HeTai 合泰



合泰减速箱

匠心筑精品，质量守初心

减速箱产品手册

HETAI GEARBOX CATALOG

Quality

质量-公司生存之本

Integrity

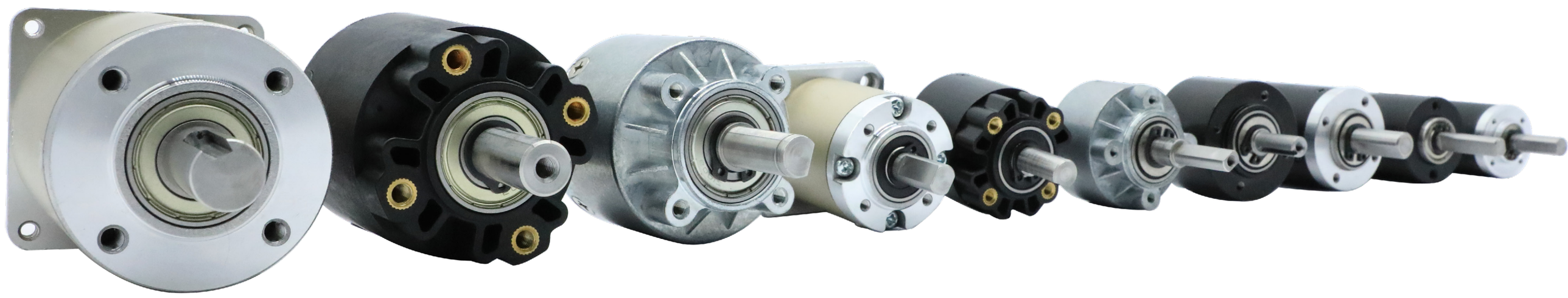
诚信-公司经营之道

Innovative

创新-公司永恒之魂

Customer

顾客-公司发展之根



公司简介
Company Profile

常州合泰电机电器股份有限公司(股票代码834300)，是一家具有新型管理模式和强大技术实力的微电机生产制造企业，专业生产伺服电机、直流无刷电机、混合式步进电机、驱动器…等产品。
为用户提供专业的机电一体化产品与自动化系统解决方案。产品主要应用于机器人、包装机械、纺织机械、医疗器械、印刷机械、智能物流…等各行各业的自动化设备仪器中，产品主要销往欧美、东南亚及全国各地。
合泰电机位于江苏省常州市，厂房建筑面积为35000多平方米。公司自1998年重组以来，已形成一定的产销规模，具有年生产300多万台电机的生产能力。

ChangZhou Hetai (Stock code:834300) is a leading manufacturer with advanced technology and innovative management mode. Hetai specializes in producing servo motors, DC Motors, hybrid stepping motors, drivers and so on.
Hetai dedicates to professional electrical integration and automation strategies for customers. The products are almost applied in robots, packing machinery, textile machinery, medical instruments, printing machinery, intelligent logistics equipment... Hetai also sends its products to USA, Europe, Southeast Asia and all-around China.
Hetai is located in ChangZhou, JiangSu province and its workshop area is over 35,000. Since Hetai reformed in 1998, the specialization, scale of production has ensured to manufacture 3,000,000 motors every year.

公司历史
Company History

2003年开始导入质量管理体系，先后获得了ISO9001/TS 16949体系证书，并顺利通过换版审核和历年的监督审核，获得了国家外经贸部核准的外贸自营进出口权。

2005年获得了出口产品安全许可证-欧盟“CE”认证；发明专利4项，实用新型专利7项，外观设计专利1项。

公司股票于2015年在全国股份转让系统挂牌（新三板）。
2016年通过了安全标准化管理体系的认证。
2018年被评为高新技术企业。
2019年成立工程技术研究中心。
2021年继续被评为江苏省高新技术企业。
2023年与大连理工大学达成校企合作签订联合创新中心。

In the year 2003, Hetai was qualified by ISO9001/TS 16949 Certificate, and passed supervision successfully. The company also attained import and export right of external trade of self-management.

In 2005, Hetai has qualified by EU Type Examination Certificate and get four. Invention Patent, seven Utility Patent, and one Appearance Design Patent.

Hetai was quoted on the stock market in 2015.

Hetai was authenticated by safety standardization management system in next year.

The company was qualified as high-tech enterprise in 2018.
Establishment of Engineering Technology Research Center in 2019.

Continuously rated as a high-tech enterprise in Jiangsu Province in 2021.

Entered into university-enterprise cooperation with Dalian University of Technology and signed a joint innovation centre in 2023.

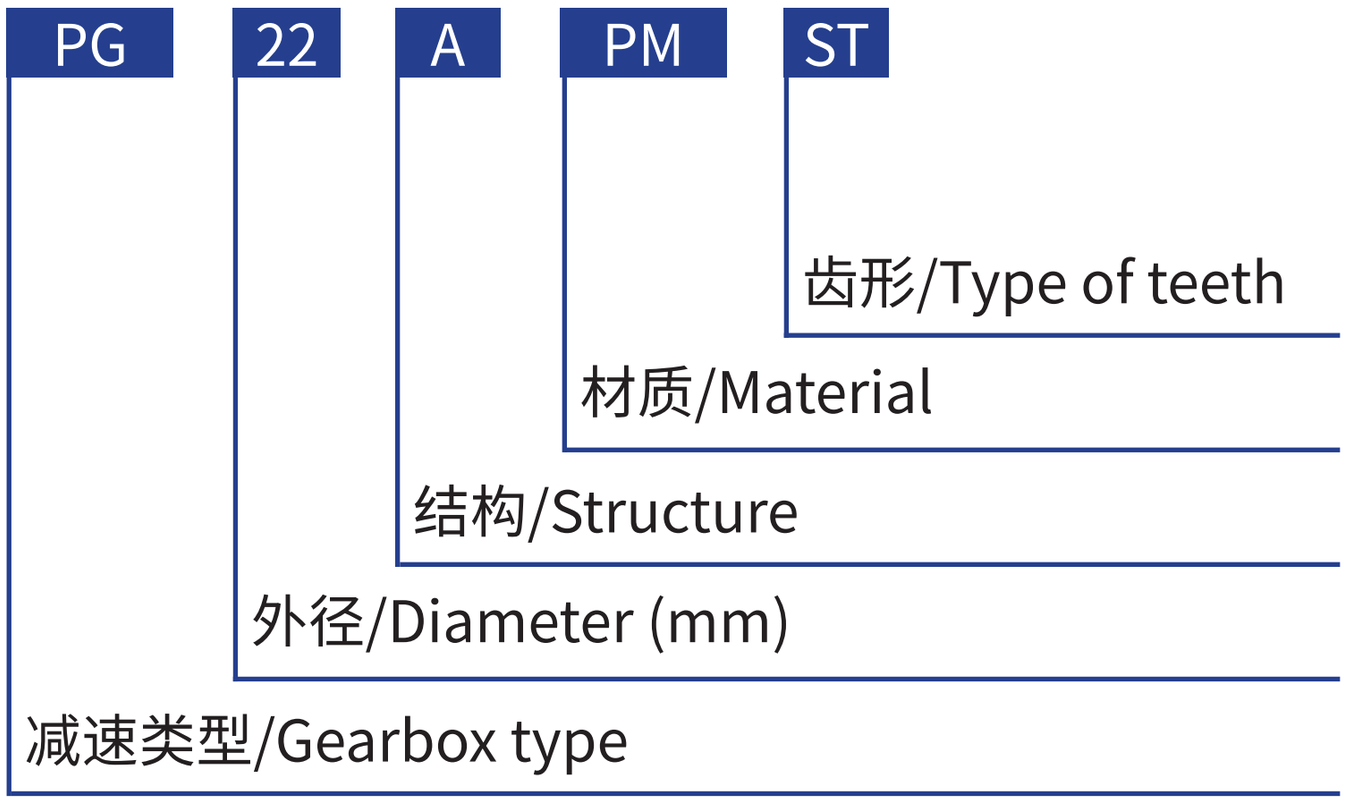
CE

RoHS

ISO9001

IATF16949

减速箱命名规则/ Naming Rules



代号及含义/ Code and its meaning

减速类型/Gearbox type

PG	行星减速齿轮箱/ Planetary Gearbox
WG	蜗轮蜗杆减速齿轮箱/ Worm Gearbox

材质/Material

PM	粉末冶金/ Powder metallurgy
ZA	锌合金/ Zinc Alloy
EP	工程塑料/ Engineering Plastic

结构/Structure

A	一体式/ All-in-one
S	分体式/ Split

齿形/Type of teeth

ST	直齿/ Straight Teeth
HT	斜齿/ Helix Teeth

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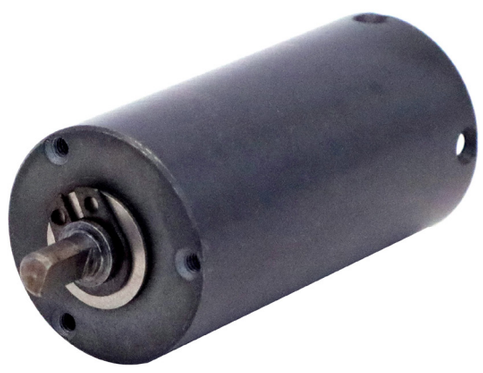
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PG22A-PM-HT



行星齿轮箱粉末冶金款 22(mm)

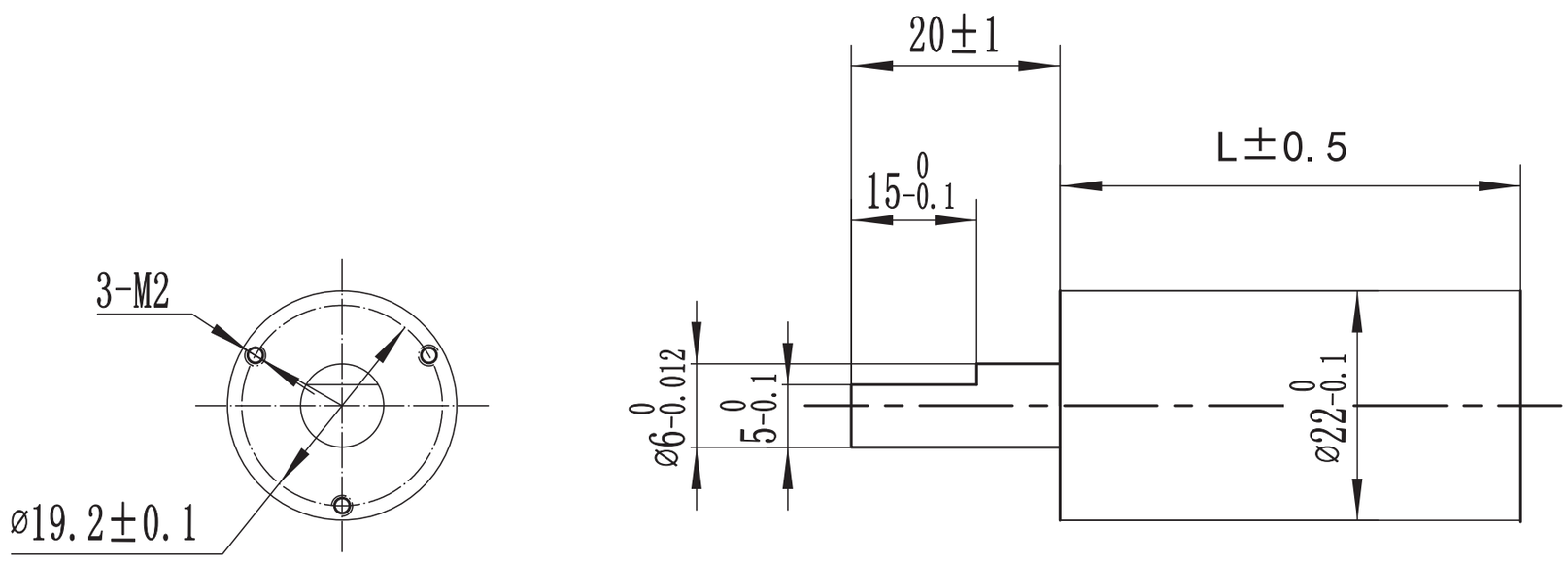
Planetary gearbox powder metallurgy Ver. 22(mm)

外壳材质 Housing Material	输出轴承形式 Bearing at output	径向负载 (N) Radial load (10mm from flange)	轴向负载 (N) Shaft axial load	静态主轴最大承受压入力 Shaft press fit force max Static（N）	径向间隙 (mm) Radial play of shaft	轴向间隙 (mm) Thrust play of shaft	背隙 (无负载时) Backlash at no-load
粉末冶金 Powder metallurgy	含油轴承 Porous bearing	≤35	≤15	≤80	≤0.08	≤0.4	≤1.5°

*负载与转速有关，具体数据需参考实际情况。

*Load relates to speed, actual value depends on different situation.

外型图/Mechanical Dimension



Unit：mm

标准减速比形式/Gearbox Specifications

减速比 Reduction Ratio	实际减速比 Exact Reduction Ratio	额定允许负载 Rated Tolerance Torque (Nm)	瞬间允许负载 Momentary Tolerance Torque (Nm)	效率 Efficiency (%)	长度 Length (mm)	重量 Weight (g)	减速比级数 Number of gear trains
1/4	1/4	0.1	0.3	81%	13.9	29	1
1/4.75	1/4.75						
1/16	1/16	0.4	1.2	72%	32.4	52	2
1/19	1/19						
1/22	1/22						
1/26	1/26.125						
1/64	1/64	0.8	2.5	65%	43.9	73	3
1/76	1/76						
1/88	1/88						
1/104	1/104.5						
1/121	1/121						
1/144	1/143.687						

PG22A-PM-ST



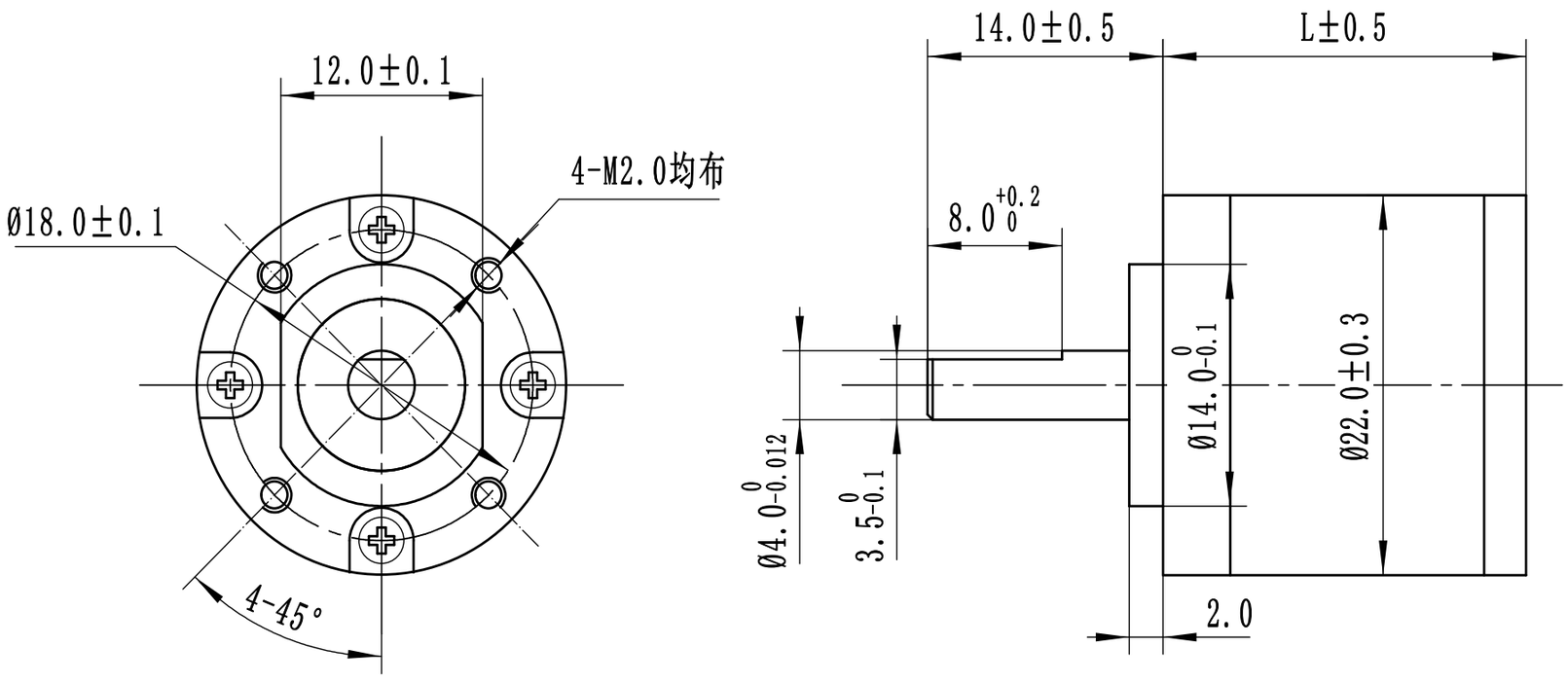
行星齿轮箱粉末冶金短款 22（mm）

Planetary gearbox powder metallurgy Ver. 22(mm)

外壳材质 Housing Material	输出轴承形式 Bearing at output	径向负载（N） Radial load (10mm from flange)	轴向负载（N） Shaft axial load	主轴最大承受压入力（N）Shaft press fit force max	径向间隙（mm） Radial play of shaft	轴向间隙（mm） Thrust play of shaft	背隙（无负载时）（°）Backlash at no-load
粉末冶金 Powder metallurgy	含油轴承 Porous bearing	≤20	≤10	≤60	≤0.3	≤0.4	≤1.5°

*负载与转速有关，具体数据需参考实际情况。
*Load relates to speed, actual value depends on different situation.

