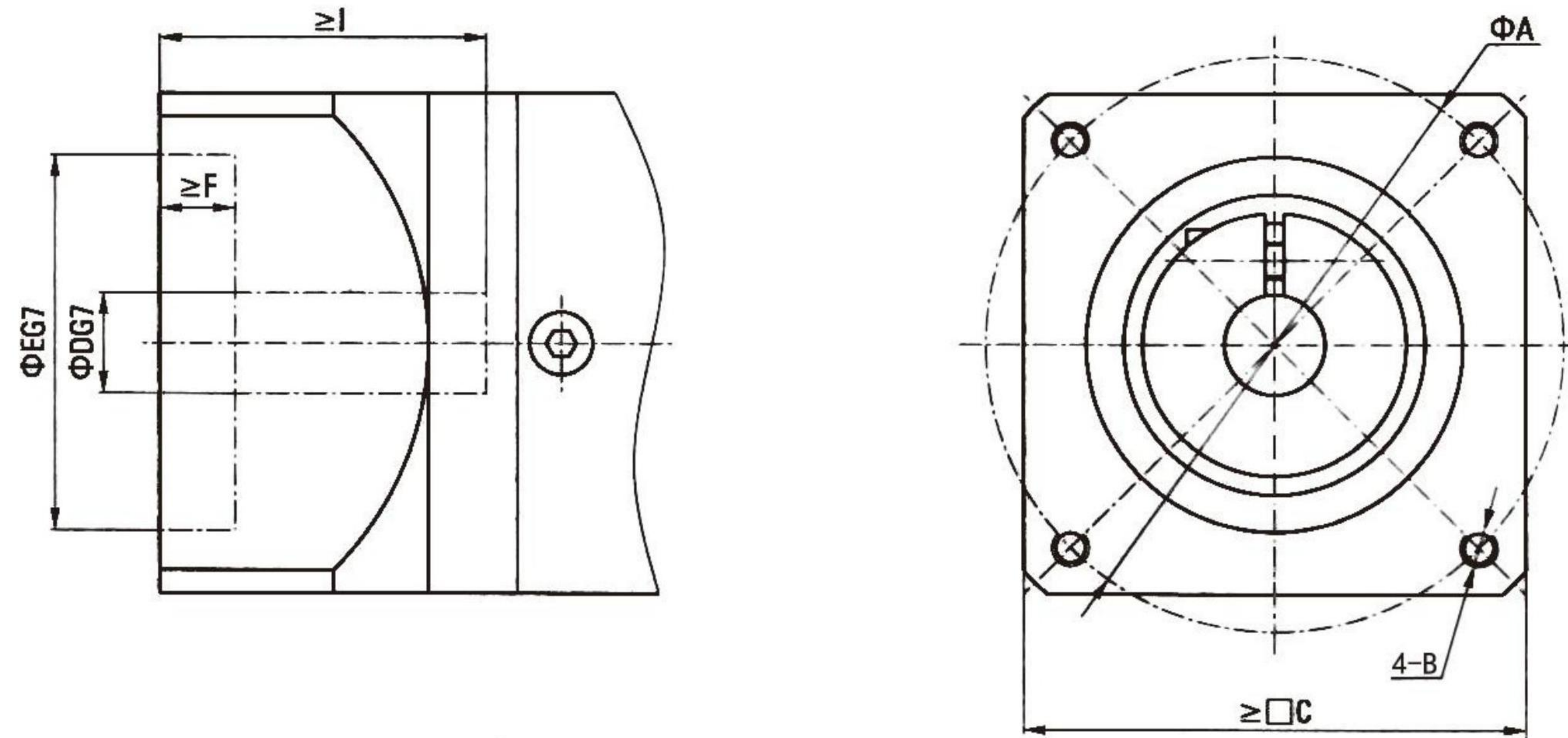
| 产品型号 Product type                                | P2F60   |      |       | P2F80   |       |      | P2F120   |       |       | P2F160    |       |
|--|---------|------|-------|---------|-------|------|----------|-------|-------|-----------|-------|
| 级数 Number of stage                               | L1      | L2   | L3    | L1      | L2    | L3   | L1       | L2    | L3    | L1        | L2    |
| L1 箱体总长 L1 overall length                        | 150     | 163  | 175.5 | 184.5   | 202.5 | 220  | 249.2    | 277   | 304.5 | 368       | 417.5 |
| L3 箱体长度 L3 body length                           | 46.5    | 59.5 | 72    | 60      | 78    | 95.5 | 73.7     | 101.5 | 129   | 129       | 178.5 |
| L12 总高 L12 overall heights                       | 93      |      |       | 119.5   |       |      | 167.5    |       |       | 229       |       |
| 输出端 Output                                       |         |      |       |         |       |      |          |       |       |           |       |
| L4 出轴长度 L4 output shaft length                   | 35      |      |       | 40      |       |      | 55       |       |       | 87        |       |
| L5 出轴长至轴肩 L5 output length to the shaft shoulder | 30.5    |      |       | 36      |       |      | 50       |       |       | 80        |       |
| L6 键长度 L6 key length                             | 25      |      |       | 28      |       |      | 40       |       |       | 70        |       |
| L7 键至轴末端长 L7 key length to the shaft end         | 2.5     |      |       | 4       |       |      | 5        |       |       | 5         |       |
| L8 定位凸台直径 L8 spigot length                       | 3       |      |       | 3       |       |      | 4        |       |       | 5         |       |
| L11 输出法兰厚度 L11 output flange thickness           | 8       |      |       | 10      |       |      | 15       |       |       | 15        |       |
| D4 出轴直径 D4 output shaft diameter                 | φ14h7   |      |       | φ20h7   |       |      | φ25h7    |       |       | φ40h7     |       |
| D5 轴肩直径 D5 shaft shouder diameter                | φ17     |      |       | φ25     |       |      | φ35      |       |       | φ55       |       |