外型图/Mechanical Dimension

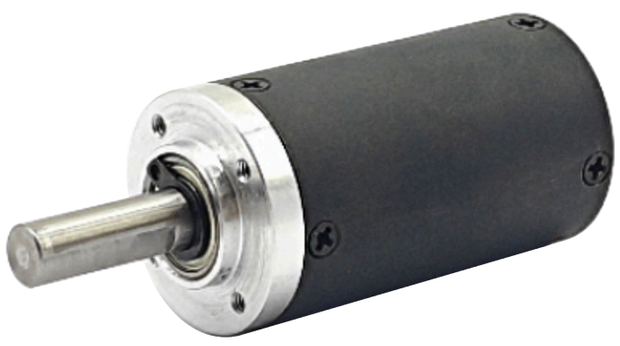


Unit：mm

标准减速比形式/Gearbox Specifications

减速比 Reduction Ratio	实际减速比 Absolute Reduction Ratio	额定允许负载 Rated Tolerance Torque (Nm)	瞬间允许负载 Momentary Tolerance Torque (Nm)	效率 Efficiency (%)	长度 Length (mm)	重量 Weight (g)	减速比级数 Number of gear trains
1:4.38	$1:4\frac{5}{13}$	0.1	0.3	90%	15.5	36	1
1:19.22	$1:19\frac{38}{169}$	0.4	1.2	81%	19	46	2
1:23.67	$1:23\frac{44}{65}$						
1:84.29	$1:84\frac{645}{2197}$	0.8	2.5	72%	22.5	53	3
1:103.8	$1:103\frac{688}{845}$						
1:127.8	$1:127\frac{278}{325}$						

PG24A-PM-ST



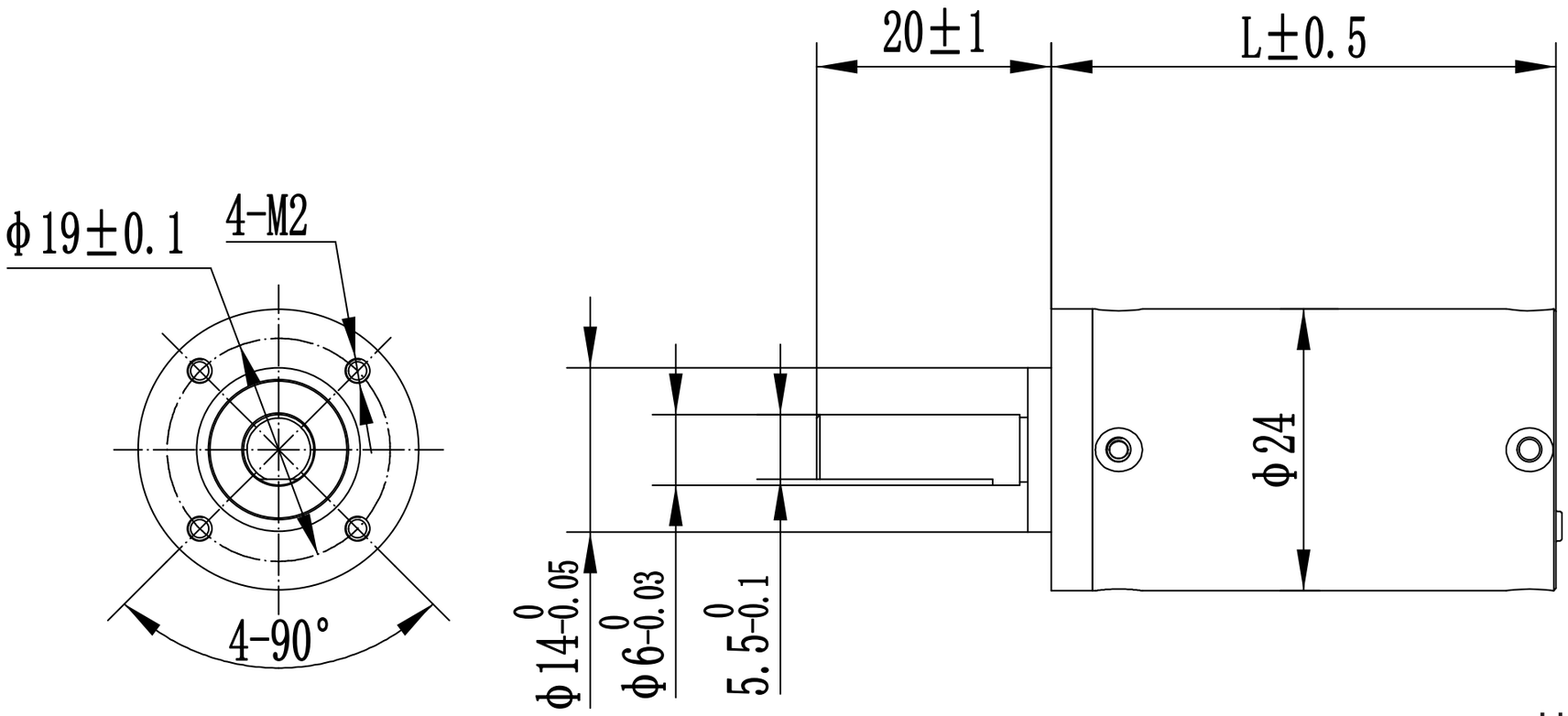
行星粉末冶金常规24(mm)

Planetary Powder Metallurgy 24(mm)

外壳材质 Housing Material	输出轴承形式 Bearing at output	径向负载 (N) Radial load (10mm from flange)	轴向负载 (N) Shaft axial load	主轴最大承受压入力 (N)Shaft press fit force max	径向间隙 (mm) Radial play of shaft	轴向间隙 (mm) Thrust play of shaft	背隙 (无负载时) (°) Backlash at no-load
粉末冶金 Powder metallurgy	含油轴承 Porous bearing	≤20	≤10	≤60	≤0.08	≤0.3	≤3°

*负载与转速有关,具体数据需参考实际情况。
*Load relates to speed, actual value depends on different situation.

外型图/Mechanical Dimension



Unit:mm

标准减速比形式/Gearbox Specifications

减速比 Reduction Ratio	实际减速比 Absolute Reduction Ratio	额定允许负载 Rated Tolerance Torque (Nm)	瞬间允许负载 Momentary Tolerance Torque (Nm)	效率 Efficiency (%)	长度 Length (mm)	重量 Weight (g)	减速比级数 Number of gear trains
1/4	1/4	0.1	0.3	90%	23.5	45	1
1/6	1/6						
1/24	1/24	0.4	1.2	80%	29.2	55	2
1/144	1/144	0.8	2.5	72%	34.7	65	3
1/576	1/576	1.0	3.0	65%	43	80	4

PG28A-PM-HT



行星齿轮箱粉末冶金款 28(mm)

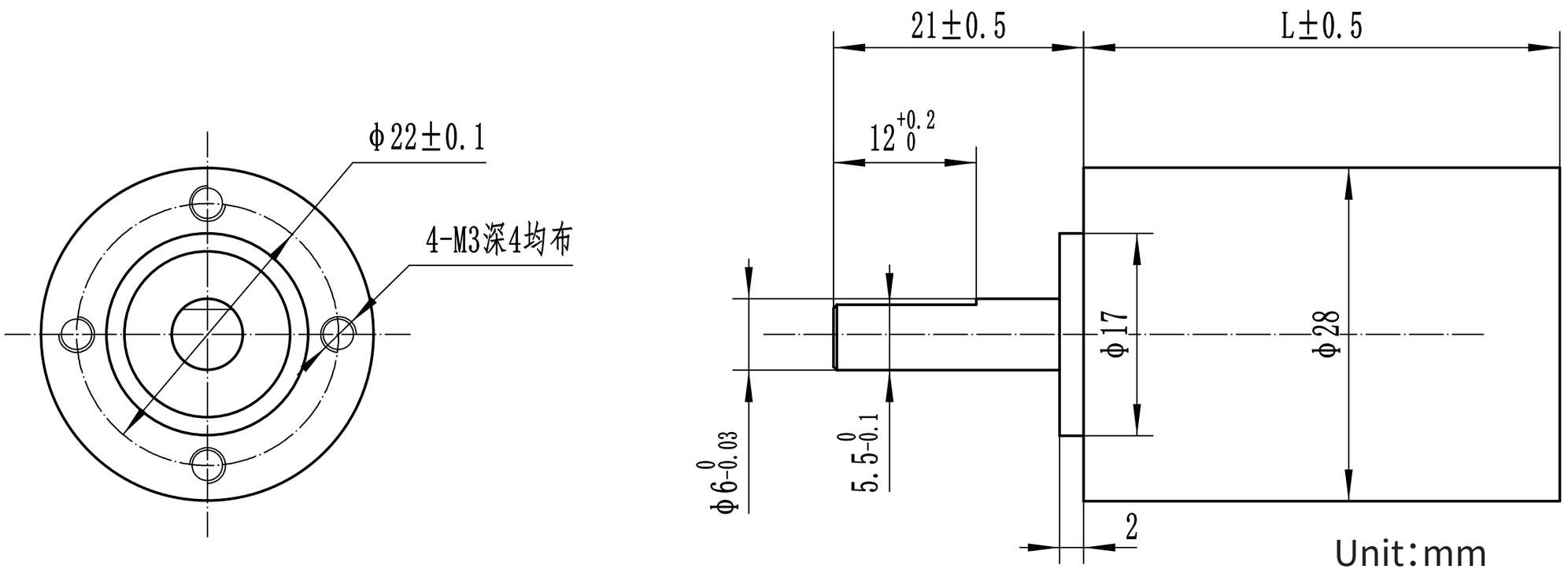
Planetary gearbox powder metallurgy Ver. 28(mm)

外壳材质 Housing Material	输出轴承形式 Bearing at output	径向负载 (N) Radial load (10mm from flange)	轴向负载 (N) Shaft axial load	静态主轴最大承受压入力 Shaft press fit force max Static（N)	径向间隙 (mm) Radial play of shaft	轴向间隙 (mm) Thrust play of shaft	背隙 (无负载时) Backlash at no-load
粉末冶金 Powder metallurgy	含油轴承 Porous bearing	≤80	≤30	≤200	≤0.03	≤0.4	≤1.5°

*负载与转速有关，具体数据需参考实际情况。

*Load relates to speed, actual value depends on different situation.

外型图/Mechanical Dimension



标准减速比形式/Gearbox Specifications

减速比 Reduction Ratio	实际减速比 Absolute Reduction Ratio	额定允许负载 Rated Tolerance Torque (Nm)	瞬间允许负载 Momentary Tolerance Torque (Nm)	效率 Efficiency (%)	长度 Length (mm)	重量 Weight (g)	减速比级数 Number of gear trains
1/3.7	$1：3\frac{5}{7}$	0.2	1.0	91%	23.0	78	1
1/14	$1：14\frac{16}{49}$	0.5	1.5	72%	29.8	92	2
1/30	$1：29\frac{62}{77}$						
1/64	$1：63\frac{519}{539}$	1.8	5.0	65%	40.0	105	3
1/107	$1：106\frac{226}{275}$						

PG28S-PM-HT



行星齿轮箱粉末冶金短款 28（mm）

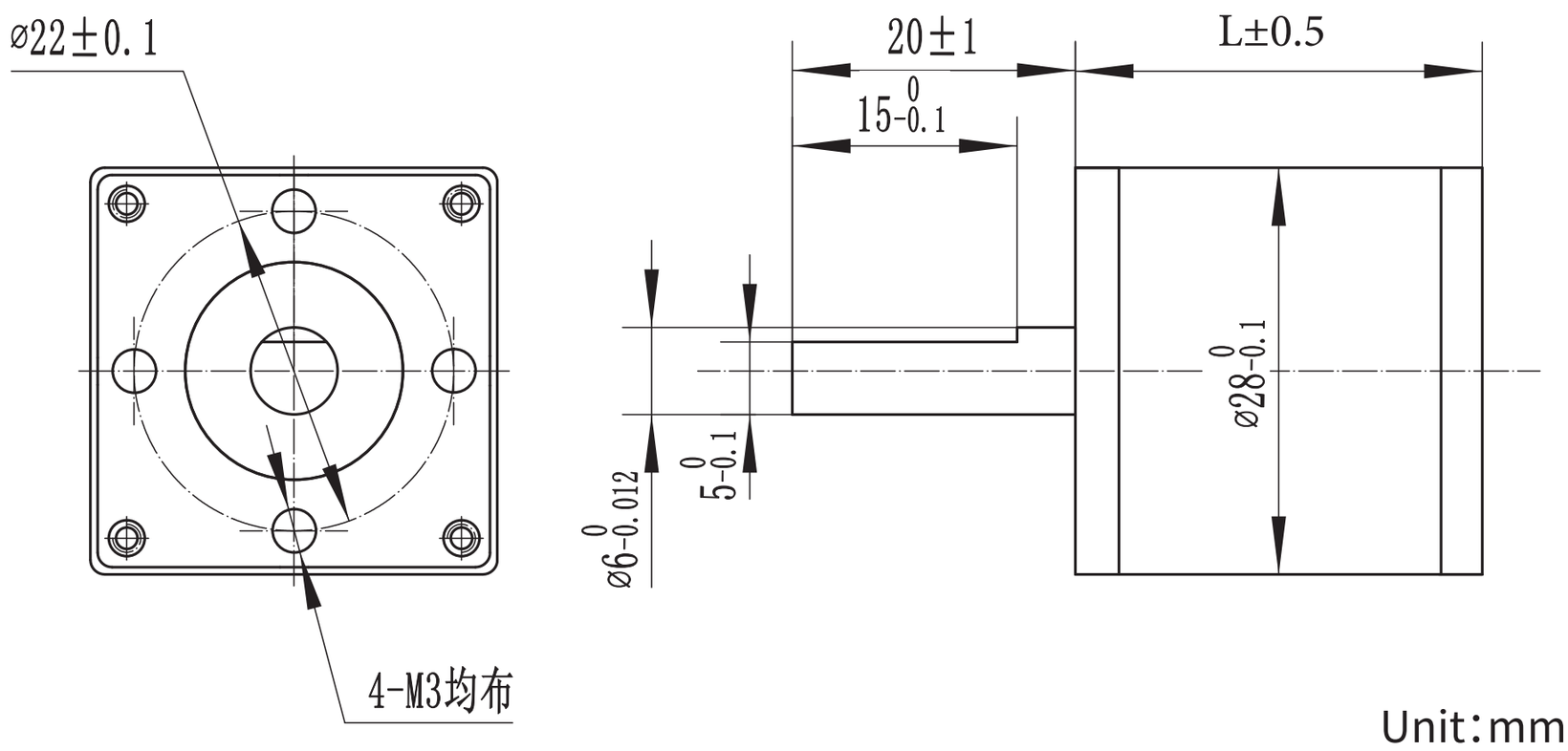
Planetary gearbox powder metallurgy Ver. 28(mm)

外壳材质 Housing Material	输出轴承形式 Bearing at output	径向负载（N） Radial load (10mm from flange)	轴向负载（N） Shaft axial load	静态主轴最大承受压入力 Shaft press fit force max Static（N）	径向间隙（mm） Radial play of shaft	轴向间隙（mm） Thrust play of shaft	背隙（无负载时） Backlash at no-load
粉末冶金 Powder metallurgy	滚珠轴承 Ball bearing	≤80	≤30	≤200	≤0.03	≤0.4	≤1.5°

*负载与转速有关，具体数据需参考实际情况。

*Load relates to speed, actual value depends on different situation.

外型图/Mechanical Dimension



Unit：mm

标准减速比形式/Gearbox Specifications

减速比 Reduction Ratio	实际减速比 Absolute Reduction Ratio	额定允许负载 Rated Tolerance Torque (Nm)	瞬间允许负载 Momentary Tolerance Torque (Nm)	效率 Efficiency (%)	长度 Length (mm)	重量 Weight (g)	减速比级数 Number of gear trains
1/6	1/6	0.2	0.6	81%	28.5	105	1

PG32A-PM-ST



行星齿轮箱粉末冶金款 32（mm）

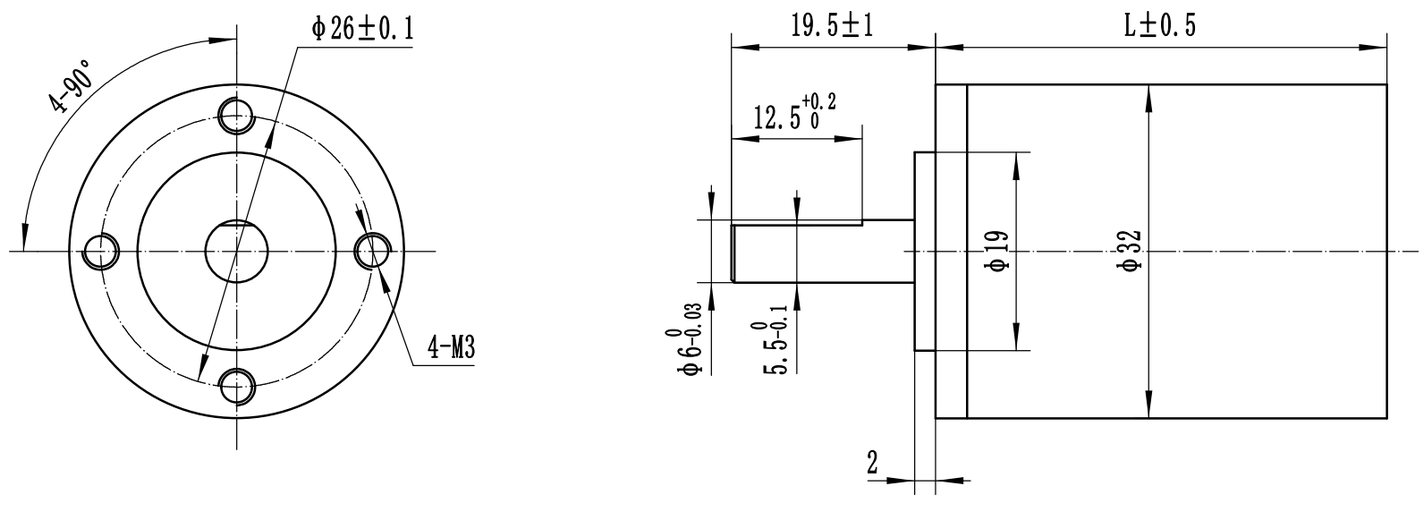
Planetary gearbox powder metallurgy Ver. 32(mm)

外壳材质 Housing Material	输出轴承形式 Bearing at output	径向负载 (N) Radial load (10mm from flange)	轴向负载 (N) Shaft axial load	主轴最大承受压入力 (N) (N)Shaft press fit force max	径向间隙 (mm) Radial play of shaft	轴向间隙 (mm) Thrust play of shaft	背隙 (无负载时) (°) Backlash at no-load
粉末冶金 Powder metallurgy	滚珠轴承 Ball bearing	⩽80	⩽30	⩽300	⩽0.07	⩽0.3	⩽1.5°

*负载与转速有关，具体数据需参考实际情况。

*Load relates to speed, actual value depends on different situation.

外型图/Mechanical Dimension



Unit：mm

标准减速比形式/Gearbox Specifications

减速比 Reduction Ratio	实际减速比 Absolute Reduction Ratio	额定允许负载 Rated Tolerance Torque (Nm)	瞬间允许负载 Momentary Tolerance Torque (Nm)	效率 Efficiency (%)	长度 Length (mm)	重量 Weight (g)	减速比级数 Number of gear trains
1：3.7	$1:3\frac{5}{7}$	0.3	1.0	90%	29.7	87	1
1：4.8	$1:4\frac{4}{5}$						
1：5.7	$1:4\frac{3}{5}$						
1：13.8	$1:13\frac{39}{49}$	1.2	3.5	80%	36.4	108	2
1：17.8	$1:17\frac{29}{35}$						
1：21.4	$1:21\frac{5}{14}$						
1：23.0	$1:23\frac{1}{25}$						
1：27.6	$1:27\frac{3}{5}$						
1：33.1	$1:33\frac{1}{16}$						
1：51.2	$1:51\frac{83}{343}$	2.5	7.5	72%	43.1	129	3
1：66.2	$1:66\frac{54}{245}$						
1：79.3	$1:79\frac{16}{49}$						
1：85.6	$1:85\frac{101}{175}$						
1：102.5	$1:102\frac{18}{35}$						
1：110.6	$1:110\frac{74}{125}$						
1：122.8	$1:122\frac{45}{56}$						
1：132.5	$1:132\frac{12}{25}$						
1/158.7	$1:158\frac{7}{10}$						
1/190.1	$1:190\frac{7}{64}$						

PG36A-PM-HT



行星齿轮箱粉末冶金款 36（mm）

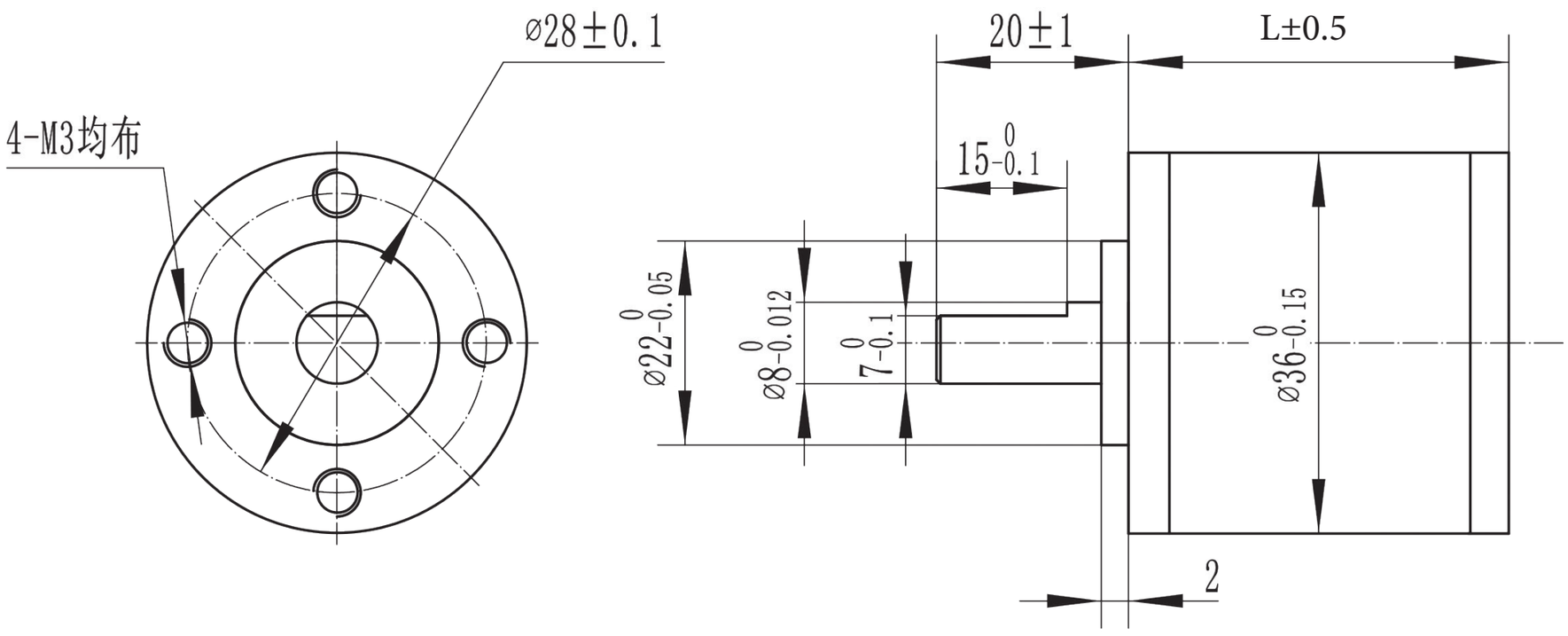
Planetary gearbox powder metallurgy Ver.36(mm)

外壳材质 Housing Material	输出轴承形式 Bearing at output	径向负载（N） Radial load (10mm from flange)	轴向负载（N） Shaft axial load	静态主轴最大承受压入力 Shaft press fit force max Static（N）	径向间隙（mm） Radial play of shaft	轴向间隙（mm） Thrust play of shaft	背隙（无负载时） Backlash at no-load
粉末冶金 Powder metallurgy	滚珠轴承 Ball bearing	⩽120	⩽80	⩽500	⩽0.03	⩽0.1	⩽1.5°

*负载与转速有关，具体数据需参考实际情况。

*Load relates to speed, actual value depends on different situation.

外型图/Mechanical Dimension



Unit：mm

标准减速比形式/Gearbox Specifications

减速比 Reduction Ratio	实际减速比 Absolute Reduction Ratio	额定允许负载 Rated Tolerance Torque（Nm）	瞬间允许负载 Momentary Tolerance Torque（Nm）	效率 Efficiency (%)	长度 Length（mm）	重量 Weight (g)	减速比级数 Number of gear trains
1/4	1/4.38	0.3	1.0	81%	24.8	145	1
1/5	1/5.4						
1/16	1/16.44	1.2	3.5	72%	32.4	173	2
1/20	1/20.25						
1/25	1/25.16						
1/53	1/52.56	2.5	7.5	65%	41.9	213	3
1/62	1/61.59						
1/76	1/75.94						
1/94	1/94.37						
1/117	1/117.26						
1/230	1/231.22	3	9	60%	54.3	253	4
1/285	1/284.76						

PG36S-PM-ST



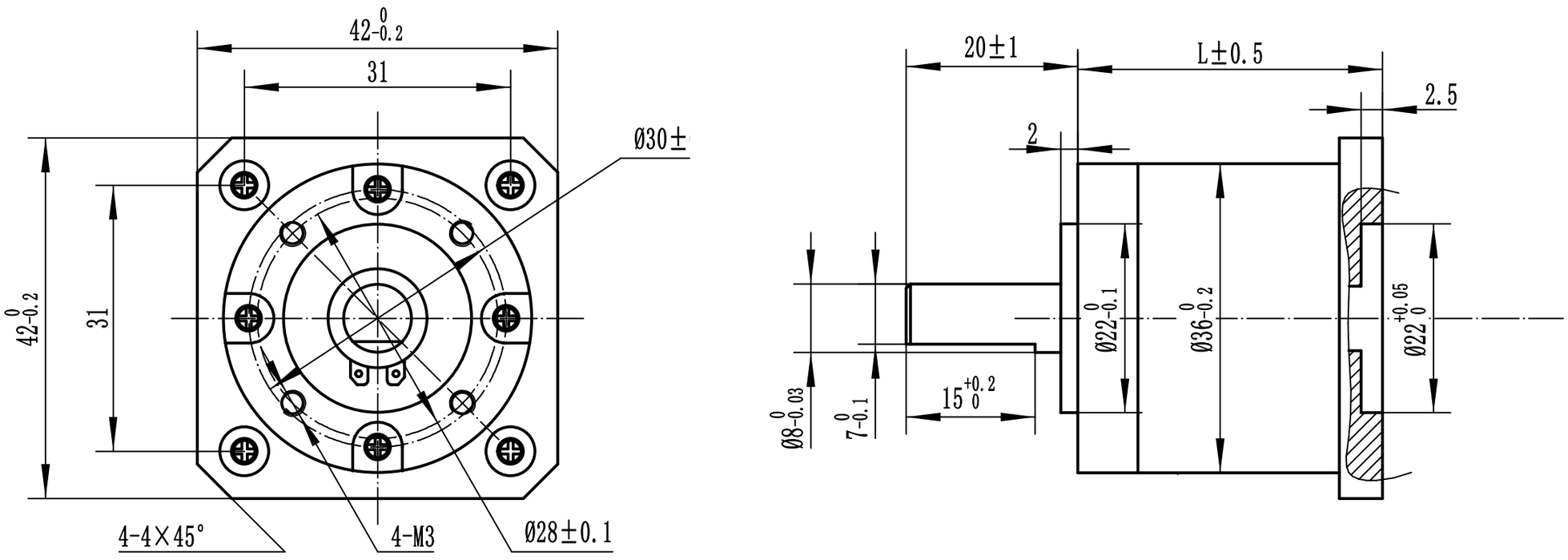
行星齿轮箱上下版结构粉末冶金 36(mm)

Planetary gearbox powder metallurgy Ver.36(mm)

外壳材质 Housing Material	输出轴承形式 Bearing at output	径向负载 (N) Radial load (10mm from flange)	轴向负载 (N) Shaft axial load	主轴最大承受压入力 (N)Shaft press fit force max	径向间隙 (mm) Radial play of shaft	轴向间隙 (mm) Thrust play of shaft	背隙 (无负载时) (°) Backlash at no-load
粉末冶金 Powder metallurgy	滚珠轴承 Ball bearing	≤35	≤25	≤100	≤0.03	≤0.1	≤1.5°

*负载与转速有关，具体数据需参考实际情况。
*Load relates to speed, actual value depends on different situation.

外型图/Mechanical Dimension



Unit：mm

标准减速比形式/Gearbox Specifications

减速比 Reduction Ratio	实际减速比 Absolute Reduction Ratio	额定允许负载 Rated Tolerance Torque (Nm)	瞬间允许负载 Momentary Tolerance Torque (Nm)	效率 Efficiency (%)	长度 Length (mm)	重量 Weight (g)	减速比级数 Number of gear trains
1/3.7	1/3.71	2	4	90%	28	140	1
1/5.18	1/5.18						
1/13.76	1/13.76	3	5	81%	35.5	190	2
1/19.22	1/19.22						
1/26.83	1/26.83						
1/51	1/51.03	4	6	72%	43	230	3
1/71.3	1/71.3						
1/100	1/99.55						
1/139	1/139						

PG42A-PM-HT



行星齿轮箱粉末冶金款 42（mm）

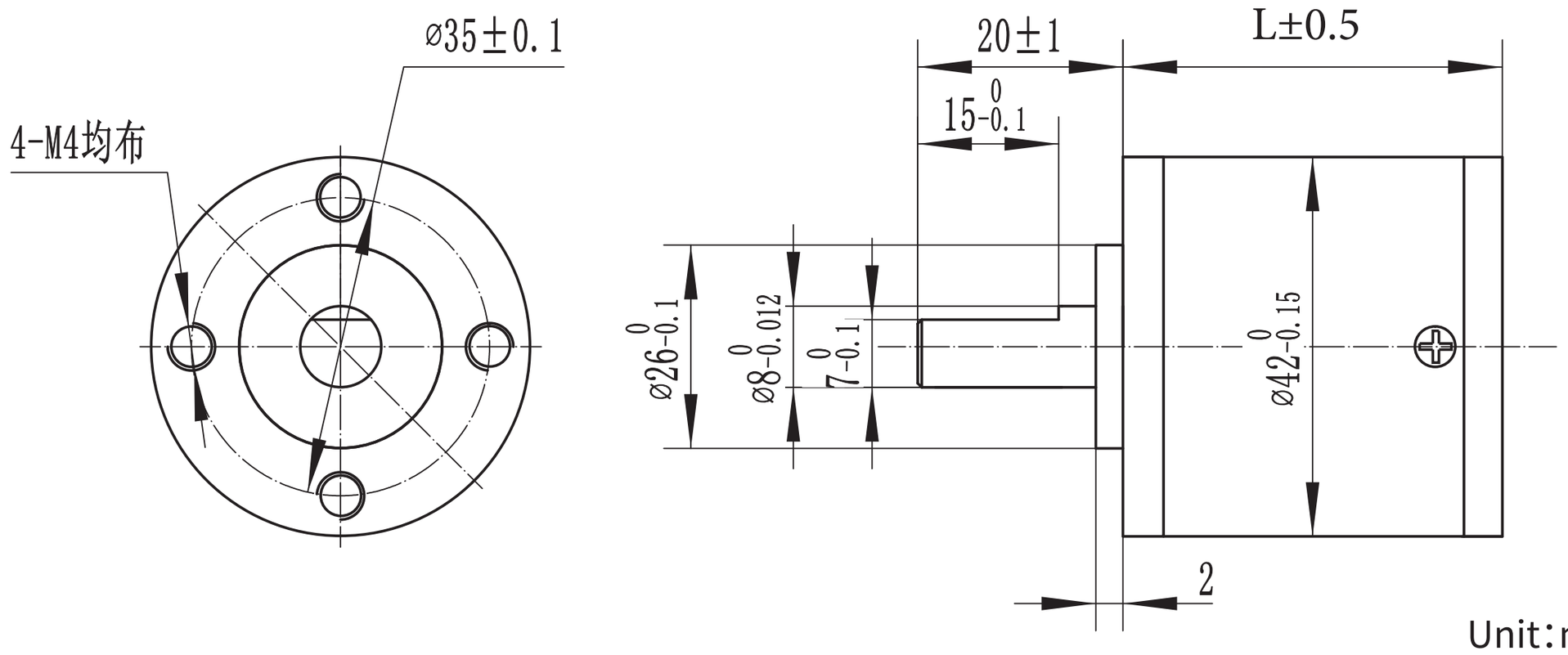
Planetary gearbox powder metallurgy Ver. 42(mm)

外壳材质 Housing Material	输出轴承形式 Bearing at output	径向负载（N） Radial load (10mm from flange)	轴向负载（N） Shaft axial load	静态主轴最大承受压入力 Shaft press fit force max Static（N）	径向间隙（mm） Radial play of shaft	轴向间隙（mm） Thrust play of shaft	背隙（无负载时） Backlash at no-load
粉末冶金 Powder metallurgy	滚珠轴承 Ball bearing	⩽120	⩽80	⩽500	⩽0.03	⩽0.1	⩽1.5°

*负载与转速有关，具体数据需参考实际情况。

*Load relates to speed, actual value depends on different situation.

外型图/ Mechanical Dimension



Unit：mm

标准减速比形式/Gearbox Specifications

减速比 Reduction Ratio	实际减速比 Absolute Reduction Ratio	额定允许负载 Rated Tolerance Torque（Nm）	瞬间允许负载 Momentary Tolerance Torque（Nm）	效率 Efficiency (%)	长度 Length (mm)	重量 Weight (g)	减速比级数 Number of gear trains
1/4	1/4.33	1.0	3.0	81%	32.5	170	1
1/6	1/6						
1/15	1/15.24	4.0	12	72%	46.3	207	2
1/18	1/18.75						
1/25	1/25.98						
1/36	1/36						
1/54	1/53.04	8.0	25	65%	60.1	267	3
1/65	1/65.62						
1/90	1/90.93						
1/112	1/112.49						
1/155	1/155.88						
1/216	1/216	10.0	30	65%	60.1	267	3

PG42A-PM-ST



行星粉末冶金常规款 42(mm)

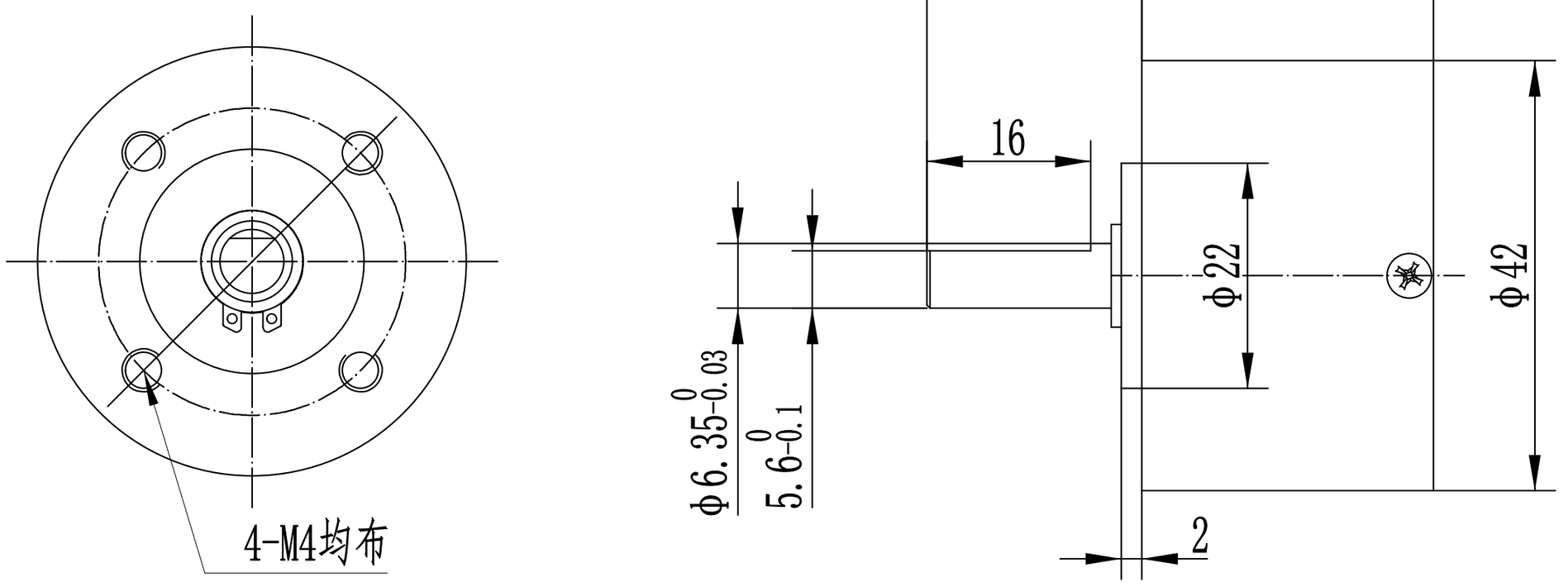
Planetary powder metallurgy routine 42(straight teeth)

外壳材质 Housing Material	输出轴承形式 Bearing at output	径向负载 (N) Radial load (10mm from flange)	轴向负载 (N) Shaft axial load	静态主轴最大承受压入力 Shaft press fit force max Static（N）	径向间隙 (mm) Radial play of shaft	轴向间隙 (mm) Thrust play of shaft	背隙 (无负载时) Backlash at no-load
粉末冶金 Powder metallurgy	滚珠轴承 Ball bearing	⩽120	⩽80	⩽500	⩽0.03	⩽0.1	⩽1.5°

*负载与转速有关，具体数据需参考实际情况。

*Load relates to speed, actual value depends on different situation.