| D6 定位凸台直径 D6 spigot diameter                     | φ50h7   |      |       | φ80h7   |       |      | φ110h7   |       |       | φ130h7    |       |
| D7 箱体直径 D7 body diameter                         | □60     |      |       | □90     |       |      | □120     |       |       | □160/□175 |       |
| D8 安装孔分布图 D8 hole circle                         | φ70     |      |       | φ100    |       |      | φ130     |       |       | φ185/φ200 |       |
| D9 法兰安装孔 D9 mounting hole                        | φ5.5    |      |       | φ6.5    |       |      | φ8.5     |       |       | φ11/φ13.5 |       |
| B1 键宽 B1 key width                               | 5       |      |       | 6       |       |      | 8        |       |       | 12        |       |
| H1 键高 H1 key height                              | 16      |      |       | 22.5    |       |      | 28       |       |       | 43        |       |
| G3 中心螺纹孔 G3 center screw hole                    | M5 × 12 |      |       | M6 × 16 |       |      | M10 × 22 |       |       | M12 × 25  |       |
| 输入端 Input  |         |      |       |         |       |      |          |       |       |           |       |
| L2 输入法兰长度 L2 input flange length                 | 32      |      |       | 32      |       |      | 38       |       |       | 66        |       |
| L9 电机轴长度 L9 motor shaft length                   | 30      |      |       | 40      |       |      | 58       |       |       | 81        |       |
| L10 定位凸台深 L10 spigot depth                       | 10      |      |       | 10      |       |      | 10       |       |       | 10        |       |
| D1 安装孔分布圆 D1 mounting hole distribution circle   | φ70     |      |       | φ90     |       |      | φ145     |       |       | φ200      |       |
| D2 定位凸台直径 D2 spigot diameter                     | φ50G7   |      |       | φ70G7   |       |      | φ110G7   |       |       | φ114.3G7  |       |
| D3 输入轴轴径 D3 input shaft diameter                 | ≤ φ14G7 |      |       | ≤ φ19G7 |       |      | ≤ φ24G7  |       |       | ≤ φ35G7   |       |
| G1 安装螺纹孔 × 深度 G1 mounting threads × depth        | M5 × 12 |      |       | M6 × 15 |       |      | M8 × 22  |       |       | M12 × 25  |       |
| Q3 输入法兰 Q3input flange                           | □60     |      |       | □80     |       |      | □130     |       |       | □175      |       |