外型图/ Mechanical Dimension



Unit：mm

标准减速比形式/Gearbox Specifications

减速比 Reduction Ratio	实际减速比 Absolute Reduction Ratio	额定允许负载 Rated Tolerance Torque (Nm)	瞬间允许负载 Momentary Tolerance Torque (Nm)	效率 Efficiency (%)	长度 Length (mm)	重量 Weight (g)	减速比级数 Number of gear trains
1/10	1/10	1.5	4.5	90%	28.5	180	1

PG52A-PM-ST



行星齿轮箱粉末冶金款 52(mm)

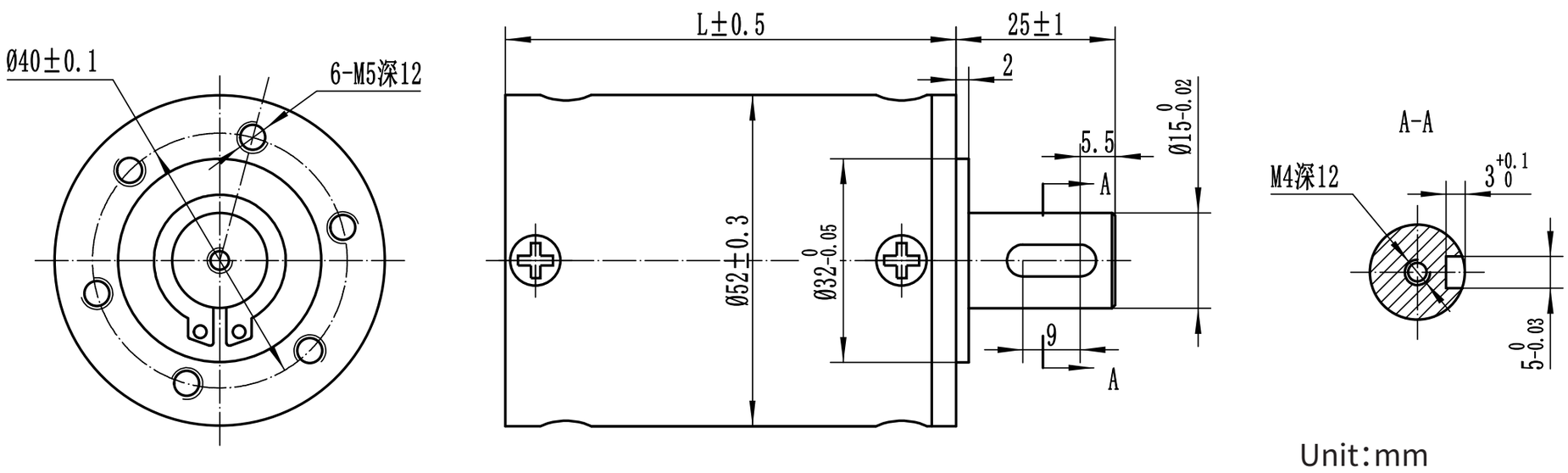
Planetary gearbox powder metallurgy Ver. 52(mm)

外壳材质 Housing Material	输出轴承形式 Bearing at output	径向负载 (N) Radial load (10mm from flange)	轴向负载 (N) Shaft axial load	主轴最大承受压入力 (N)Shaft press fit force max	径向间隙 (mm) Radial play of shaft	轴向间隙 (mm) Thrust play of shaft	背隙 (无负载时) (°) Backlash at no-load
粉末冶金 Powder metallurgy	滚珠轴承 Ball bearing	≤250	≤100	≤800	≤0.08	≤0.5	≤2.5°

*负载与转速有关，具体数据需参考实际情况。

*Load relates to speed, actual value depends on different situation.

外型图/Mechanical Dimension



Unit:mm

标准减速比形式/Gearbox Specifications

减速比 Reduction Ratio	实际减速比 Exact reduction radio	额定 负载 Rated Tolerance Torque (Nm)	瞬间允许负载 Momentary Tolerance Torque (Nm)	效率 Efficiency (%)	长度 Length (mm)	重量 Weight (g)	减速比级数 Number of gear trains
1:4.1	$1:4\frac{1}{8}$	2.0	6.0	90%	46.2	415	1
1:6.0	1:6						
1:8.1	$1:8\frac{1}{7}$						
1:17.0	$1:17\frac{1}{64}$	8.0	25.0	80%	58.5	544	2
1:24.8	$1:24\frac{3}{4}$						
1:33.6	$1:33\frac{33}{56}$						
1:36.0	1:36						
1:48.8	$1:48\frac{6}{7}$						
1:66.3	$1:66\frac{15}{49}$						
1:70.2	$1:70\frac{97}{512}$	16.0	50.0	72%	70.8	630	3
1:102.1	$1:102\frac{3}{32}$						
1:138.5	$1:138\frac{249}{448}$						
1:148.5	$1:148\frac{1}{2}$						
1:201.5	$1:201\frac{15}{28}$						
1:273.3	$1:273\frac{201}{392}$						
1:216.0	1:216						
1:293.0	$1:293\frac{1}{7}$						
1:397.6	$1:397\frac{41}{49}$						
1:539.4	$1:539\frac{316}{343}$						

PG56A-PM-HT



行星齿轮箱粉末冶金款 56(mm)

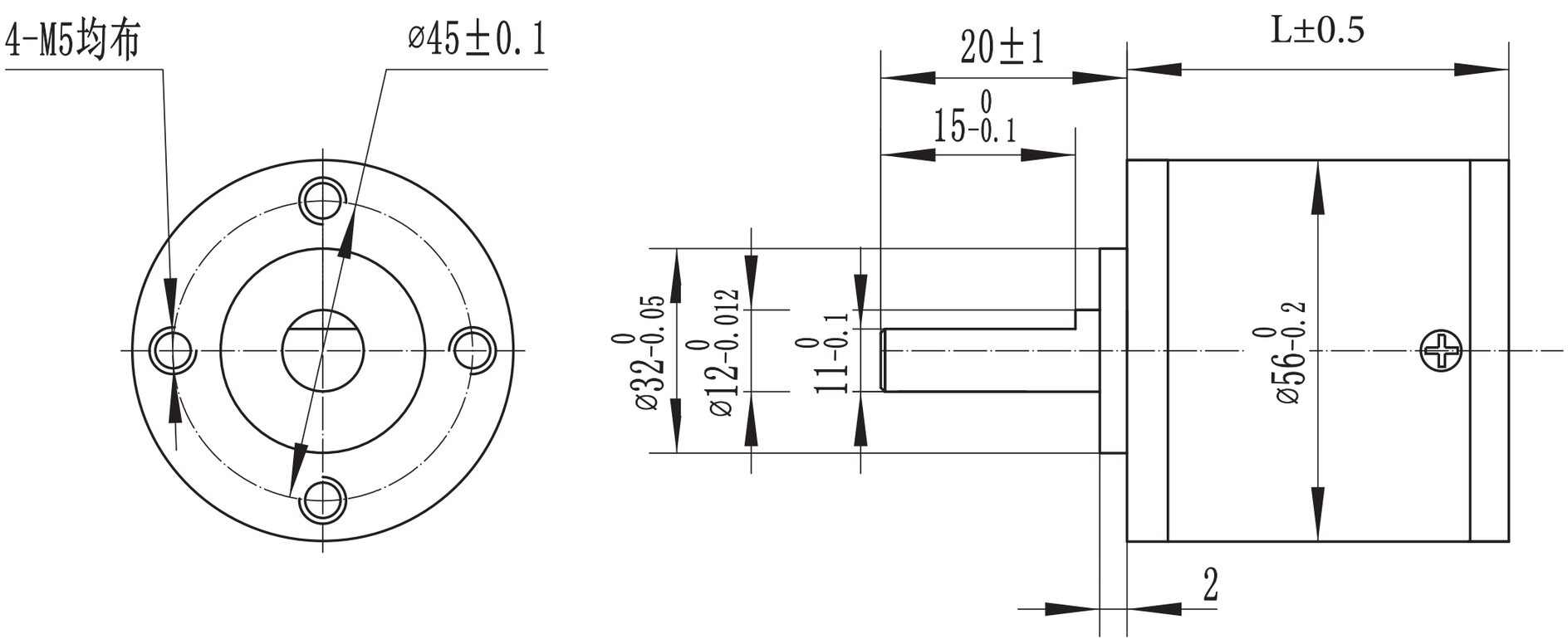
Planetary gearbox powder metallurgy Ver. 56(mm)

外壳材质 Housing Material	输出轴承形式 Bearing at output	径向负载 (N) Radial load (10mm from flange)	轴向负载 (N) Shaft axial load	静态主轴最大承受压入力 Shaft press fit force max Static（N)	径向间隙 (mm) Radial play of shaft	轴向间隙 (mm) Thrust play of shaft	背隙 (无负载时) Backlash at no-load
粉末冶金 Powder metallurgy	滚珠轴承 Ball bearing	≤450	≤200	≤1000	≤0.03	≤0.1	≤1.5°

*负载与转速有关,具体数据需参考实际情况。

*Load relates to speed, actual value depends on different situation.

外型图/Mechanical Dimension



Unit：mm

标准减速比形式/Gearbox Specifications

减速比 Reduction Ratio	实际减速比 Absolute Reduction Ratio	额定允许负载 Rated Tolerance Torque (Nm)	瞬间允许负载 Momentary Tolerance Torque (Nm)	效率 Efficiency (%)	长度 Length (mm)	重量 Weight (g)	减速比级数 Number of gear trains
1/4	1/4.33	2.0	6.0	81%	41.3	491	1
1/6	1/6						
1/15	1/15.17	8.0	25	72%	59.6	700	2
1/18	1/18.77						
1/26	1/25.98	16.0	50	72%	59.6	700	2
1/47	1/47.63						
1/66	1/66						

PG56S-PM-ST



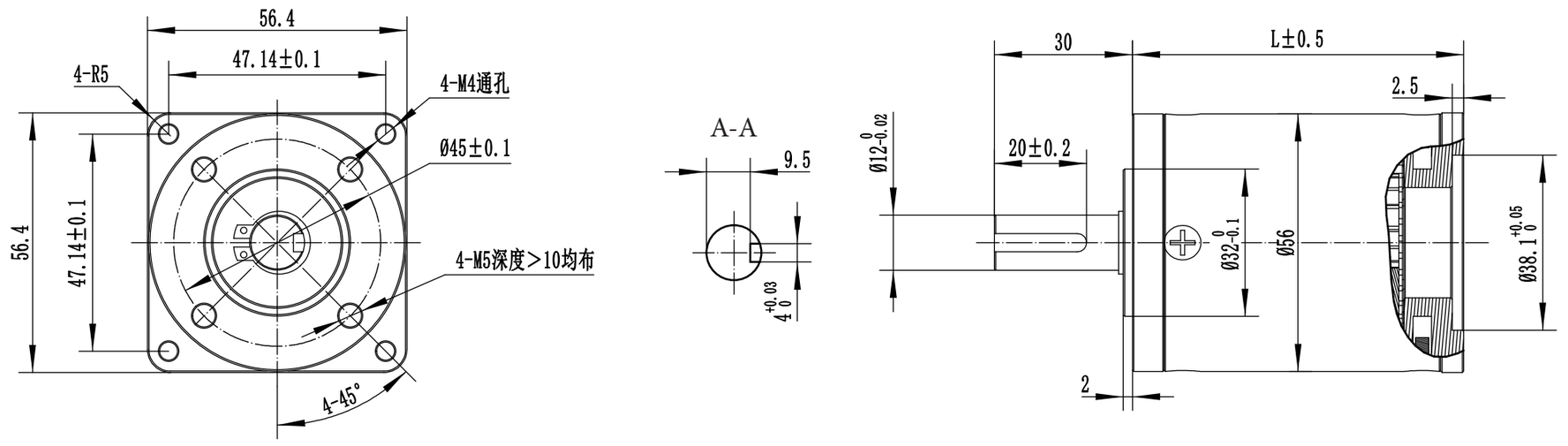
行星齿轮箱上下版结构粉末冶金 56(mm)

Planetary gearbox powder metallurgy Ver.56(mm)

外壳材质 Housing Material	输出轴承形式 Bearing at output	径向负载 (N) Radial load (10mm from flange)	轴向负载 (N) Shaft axial load	主轴最大承受压入力 (N)Shaft press fit force max	径向间隙 (mm) Radial play of shaft	轴向间隙 (mm) Thrust play of shaft	背隙 (无负载时) (°) Backlash at no-load
粉末冶金 Powder metallurgy	滚珠轴承 Ball bearing	≤250	≤100	≤1000	≤0.08	≤0.5	≤2.5°

*负载与转速有关,具体数据需参考实际情况。
*Load relates to speed, actual value depends on different situation.

外型图/Mechanical Dimension



Unit:mm

标准减速比形式/Gearbox Specifications

减速比 Reduction Ratio	实际减速比 Exact Reduction Radio	额定允许负载 Rated Tolerance Torque (Nm)	瞬间允许负载 Momentary Tolerance Torque (Nm)	效率 Efficiency (%)	长度 Length (mm)	重量 Weight (g)	减速比级数 Number of gear trains
1:3.6	$1:3\frac{3}{5}$	10	30	90%	48	430	1
1:4.25	$1:4\frac{1}{4}$						
1:5.33	$1:5\frac{1}{3}$						
1:12.96	$1:12\frac{24}{25}$	20	50	81%	60	570	2
1:15.3	$1:15\frac{3}{10}$						
1:18.06	$1:18\frac{1}{16}$						
1:19.2	$1:19\frac{1}{5}$						
1:22.67	$1:22\frac{2}{3}$						
1:28.44	$1:28\frac{4}{9}$						
1:46.66	$1:46\frac{82}{125}$	40	70	72%	72	710	3
1:55.08	$1:55\frac{2}{25}$						
1:65.03	$1:65\frac{1}{40}$						
1:69.12	$1:69\frac{3}{25}$						
1:76.77	$1:76\frac{49}{64}$						
1:81.6	$1:81\frac{3}{5}$						
1:96.33	$1:96\frac{1}{3}$						
1:102.4	$1:102\frac{2}{5}$						
1:120.89	$1:120\frac{8}{9}$						
1:151.70	$1:150\frac{46}{27}$						

PG60A-PM-ST



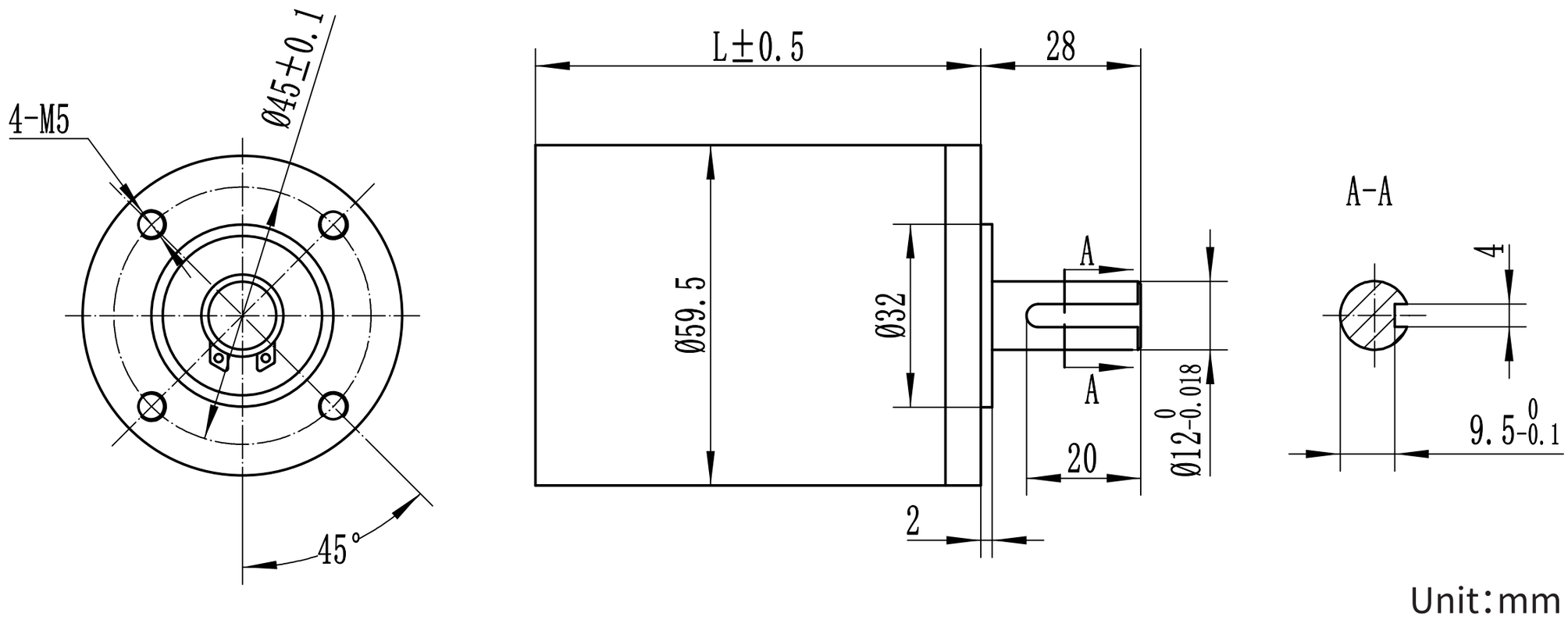
行星齿轮箱粉末冶金款 60(mm)(玫瑰金)

Planetary gearbox powder metallurgy Ver. 60(mm)

外壳材质 Housing Material	输出轴承形式 Bearing at output	径向负载 (N) Radial load (10mm from flange)	轴向负载 (N) Shaft axial load	主轴最大承受压入力 (N)Shaft press fit force max	径向间隙 (mm) Radial play of shaft	轴向间隙 (mm) Thrust play of shaft	背隙 (无负载)(°) Backlash at no-load
粉末冶金 Powder metallurgy	滚珠轴承 Ball bearing	≤250	≤100	≤1000	≤0.08	≤0.5	≤2.5°

*负载与转速有关,具体数据需参考实际情况。
*Load relates to speed, actual value depends on different situation.

外型图/Mechanical Dimension

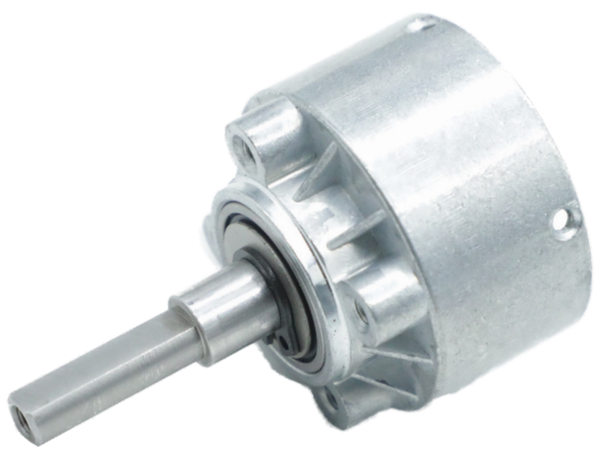


Unit:mm

标准减速比形式/Gearbox Specifications

减速比 Reduction Ratio	实际减速比 Absolute Reduction Ratio	额定允许负载 Rated Tolerance Torque (Nm)	瞬间允许负载 Momentary Tolerance Torque (Nm)	效率 Efficiency (%)	长度 Length (mm)	重量 Weight (g)	减速比级数 Number of gear trains
1:3.5	$1:3\frac{1}{2}$	2.0	6.0	90%	41.3	700	1
1:4.33	$1:4\frac{1}{3}$						
1:12.25	$1:12\frac{1}{4}$	8.0	25.0	81%	59.6	730	2
1:15.17	$1:15\frac{1}{6}$						
1:42.88	$1:42\frac{7}{8}$	16.0	50.0	72%	77.9	953	3
1:53.08	$1:53\frac{1}{12}$						
1:65.72	$1:65\frac{13}{18}$						
1:81.37	$1:81\frac{10}{27}$						

PG36A-ZA-HT



行星齿轮箱锌合金款 36(mm)

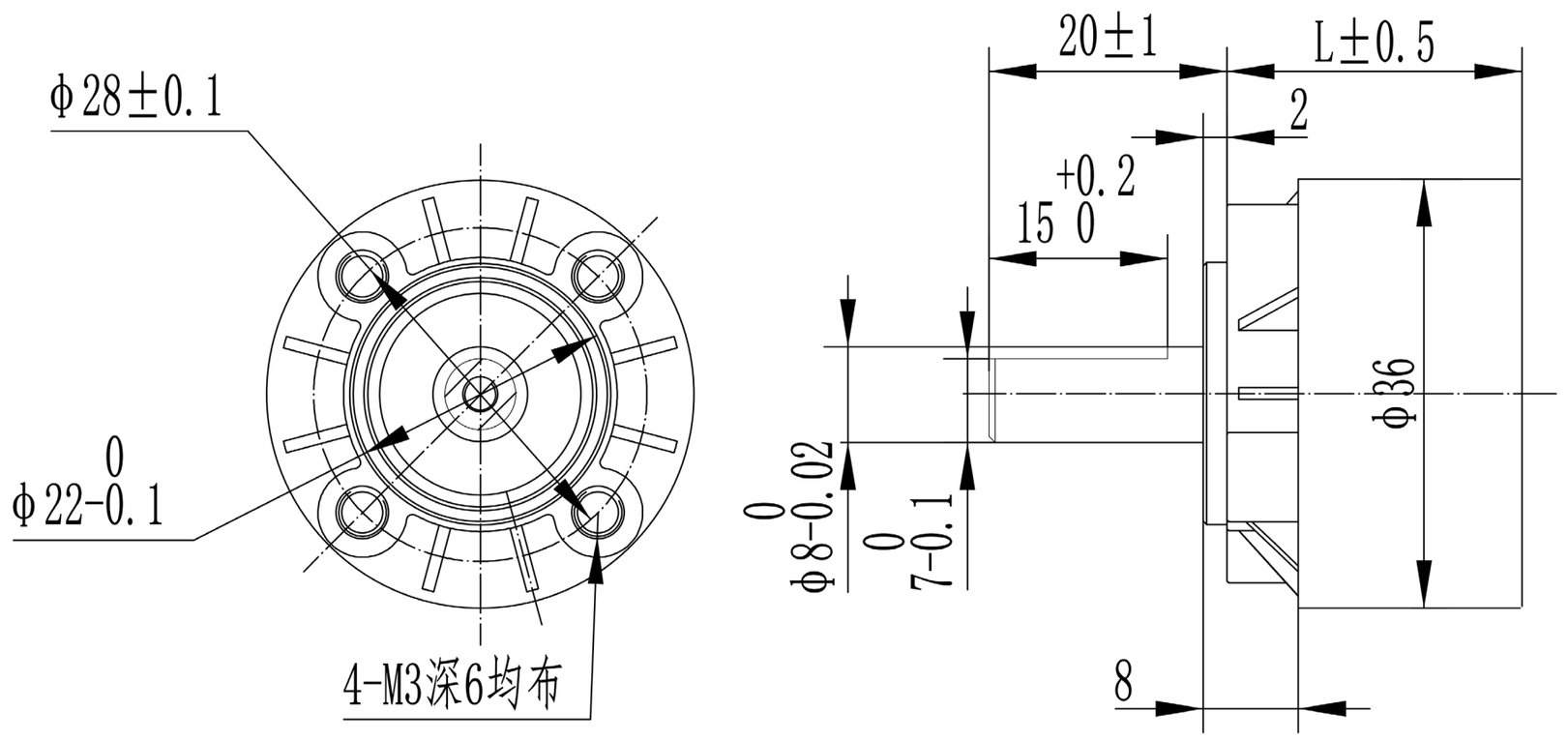
Planetary gearbox Zinc alloy Ver. 36(mm)

外壳材质 Housing Material	输出轴承形式 Bearing at output	径向负载(N) Radial load (10mm from flange)	轴向负载(N) Shaft axial load	静态主轴最大承受压入力 Shaft press fit force max Static（N）	径向间隙(mm) Radial play of shaft	轴向间隙(mm) Thrust play of shaft	背隙(无负载时) Backlash at no-load
锌合金 Zinc alloy	滚珠轴承 Ball bearing	≤45	≤25	≤500	≤0.08	≤0.4	≤1.5°

*负载与转速有关，具体数据需参考实际情况。

*Load relates to speed, actual value depends on different situation.

外型图/Mechanical Dimension

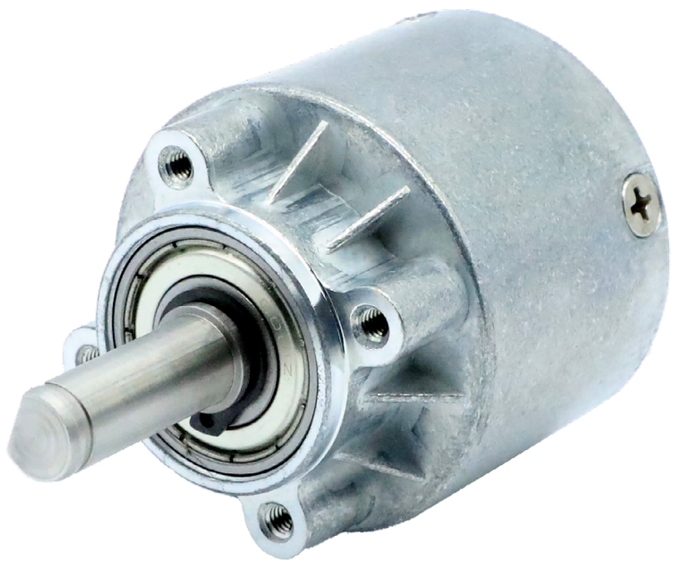


Unit：mm

标准减速比形式/Gearbox Specifications

减速比 Reduction Ratio	实际减速比 Absolute Reduction Ratio	额定允许负载 Rated Tolerance Torque (Nm)	瞬间允许负载 Momentary Tolerance Torque (Nm)	效率 Efficiency (%)	长度 Length (mm)	重量 Weight (g)	减速比级数 Number of gear trains
1/4	1：$4\frac{5}{13}$	0.3	1.0	81%	24.8	100	1
1/5.4	1：$5\frac{2}{5}$						
1/12	1：12						

PG52A-ZA-HT



行星齿轮箱锌合金 52(mm)

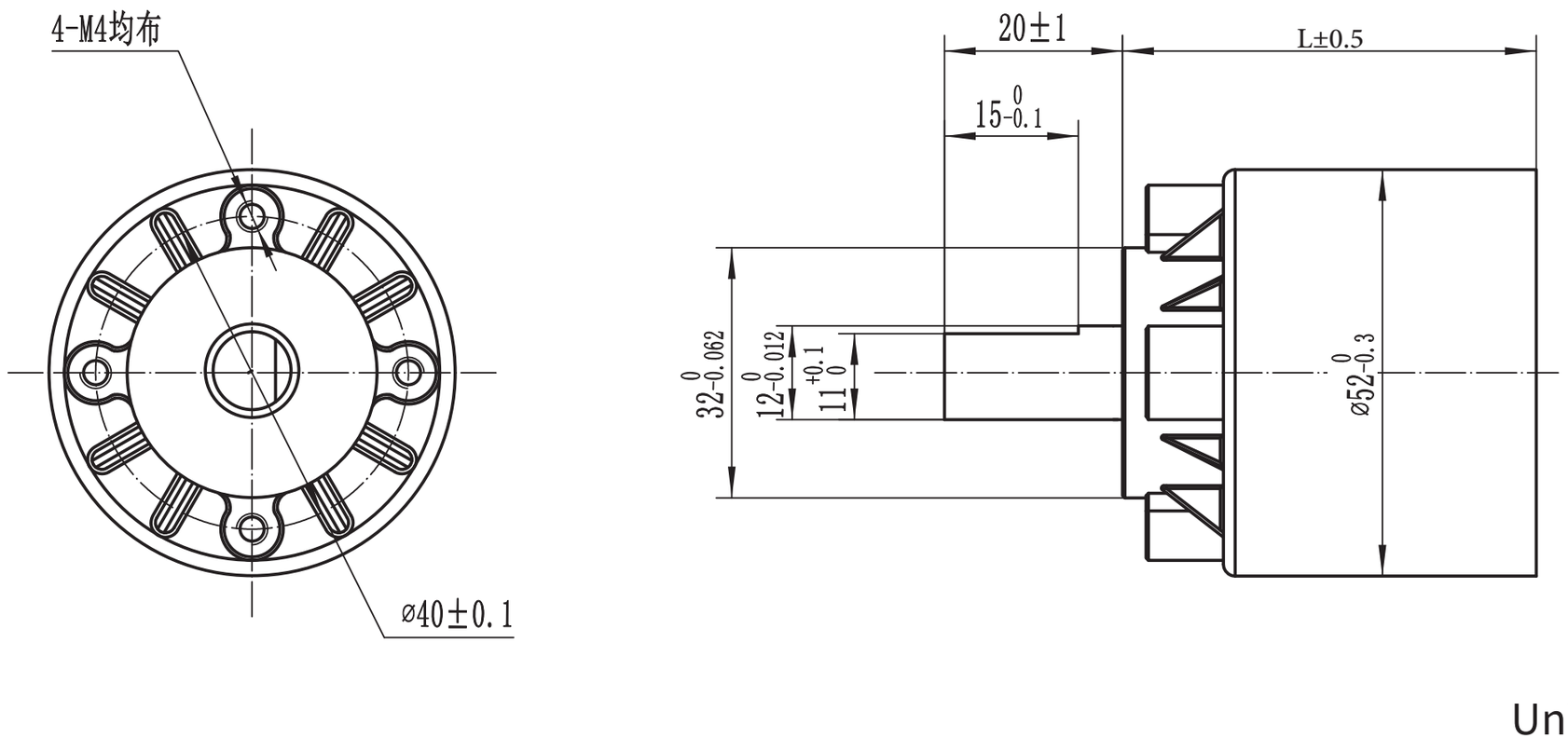
Planetary gearbox Zinc alloy Ver. 52(mm)

外壳材质 Housing Material	输出轴承形式 Bearing at output	径向负载(N) Radial load (10mm from flange)	轴向负载(N) Shaft axial load	静态主轴最大承受压入力 Shaft press fit force max Static（N）	径向间隙(mm) Radial play of shaft	轴向间隙(mm) Thrust play of shaft	背隙(无负载时) Backlash at no-load
锌合金 Zinc alloy	滚珠轴承 Ball bearing	≤450	≤200	≤1000	≤0.03	≤0.1	≤1.5°

*负载与转速有关，具体数据需参考实际情况。

*Load relates to speed, actual value depends on different situation.

外型图/Mechanical Dimension

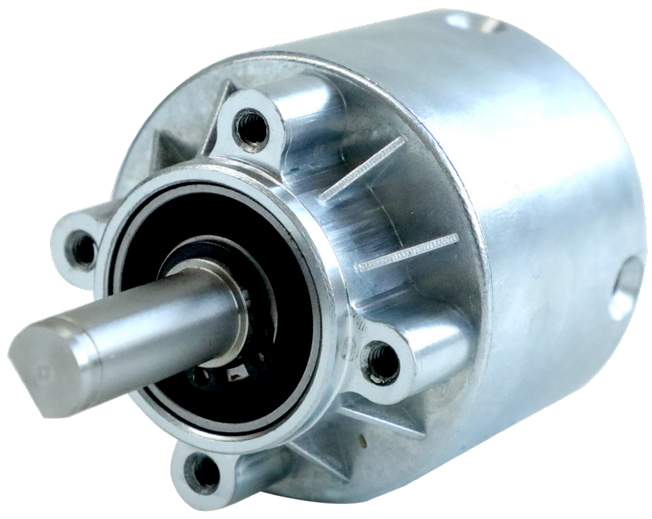


Unit：mm

标准减速比形式/Gearbox Specifications

减速比 Reduction Ratio	实际减速比 Absolute Reduction Ratio	额定允许负载 Rated Tolerance Torque (Nm)	瞬间允许负载 Momentary Tolerance Torque (Nm)	效率 Efficiency (%)	长度 Length (mm)	重量 Weight (g)	减速比级数 Number of gear trains
1/13	1/13	2.0	6.0	81%	52.9	345	1

PG56A-ZA-HT



行星齿轮箱锌合金 56(mm)

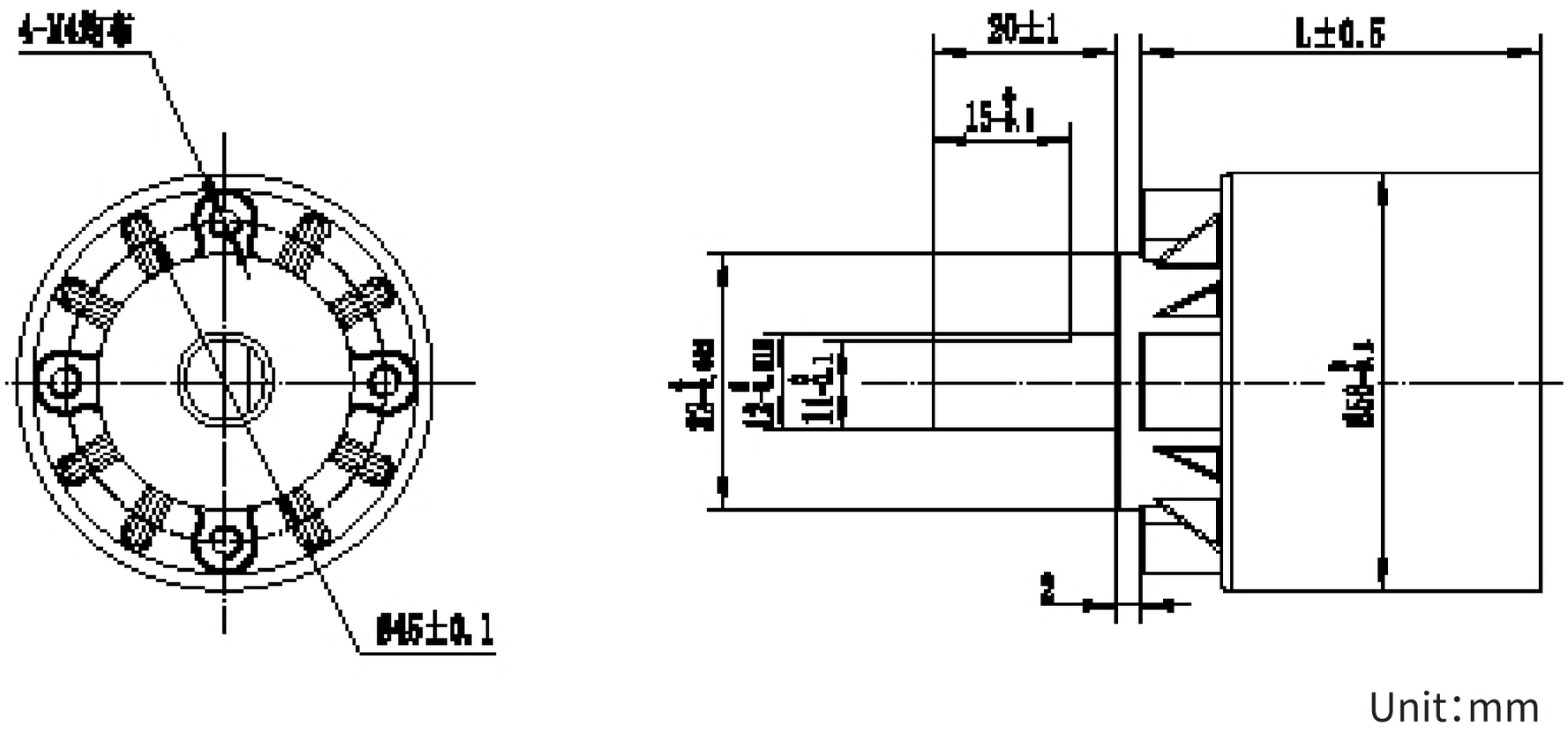
Planetary gearbox Zinc alloy Ver. 56(mm)

外壳材质 Housing Material	输出轴承形式 Bearing at output	径向负载 (N) Radial load (10mm from flange)	轴向负载 (N) Shaft axial load	静态主轴最大承受压入力 Shaft press fit force max Static（N）	径向间隙 (mm) Radial play of shaft	轴向间隙 (mm) Thrust play of shaft	背隙 (无负载时) Backlash at no-load
锌合金 Zinc alloy	滚珠轴承 Ball bearing	≤450	≤200	≤1000	≤0.03	≤0.1	≤1.5°

*负载与转速有关，具体数据需参考实际情况。

*Load relates to speed, actual value depends on different situation.

外型图/Mechanical Dimension

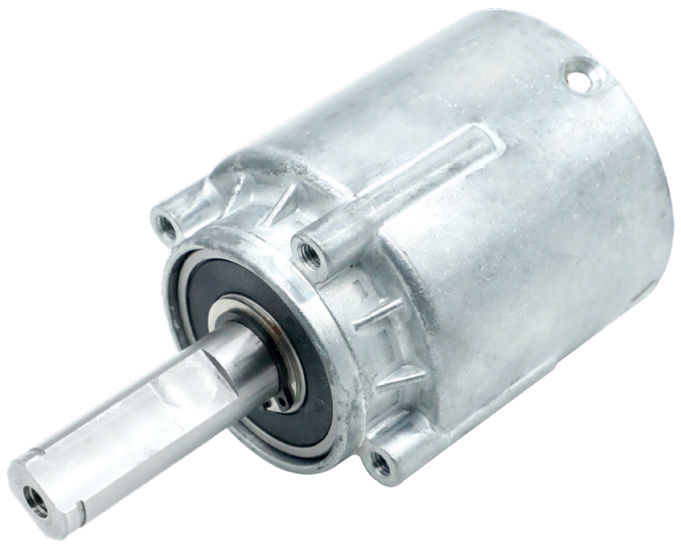


Unit：mm

标准减速比形式/Gearbox Specifications

减速比 Reduction Ratio	实际减速比 Absolute Reduction Ratio	额定允许负载 Rated Tolerance Torque (Nm)	瞬间允许负载 Momentary Tolerance Torque (Nm)	效率 Efficiency (%)	长度 Length (mm)	重量 Weight (g)	减速比级数 Number of gear trains
1/4	1/4.33	2.0	6.0	81%	41.3	350	1
1/6	1/6						

PG63A-ZA-HT



行星齿轮箱锌合金款 63(mm)

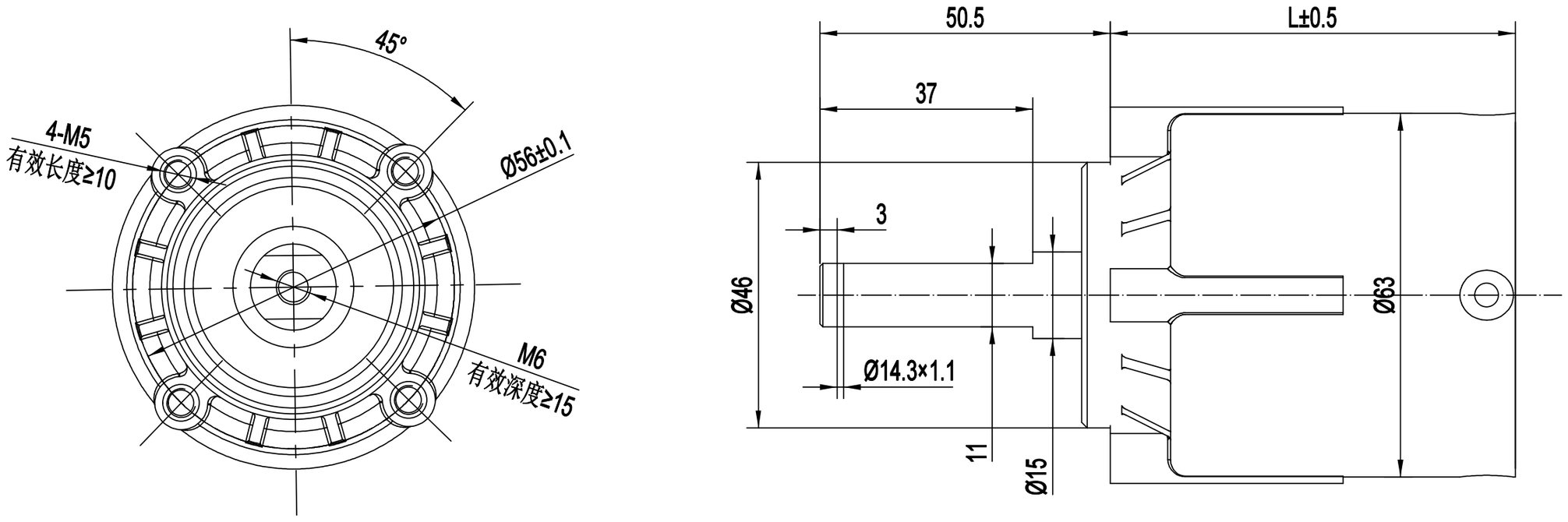
Planetary gearbox Zinc alloy Ver. 63(mm)

外壳材质 Housing Material	输出轴承形式 Bearing at output	径向负载 (N) Radial load (10mm from flange)	轴向负载 (N) Shaft axial load	静态主轴最大承受压入力 Shaft press fit force max Static（N）	径向间隙 (mm) Radial play of shaft	轴向间隙 (mm) Thrust play of shaft	背隙 (无负载时) Backlash at no-load
锌合金 Zinc alloy	滚珠轴承 Ball bearing	≤450	≤200	≤1000	≤0.03	≤0.1	≤1.5°

*负载与转速有关，具体数据需参考实际情况。

*Load relates to speed, actual value depends on different situation.