输入端尺寸可根据电机尺寸制作。  
Input size made according to motor size.

## 伺服电机对应尺寸表

Servo motor corresponding size table

### 减速器输入端 Gearbox input



### 输入法兰与伺服电机对应尺寸表 Input flange servo motor matching table

| 输入接口适配器<br>Input interface adapter | A   | B   | C   | D  | E     | F  | I   |
|------------------------------------|-----|-----|-----|----|-------|----|-----|
| AQA40/1                            | 46  | M4  | 40  | 6  | 30    | 3  | 25  |
| AQA40/2                            | 45  | M3  | 40  | 8  | 30    | 3  | 25  |
| AQA40/3                            | 47  | M4  | 40  | 8  | 30    | 3  | 25  |
| AQA40/4                            | 48  | M3  | 40  | 8  | 30    | 3  | 25  |
| AQA60/1                            | 70  | M4  | 60  | 11 | 50    | 3  | 30  |
| AQA60/2                            | 70  | M4  | 60  | 14 | 50    | 3  | 30  |
| AQA60/3                            | 70  | M5  | 60  | 14 | 50    | 3  | 30  |
| AQA80/1                            | 90  | M6  | 80  | 16 | 70    | 3  | 40  |
| AQA80/2                            | 90  | M5  | 80  | 19 | 70    | 3  | 35  |
| AQA80/3                            | 90  | M6  | 80  | 19 | 70    | 3  | 40  |
| AQA90/1                            | 100 | M6  | 90  | 16 | 80    | 3  | 35  |
| AQA90/2                            | 100 | M6  | 90  | 19 | 80    | 3  | 40  |
| AQA90/3                            | 100 | M6  | 90  | 19 | 80    | 3  | 55  |
| AQA100/1                           | 115 | M8  | 100 | 19 | 95    | 3  | 55  |
| AQA100/2                           | 115 | M8  | 100 | 22 | 95    | 5  | 45  |
| AQA100/3                           | 115 | M6  | 100 | 24 | 95    | 3  | 45  |
| AQA100/4                           | 115 | M8  | 100 | 24 | 95    | 5  | 45  |
| AQA130/1                           | 145 | M8  | 130 | 19 | 110   | 6  | 58  |
| AQA130/2                           | 130 | M8  | 130 | 22 | 110   | 3  | 55  |
| AQA130/3                           | 145 | M8  | 130 | 22 | 110   | 6  | 58  |
| AQA130/4                           | 145 | M8  | 130 | 22 | 110   | 6  | 70  |
| AQA130/5                           | 145 | M8  | 130 | 24 | 110   | 3  | 55  |
| AQA130/6                           | 145 | M8  | 130 | 24 | 110   | 6  | 65  |
| AQA175/1                           | 145 | M8  | 175 | 28 | 110   | 3  | 63  |
| AQA175/2                           | 145 | M8  | 175 | 28 | 110   | 6  | 65  |
| AQA175/3                           | 200 | M12 | 175 | 35 | 114.3 | 10 | 65  |
| AQA175/4                           | 200 | M12 | 175 | 35 | 114.3 | 10 | 80  |
| AQA175/5                           | 200 | M12 | 175 | 42 | 114.3 | 10 | 113 |

# 安装 ASSEMBLY

## ■ 安装马达的步骤 Assembly Procedure

客户自行安装伺服马达时，请按以下要领进行安装，伺服马达的尺寸多种多样，除指定的产品外，有些马达可能会无法连接法兰，因为，一定要使用您订货时指定的马达。

When the customer installs the servo motor by himself, please click on the main points to install it. The sizes of the servo motor are various. Except for the specified products, some motors may not be able to connect to the flange.