外型图/Mechanical Dimension



Unit：mm

标准减速比形式/Gearbox Specifications

减速比 Reduction Ratio	实际减速比 Absolute Reduction Ratio	额定允许负载 Rated Tolerance Torque (Nm)	瞬间允许负载 Momentary Tolerance Torque (Nm)	效率 Efficiency (%)	长度 Length (mm)	重量 Weight (g)	减速比级数 Number of gear trains
1/8	1/8.25	3.0	8.0	81%	75.5	400	1

PG65A-ZA-HT



行星齿轮箱锌合金 65(mm)

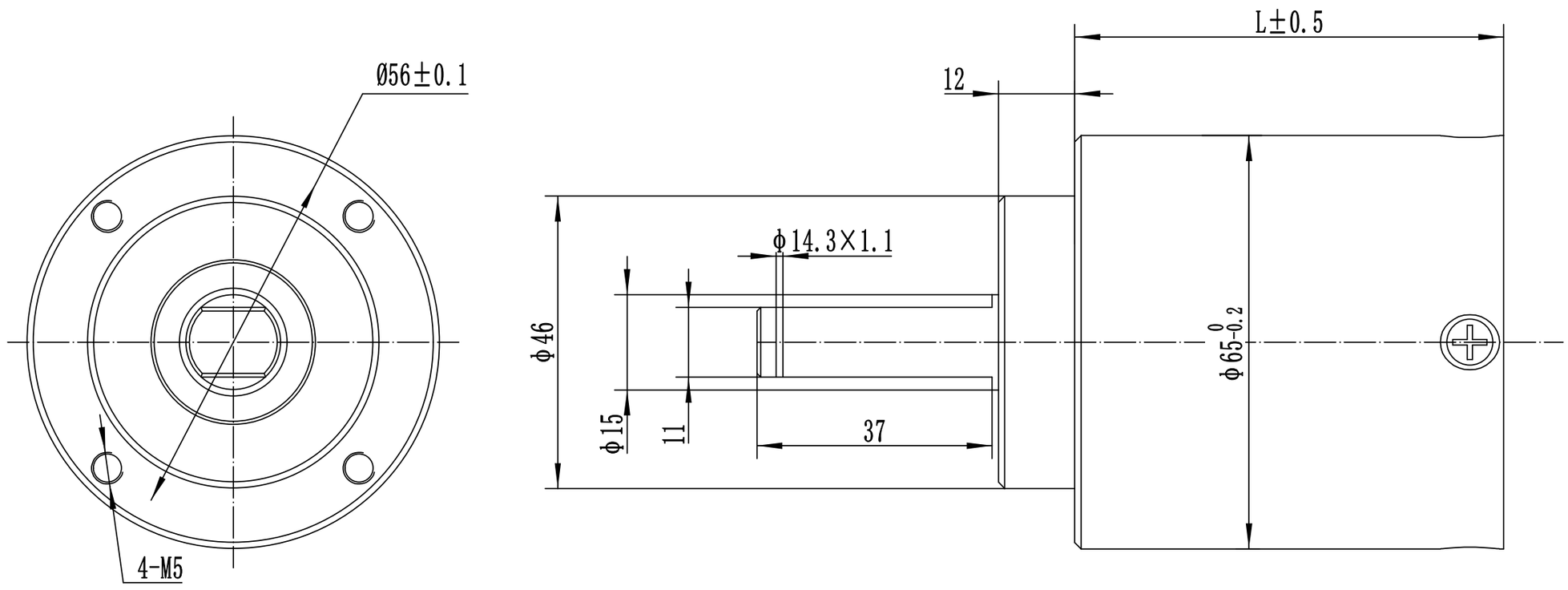
Planetary gearbox Zinc alloy Ver. 65(mm)

外壳材质 Housing Material	输出轴承形式 Bearing at output	径向负载 (N) Radial load (10mm from flange)	轴向负载 (N) Shaft axial load	静态主轴最大承受压入力 Shaft press fit force max Static（N）	径向间隙 (mm) Radial play of shaft	轴向间隙 (mm) Thrust play of shaft	背隙 (无负载时) Backlash at no-load
锌合金 Zinc alloy	滚珠轴承 Ball bearing	≤450	≤200	≤1000	≤0.03	≤0.1	≤1.5°

*负载与转速有关,具体数据需参考实际情况。

*Load relates to speed, actual value depends on different situation.

外型图/Mechanical Dimension



Unit:mm

标准减速比形式/Gearbox Specifications

减速比 Reduction Ratio	实际减速比 Absolute Reduction Ratio	额定允许负载 Rated Tolerance Torque (Nm)	瞬间允许负载 Momentary Tolerance Torque (Nm)	效率 Efficiency (%)	长度 Length (mm)	重量 Weight (g)	减速比级数 Number of gear trains
1/6	1/6.43	3.0	8.0	81%	79.5	500	1

PG28A-EP-HT



行星齿轮箱塑料款 28(mm)

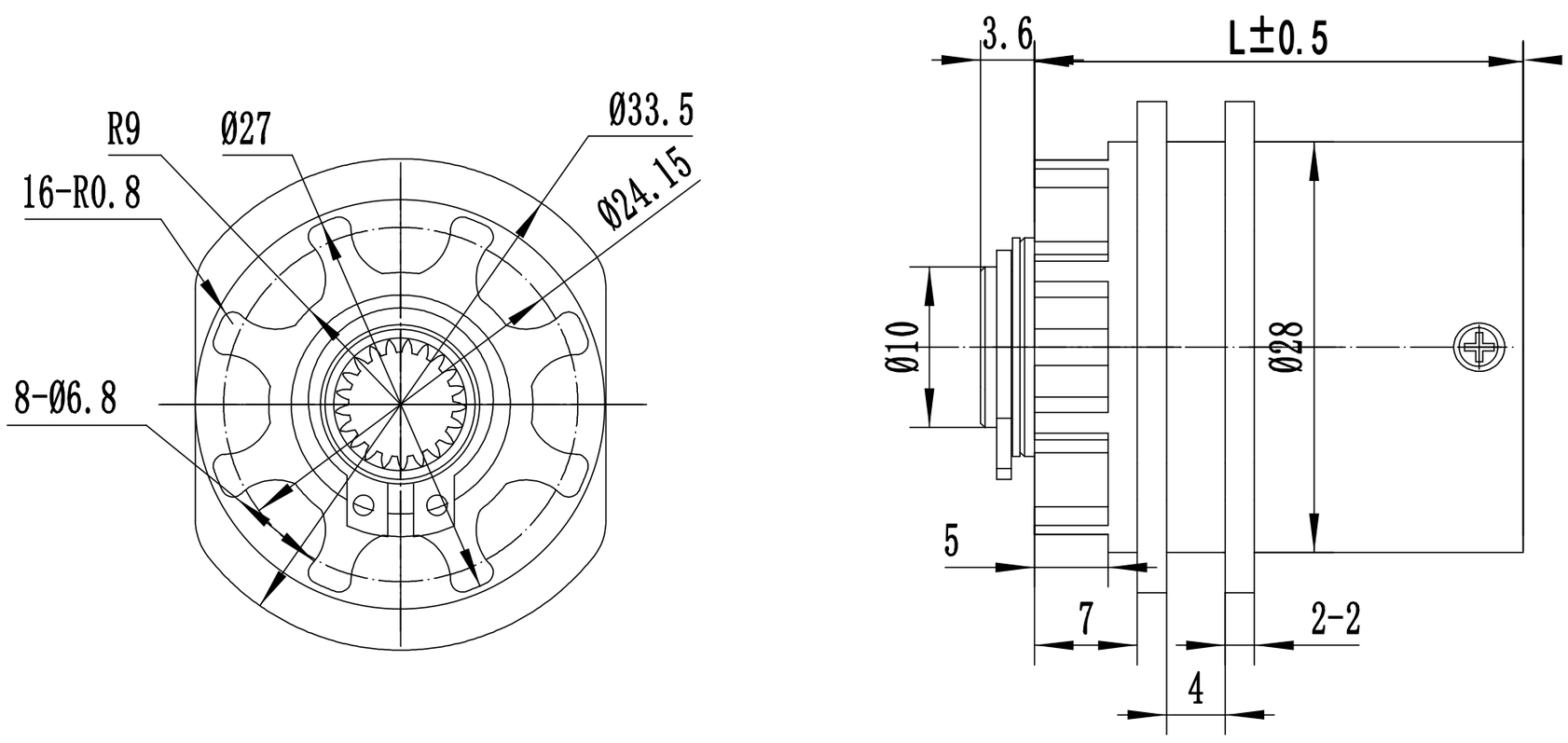
Planetary gearbox Engineering plastics Ver. 28(mm)

外壳材质 Housing Material	输出轴承形式 Bearing at output	径向负载 (N) Radial load (10mm from flange)	轴向负载 (N) Shaft axial load	静态主轴最大承受压入力 Shaft press fit force max Static (N)	径向间隙 (mm) Radial play of shaft	轴向间隙 (mm) Thrust play of shaft	背隙 (无负载时) Backlash at no-load
工程塑料 Engineering plastics	含油轴承 Porous bearing	≤80	≤30	≤200	≤0.03	≤0.4	≤1.5°

*负载与转速有关,具体数据需参考实际情况。

*Load relates to speed, actual value depends on different situation.

外型图/Mechanical Dimension



Unit:mm

标准减速比形式/Gearbox Specifications

减速比 Reduction Ratio	实际减速比 Absolute Reduction Ratio	额定允许负载 Rated Tolerance Torque (Nm)	瞬间允许负载 Momentary Tolerance Torque (Nm)	效率 Efficiency (%)	长度 Length (mm)	重量 Weight (g)	减速比级数 Number of gear trains
1/14	1: $14\frac{16}{49}$	0.5	1.5	72%	29.8	92	2
1/30	1: $29\frac{62}{77}$						
1/64	1: $63\frac{519}{539}$	1.8	5	65%	40.0	105	3
1/107	1: $106\frac{226}{275}$						

PG36A-EP-HT



行星齿轮箱塑料款 36(mm)

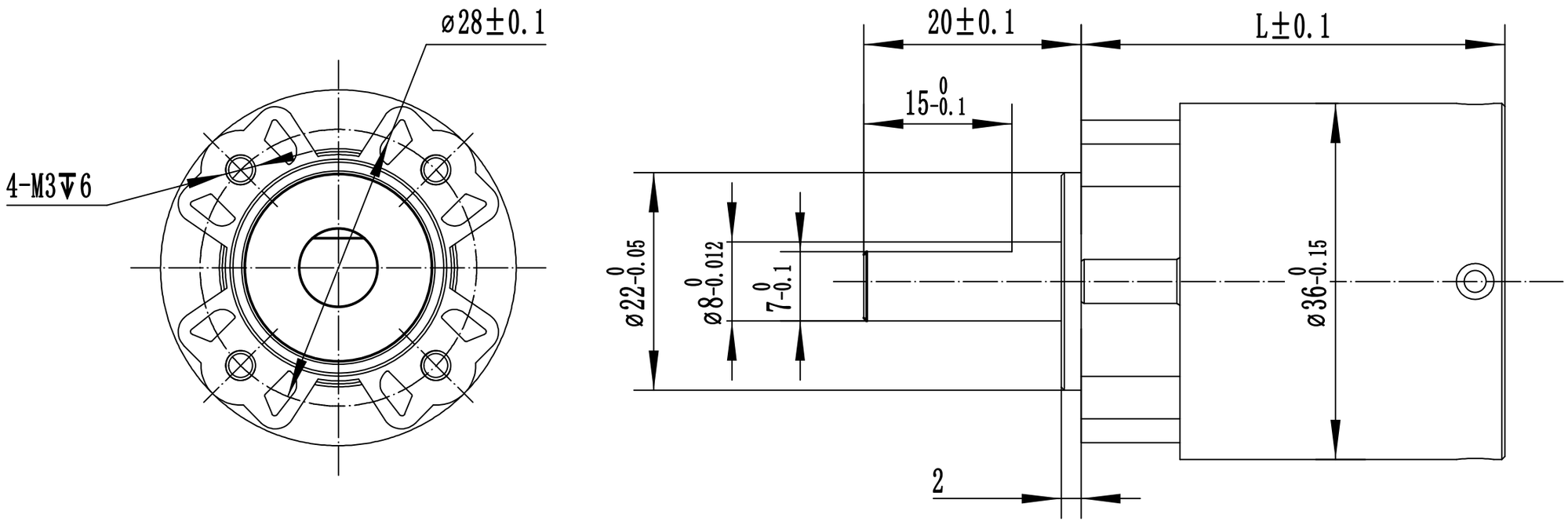
Planetary gearbox Engineering plastics Ver. 36(mm)

外壳材质 Housing Material	输出轴承形式 Bearing at output	径向负载 (N) Radial load (10mm from flange)	轴向负载 (N) Shaft axial load	静态主轴最大承受压入力 Shaft press fit force max Static (N)	径向间隙 (mm) Radial play of shaft	轴向间隙 (mm) Thrust play of shaft	背隙 无负载时) Backlash at no-load
工程塑料 Engineering plastics	滚珠轴承 Ball bearing	≤450	≤200	≤500	≤0.03	≤0.1	≤1.5°

*负载与转速有关,具体数据需参考实际情况。

*Load relates to speed, actual value depends on different situation.

外型图/Mechanical Dimension



Unit:mm

标准减速比形式/Gearbox Specifications

减速比 Reduction Ratio	实际减速比 Absolute Reduction Ratio	额定允许负载 Rated Tolerance Torque (Nm)	瞬间允许负载 Momentary Tolerance Torque (Nm)	效率 Efficiency (%)	长度 Length (mm)	重量 Weight (g)	减速比级数 Number of gear trains
1/4	1/4.38	0.3	1.0	81%	24.8	145	1
1/5	1/5.4						
1/16	1/16.44	1.2	3.5	72%	32.4	173	2
1/20	1/20.25						
1/25	1/25.16						
1/53	1/52.56	2.5	7.5	65%	41.9	213	3
1/62	1/61.59						
1/76	1/75.94						
1/94	1/94.37						
1/117	1/117.26						

PG56A-EP-HT

HeTai MOTOR



行星齿轮箱塑料款 56(mm)

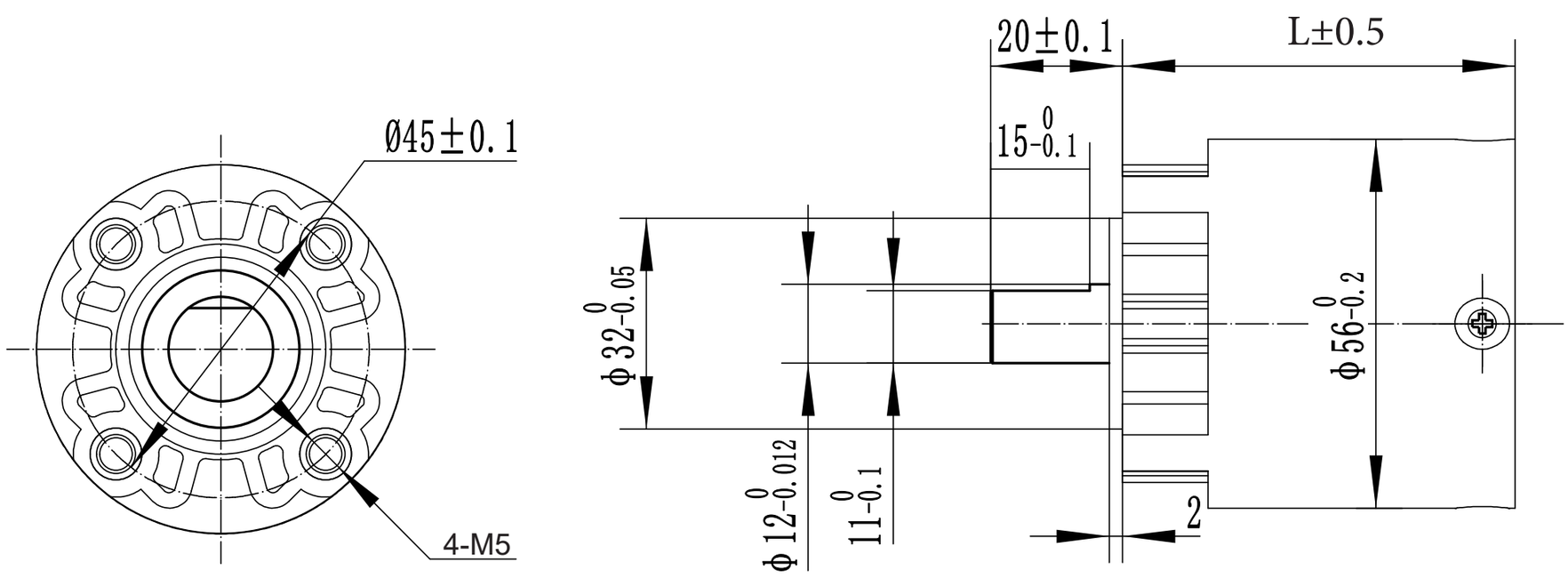
Planetary gearbox Engineering plastics Ver. 56(mm)

外壳材质 Housing Material	输出轴承形式 Bearing at output	径向负载(N) Radial load (10mm from flange)	轴向负载(N) Shaft axial load	静态主轴最大承受压入力 Shaft press fit force max Static（N）	径向间隙(mm) Radial play of shaft	轴向间隙(mm) Thrust play of shaft	背隙无负载时) Backlash at no-load
工程塑料 Plastic engineering plastic	滚珠轴承 Ball bearing	≤20	≤10	≤60	≤0.08	≤0.3	≤1.5°

*负载与转速有关,具体数据需参考实际情况。

*Load relates to speed, actual value depends on different situation.

外型图/Mechanical Dimension



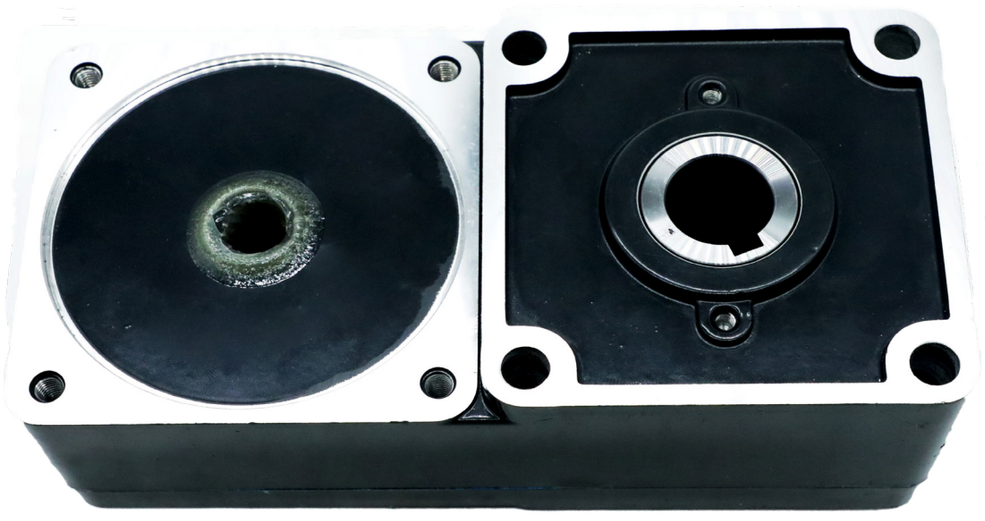
Unit:mm

标准减速比形式/Gearbox Specifications

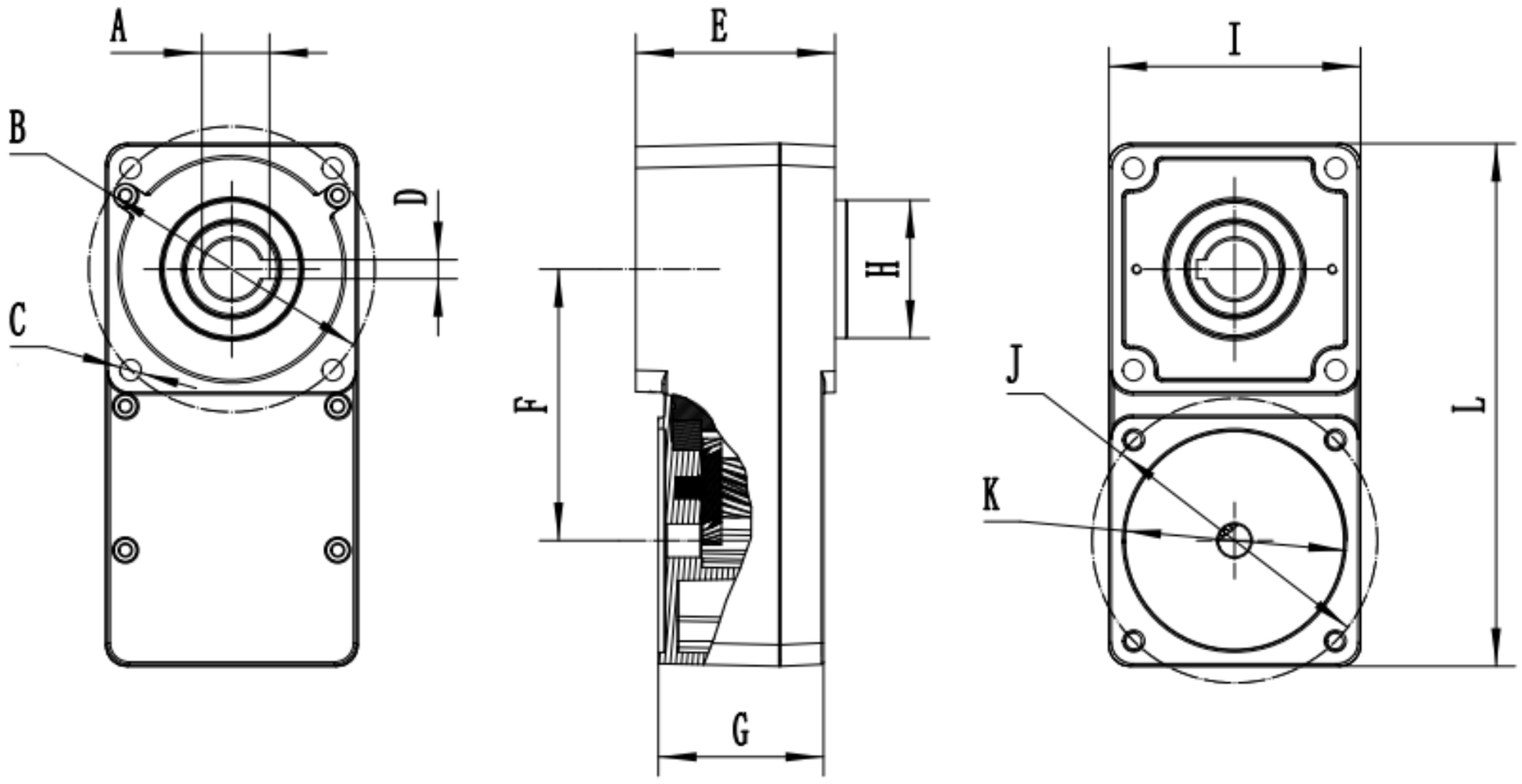
减速比 Reduction Ratio	实际减速比 Absolute Reduction Ratio	额定允许负载 Rated Tolerance Torque (Nm)	瞬间允许负载 Momentary Tolerance Torque (Nm)	效率 Efficiency (%)	长度 Length (mm)	重量 Weight (g)	减速比级数 Number of gear trains
1/15	1/15.17	8.0	25	72%	61.6	450	2
1/18	1/18.77						
1/26	1/25.98						
1/47	1/47.63	16.0	50	72%	61.6	450	2
1/66	1/66						

L型减速箱 L-shaped Gearbox





外型图/Mechanical Dimension



Unit:mm

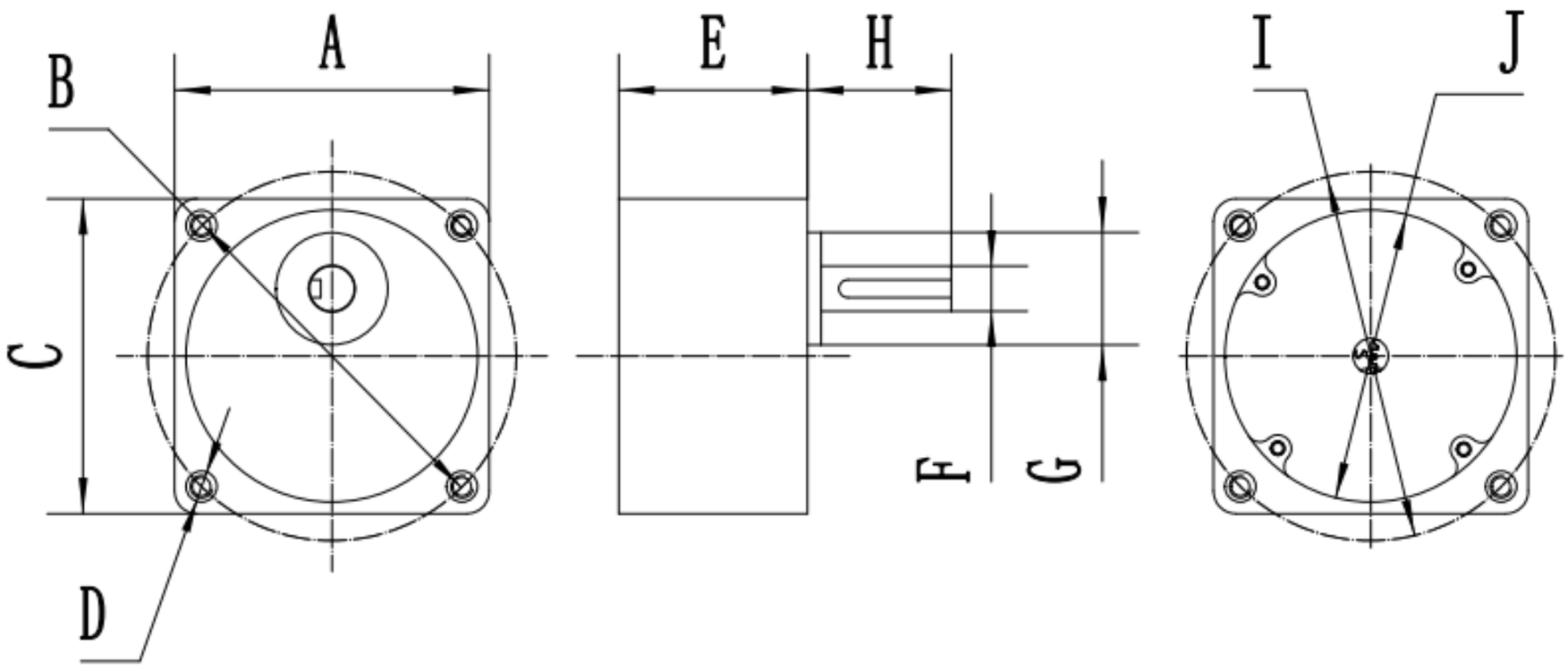
项目名称 Project Name		A	B	C	D	E	F	G	H	I	J	K	L
机械尺寸 Mechanical Dimensions	GM60L	13.8	Φ70	Φ6	4	48	60.5	40	Φ34	60	Φ70	Φ56	120.5
	GM80L	17.3	Φ94	Φ8	5	53.5	80.5	46	Φ37	80	Φ94	Φ73	161.5
	GM90L	22.8	Φ104	Φ9	6	65.5	90	55.7	Φ50	90	Φ104	Φ83	180
	GM104L	28.3	Φ120	Φ9	8	83.5	114	69.3	Φ58	104	Φ120	Φ94	218

项目名称 Project Name		减速比 Reduction Ratio	减速比级数 Number of gear trains	额定最大允许力矩 Rated Maximum Allowable Torque (Nm)
基本参数 Basic Parameters	GM60L	5、10、15、20、30、50、100、200	3	17
	GM80L	5、10、15、20、30、50、100、200	3	34
	GM90L	5、10、15、20、30、50、100、200	3	68
	GM104L	5、10、15、20、30、50、100、200	3	110

F型减速箱 F-shaped Gearbox



外型图/Mechanical Dimension



Unit:mm

项目名称 Project Name		A	B	C	D	E	F	G	H	I	J
机械尺寸 Mechanical Dimensions	GM60L	60	Φ70	60	M4	41.5	Φ8	Φ24	30	Φ70	Φ56
	GM80L	70	Φ82	70	M5	42	Φ10	Φ25	32	Φ82	Φ65
	GM90L	90	Φ104	90	M6	60	Φ15	Φ36	39	Φ104	Φ83

项目名称 Project Name		减速比 Reduction Ratio	减速比级数 Number of gear trains	瞬间允许负载 Momentary Tolerance Torque (Nm)
基本参数 Basic Parameters	GM60F	3、3.6、5、6、7.5、9、10、12.5、15、18	2	3
		20、25、30、36、40、50	3	
		60、75、90、100、120、150、180、200	4	
	GM70F	3、3.6、5、6、7.5、9、10、12.5、15	2	5
		18、20、25、30、36、40、50	3	
		60、75、90、100、120、150、180、200	4	
	GM90F	3、3.6、5、6、7.5、9、10、12.5、15、18	2	10
		20、25、30、35	3	
		40、50、60、75、90、100、120、150、180、200	4	

TB042



高精密行星减速机 42（mm）
Precision planetary gearbox 42(mm)

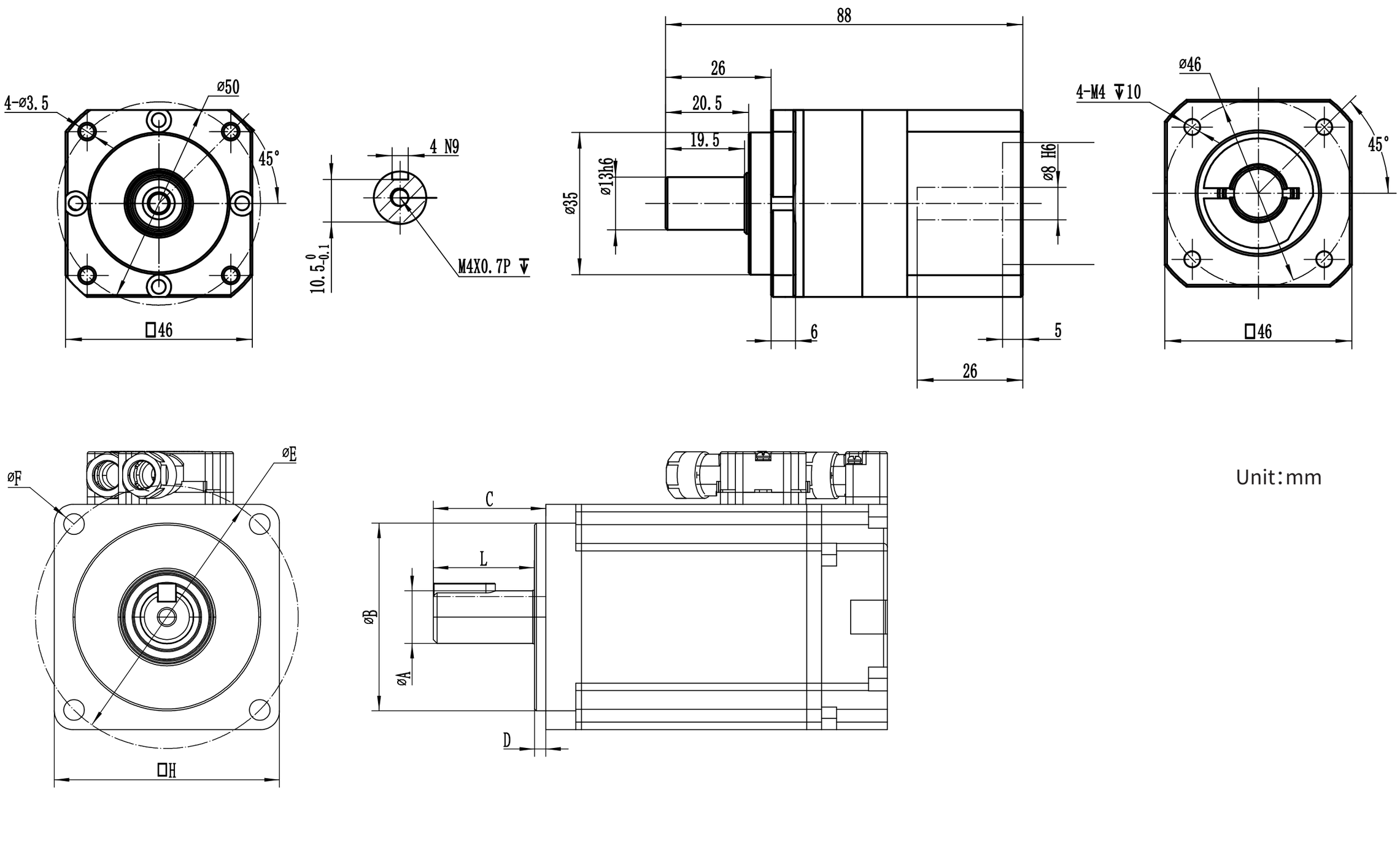
最大径向力 (N) Maximum radial force	最大轴向力 (N) Maximum axial force	操作温度(℃) Operaring temp	平均寿命 (hr) Average lifetime	噪音 (DB) Noise	润滑油 Lubrication	防护等级 Protection class	安装方式 Mounting position
610	390	-10℃~+90℃	15000(s1) 30000(s5)	≤60	合成润滑脂 (Synthetic grease)	IP65	任意方向 (Any direction)

输出转速100RPM时，作用于输出轴长度1/2位置。
When the output speed is 100RPM, it acts on the 1/2 position of the output shaft length.
（容许轴向力,容许径向力指在输出轴上只施加纯粹的轴向或径向负载）。
(Allowable axial force, allowable radial force refers to the application of only pure axial or radial load on the output shaft)
实际减速机所承受的径向力，轴向力会依施力点的位置而不同。
The actual radial force borne by the reducer , the axial force will vary depending on the location of the force application point.

背隙 P0<3弧分，P1<5弧分，P2<8弧分。
Backlash P0 < 3 arc minutes, P1 < 5 arc minutes, P2 < 8 arc minutes.