### 1. 安装无键马达 Spec. In Case Of Assembling A Motor Without Key

- ①取下橡胶帽，转动输入轴，使螺栓头和紧定螺钉的孔吻合。并确认固定螺栓已松开。  
Take off the rubber cap, turn the input shaft, and match the head of the bolt to the hole of the rubber cap. Make sure that the set bolt is loosened.
- ②将马达轴平稳地插入输入轴(请确保不受阻塞地顺畅的插入)。请充分注意不要让马达倾斜插入。  
Gradually put the motor shaft into the input shaft(Ensure that it is smoothly put in without jam) Be careful not to be inserted with the motor tilted.
- ③将马达固定在减速机上，并按指定的扭矩将螺栓拧紧。参考表1  
Attach the motor to the reducer and fasten the bolt with designated fastening torque. See Table 1
- ④使用扭矩扳手等工具，按指定的扭矩将输入轴的固定螺栓拧紧，参考表2  
Fasten the set bolt of the input shaft with designated fastening torque wrench, etc. See Table 2
- ⑤盖上橡胶帽。安装到此结束。  
Put on the rubber cap. It is the end of assembling.

### ■ 表1 Table1

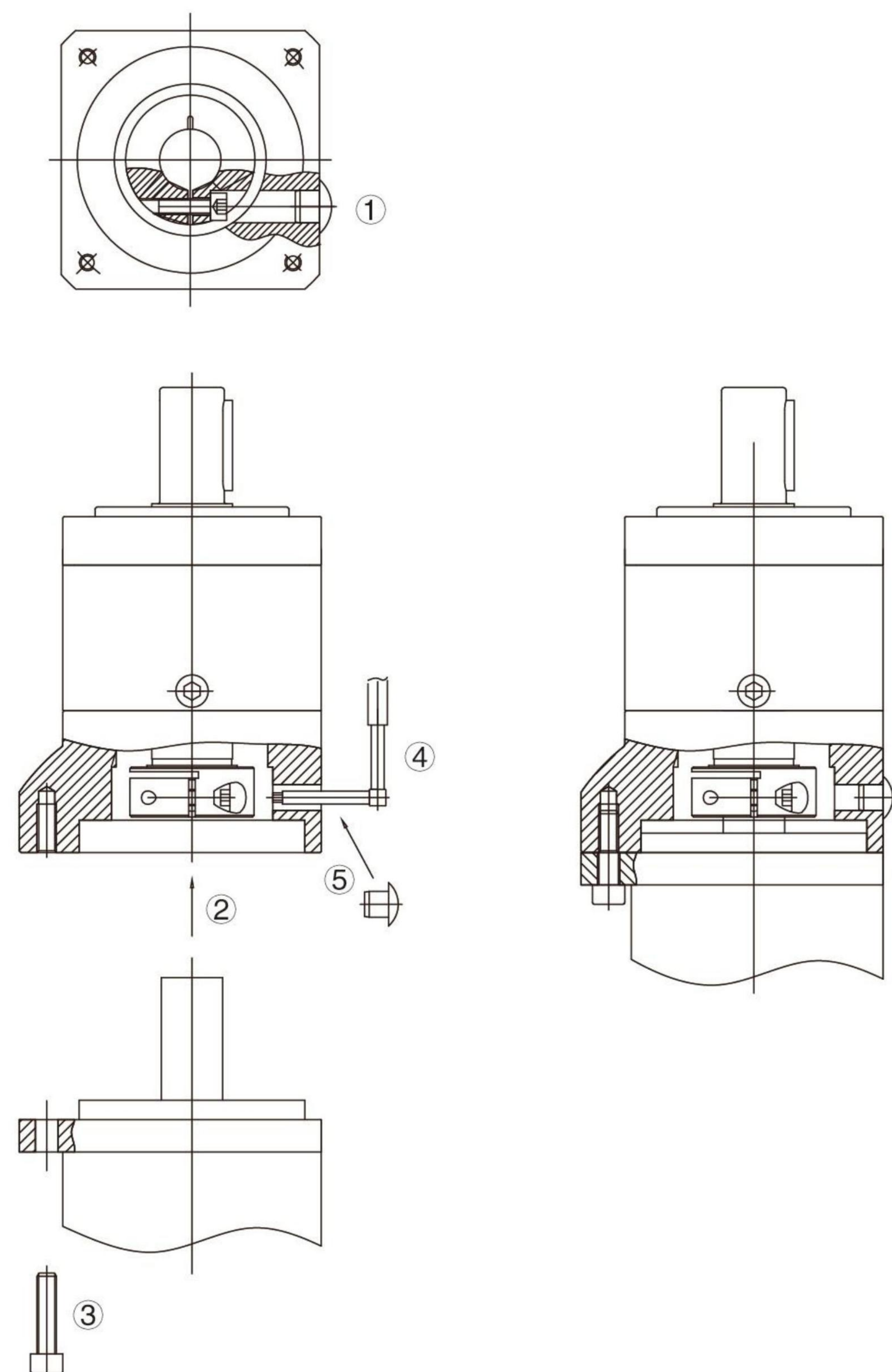
| 马达固定螺栓<br>Motor Combination Bolt | 拧紧扭矩 Fastening Torque |          |
|----------------------------------|-----------------------|----------|
|                                  | (N.m)                 | (kgf.cm) |
| M3                               | 1.0                   | 10       |
| M4                               | 3.0                   | 30       |
| M5                               | 5.8                   | 60       |
| M6                               | 9.8                   | 100      |
| M8                               | 19.6                  | 200      |
| M10                              | 39.2                  | 400      |
| M12                              | 68.6                  | 700      |
| M16                              | 168                   | 1650     |

### ■ 表2 Table2

| 固定螺栓<br>Combination Bolt | 拧紧扭矩 Fastening Torque |          |
|--------------------------|-----------------------|----------|
|                          | (N.m)                 | (kgf.cm) |
| M3                       | 1.5                   | 15       |
| M4                       | 3.5                   | 35       |
| M5                       | 7.1                   | 71       |
| M6                       | 12                    | 120      |
| M8                       | 30                    | 300      |
| M10                      | 60                    | 612      |

带键槽式马达的键取下后，可以像上述无键马达一样安装，无需担心会滑动。

### P2/P3/WP2/WP3 系列马达安装示意图 Installation diagram of P2/P3/WP2/WP3 series motors



## 安装

### ASSEMBLY

## ■ 减速机的安装 Reducer Assembly

将减速机安装在设备上时，请在确认安装面平坦且无毛刺等后，使用扭矩扳手等工具按指定的扭矩用螺栓将其固定，参考表4。

Joining with reducer case of Joining a reducer with the device. make sure the that the combining side is plane without inconsistency. and when assemble reducer outo equipment. ensuring assembly surface smooth and without buft. see Table 4.

## ■ 表4 Table4

| 减速机固定螺栓<br>Reducer Combination Bolt | 拧紧扭矩 Fastening Torque |          |
|-------------------------------------|-----------------------|----------|
|                                     | (N.m)                 | (kgf.cm) |
| M5                                  | 5.8                   | 60       |
| M6                                  | 9.8                   | 100      |
| M8                                  | 19.6                  | 200      |
| M10                                 | 39.2                  | 400      |
| M12                                 | 68.6                  | 700      |
| M16                                 | 168                   | 1650     |

## ■ 连接输出轴 Connection To The Output Shaft

注意事项 Cautions:

- 1、在输出轴上安装耦合器、滑轮等时，请勿在输出轴上施加过大的轴向负荷。  
When assemble a coupling, pulley, etc. onto the output shaft, make sure that excessive axial load not be given to the output shaft.
- 2、请勿使用强力将轴敲入，以免使轴承或减速机内部受到损伤。  
In case of strongly hitting the shaft with a hammer, the shaft inlet or the inside of the reducer may be damaged, therefore it shall be prohibited.
- 3、安装的耦合器等的轴和键槽如有较大松动，可能会导致设备烧毁，安装时请充分注意。  
If the shaft or key of a coupling assembled is loosed, it may cause carbonization, so be careful when assembling.
- 4、安装耦合器等时，请使用固定螺栓来将键固定住。  
For assembling of a coupling, fix the key with a set bolt.
- 5、连接时请充分调校轴心。  
Please adjust shaft centre carefully in connecting.