外型图/Mechanical Dimension

TB042-L1（Stage 1）



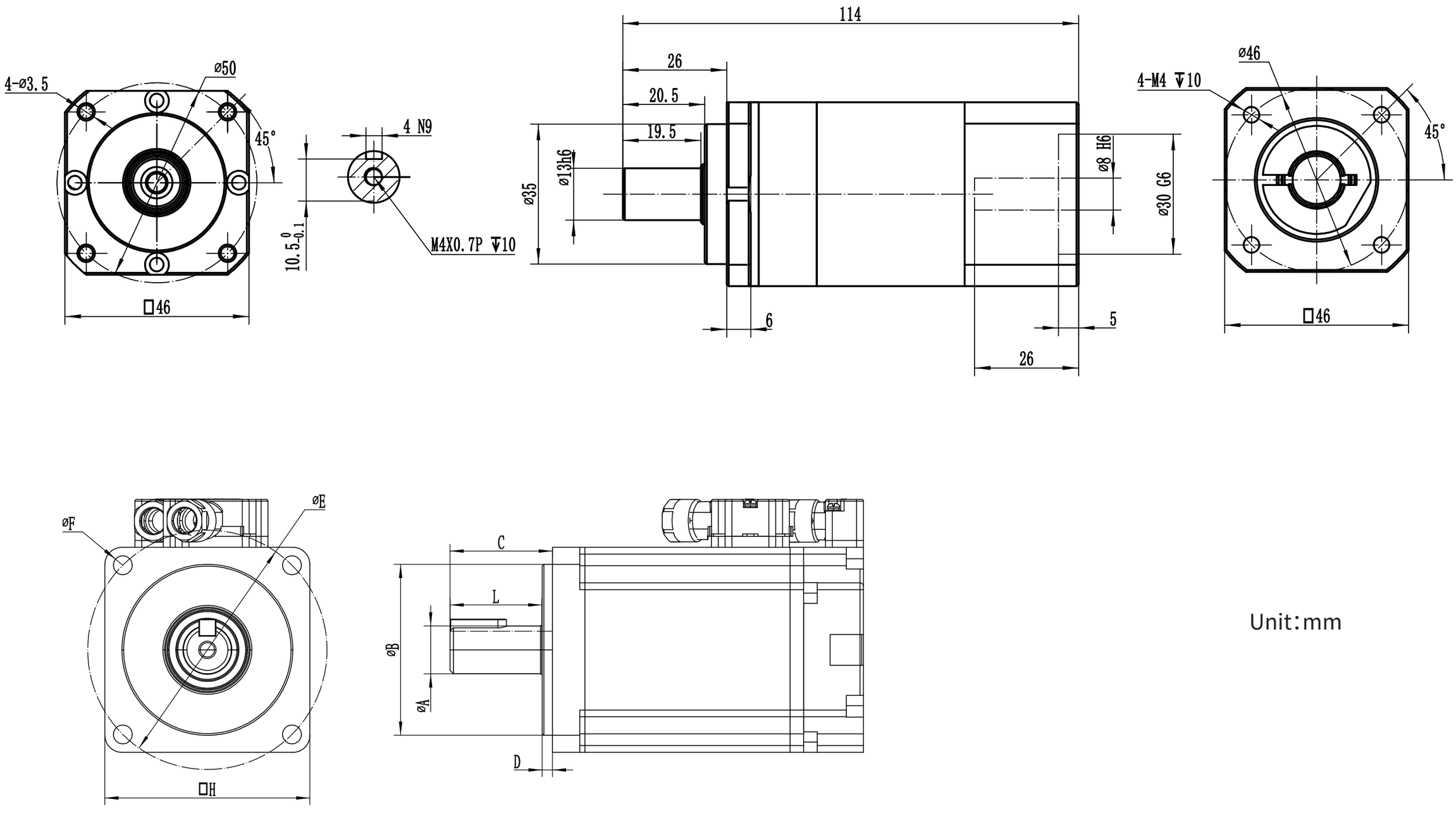
Unit:mm

C：马达轴长度。Length of motor ooutput shaft.
D：马达凸缘高度。 Height of motor flange.
L：马达出力轴有效长。Actual lengh of motor shaft.

TB042

外型图/Mechanical Dimension

TB042-L2（Stage 2）



Unit:mm

1.最大加速力矩(T2B)＝0.6x急停扭矩(T2not)。
Maximum acceleration torque (T2B) = 0.6x emergency stop torque (T2not).

2.噪音值会依比数不同而增加,此数据以10比为准,距减速机1M位置测量。
The noise value will increase according to different ratios.
This data is based on ratio 10 and is measured at a position 1M away from the reducer.

3.使用寿命为低于额定输入转数及额定输出转速之操作状况下寿命。
The service life is under operating conditions that lower than the rated input speed and rated output speed.

*合泰电机保有修改尺寸的权利。所有减速机尺寸以画面确认为准。
*Hetai Motor reserves the right to modify the dimensions. All the dimension according the confirm drawing.

TB042

性能参数 Performance Parameter

性能表 SPECIFICATION				
性能参数(SPEC)		段数 Stage	减速比 Ratio	TB042
额定输出扭矩 Rate output torque T2n(N-M)		1	3	18
			4	16
			5	16
			8	15
			10	12
		2	15	18
			20	16
			25	16
			30	18
			35	16
			40	16
			50	16
			70	15
			100	12
急停扭矩 Emergrncy Stop Torque T2not (N-M)(1)		1,2	3~100	3倍额定输出扭矩 3 times the rated output torque
额定输入转速 Rate Input Speed n	rpm	1,2	3~100	3000
最大输入转速 Max.Inptut Speed n	rpm	1,2	3~100	5000
效率 Effciency	%	1	3~100	≧97%
		2	15~100	≧95%

规格 Norm	段数 Stage	减速比 Ratio	TB042
转动惯量 Mass Mom. of inertia.J(KG-CM^2)	1	3	0.02
		4	0.02
		5	0.01
		8	0.01
		10	0.01
	2	15	0.01
		20	0.01
		25	0.01
		30	0.01
		35	0.01
		40	0.01
		50	0.01
		70	0.01
		100	0.01

TB060



高精密行星减速机 060（mm）
Precision planetary gearbox 060(mm)

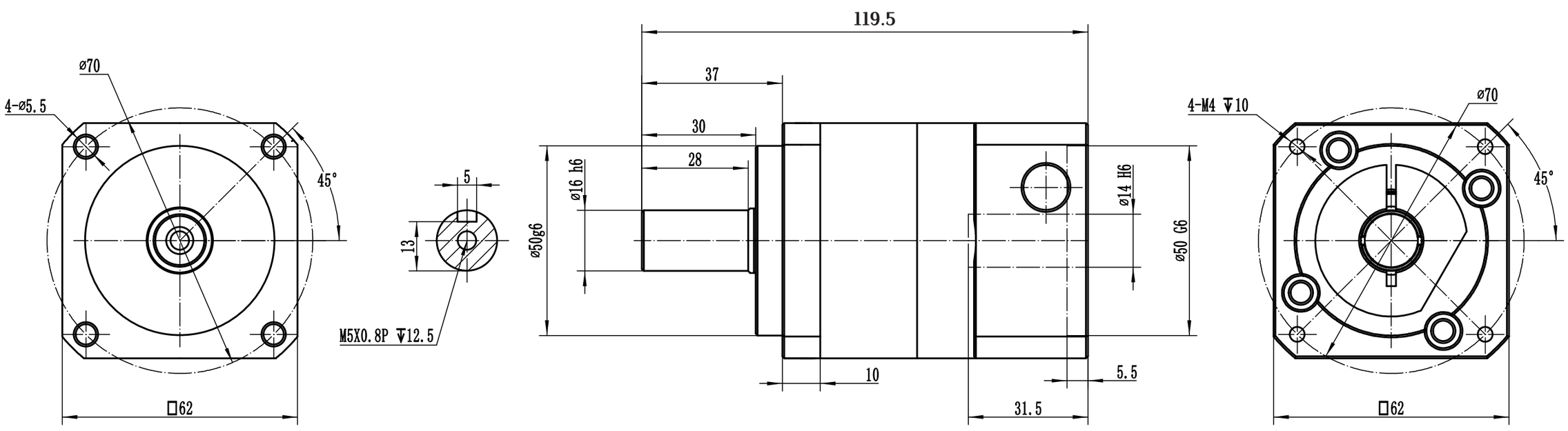
最大径向力 (N) Maximum radial force	最大轴向力 (N) Maximum axial force	操作温度 (℃) Operaring temp	平均寿命 (hr) Average lifetime	噪音 (DB) Noise	润滑油 Lubrication	防护等级 Protection class	安装方式 Mounting position
1170	590	-10℃~+90℃	15000(s1) 30000(s5)	≤60	合成润滑脂 (Synthetic grease)	IP65	任意方向 (Any direction)

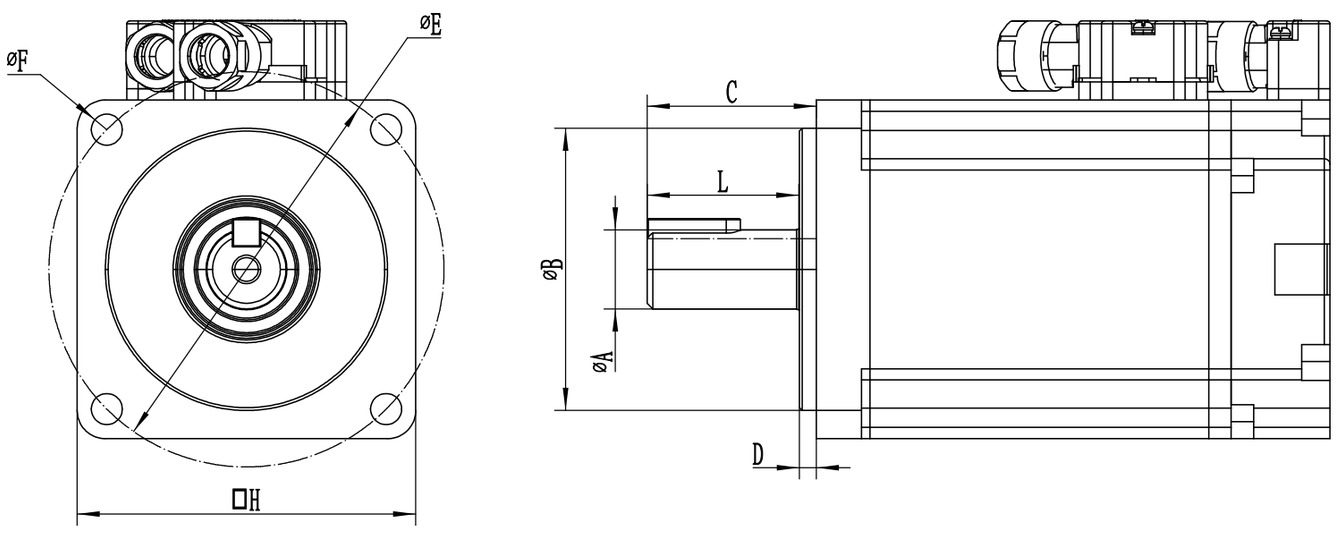
输出转速100RPM时，作用于输出轴长度1/2位置。
When the output speed is 100RPM, it acts on the 1/2 position of the output shaft length.
（容许轴向力,容许径向力指在输出轴上只施加纯粹的轴向或径向负载）。
(Allowable axial force, allowable radial force refers to the application of only pure axial or radial load on the output shaft)
实际减速机所承受的径向力，轴向力会依施力点的位置而不同。
The actual radial force borne by the reducer , the axial force will vary depending on the location of the force application point.

背隙 P0<3弧分，P1<5弧分，P2<8弧分。
Backlash P0 < 3 arc minutes, P1 < 5 arc minutes, P2 < 8 arc minutes.

外型图/Mechanical Dimension

TB060-L1（Stage 1）



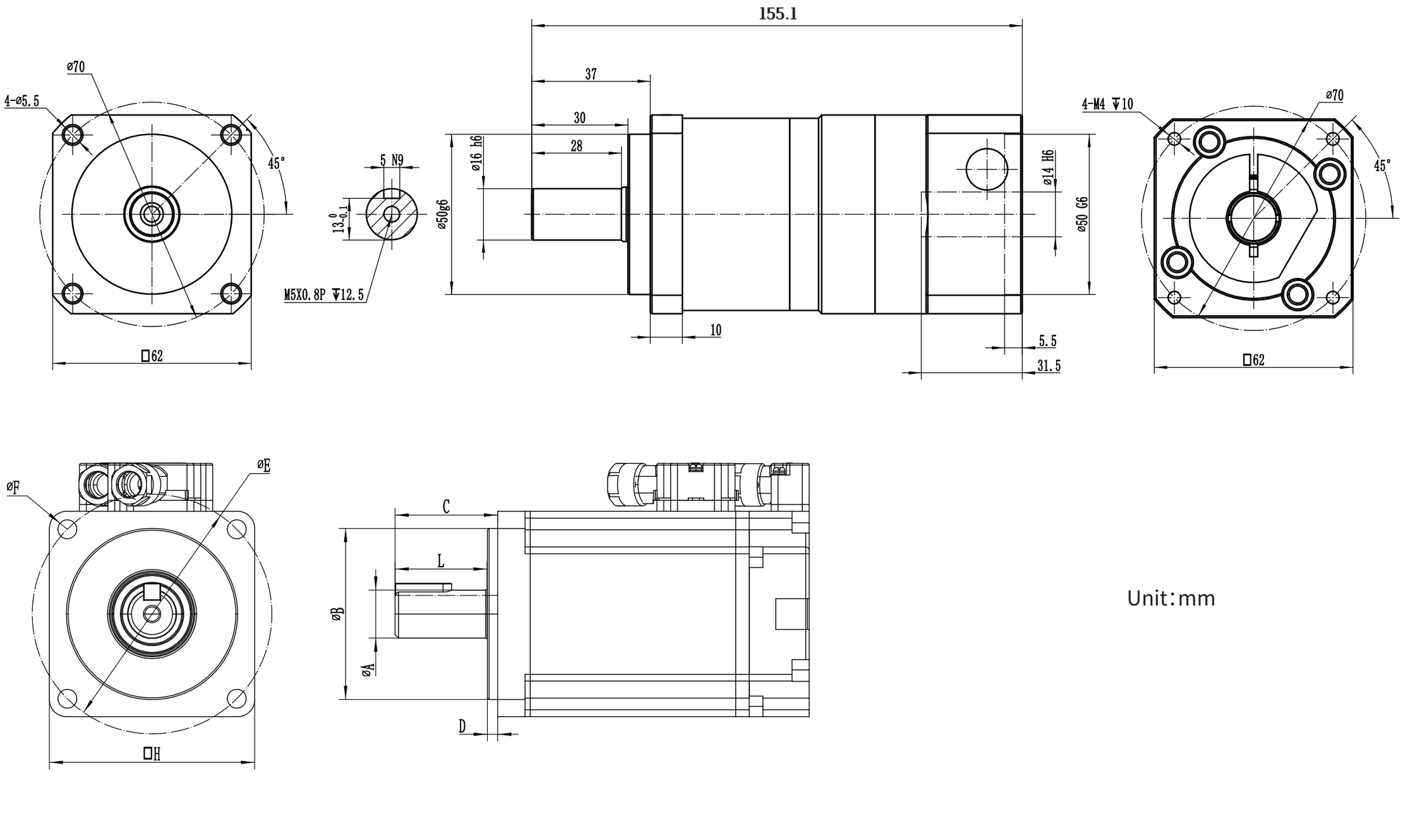


Unit:mm

C：马达轴长度。Length of motor ooutput shaft.
D：马达凸缘高度。 Height of motor flange.
L：马达出力轴有效长。Actual lengh of motor shaft.

外型图/Mechanical Dimension

TB060-L2（Stage 2）



Unit:mm

1.最大加速力矩(T2B)＝0.6x急停扭矩(T2not)。
Maximum acceleration torque (T2B) = 0.6x emergency stop torque (T2not).

2.噪音值会依比数不同而增加,此数据以10比为准,距减速机1M位置测量。
The noise value will increase according to different ratios.
This data is based on ratio 10 and is measured at a position 1M away from the reducer.

3.使用寿命为低于额定输入转数及额定输出转速之操作状况下寿命。
The service life is under operating conditions that lower than the rated input speed and rated output speed.

*合泰电机保有修改尺寸的权利。所有减速机尺寸以画面确认为准。
*Hetai Motor reserves the right to modify the dimensions. All the dimension according the confirm drawing.

TB060

性能参数 Performance Parameter

性能表 SPECIFICATION				
性能参数(SPEC)		段数 Stage	减速比 Ratio	TB060
额定输出扭矩 Rate output torque T2n(N-M)		1	3	42
			4	45
			5	48
			8	45
			10	36
		2	15	42
			20	45
			25	48
			30	42
			35	48
			40	45
			50	48
			70	45
			100	36
急停扭矩 Emergrncy Stop Torque T2not (N-M)(1)		1,2	3~100	3倍额定输出扭矩 3 times the rated output torque
额定输入转速 Rate Input Speed n	rpm	1,2	3~100	3000
最大输入转速 Max.Inptut Speed n	rpm	1,2	3~100	5000
效率 Effciency	%	1	3~100	≧97%
		2	15~100	≧95%

规格 Norm	段数 Stage	减速比 Ratio	TB060
转动惯量 Mass Mom. of inertia. J(KG-CM^2)	1	3	0.01
		4	0.08
		5	0.07
		8	0.07
		10	0.06
	2	15	0.07
		20	0.07
		25	0.07
		30	0.06
		35	0.07
		40	0.06
		50	0.06
		70	0.06
		100	0.06

TB090



高精密行星减速机 090（mm）
Precision planetary gearbox 090(mm)

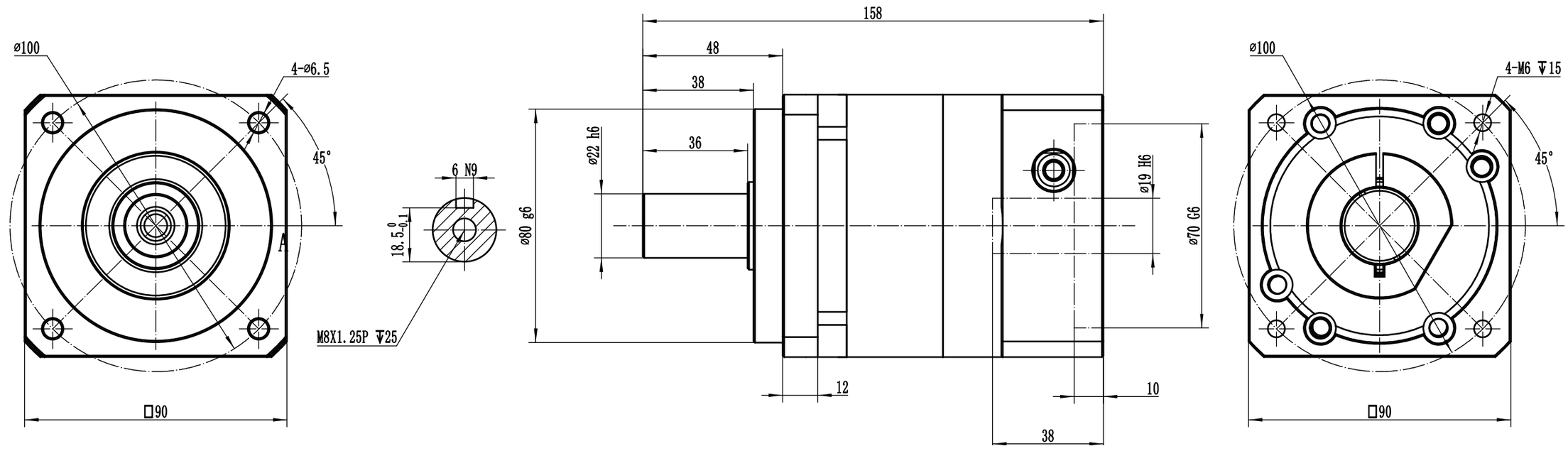
最大径向力 (N) Maximum radial force	最大轴向力 (N) Maximum axial force	操作温度 (°C) Operaring temp	平均寿命 (hr) Average lifetime	噪音 (DB) Noise	润滑油 Lubrication	防护等级 Protection class	安装方式 Mounting position
3250	1625	-10°C~+90°C	15000(s1) 30000(s5)	≤63	合成润滑脂 (Synthetic grease)	IP65	任意方向 (Any direction)

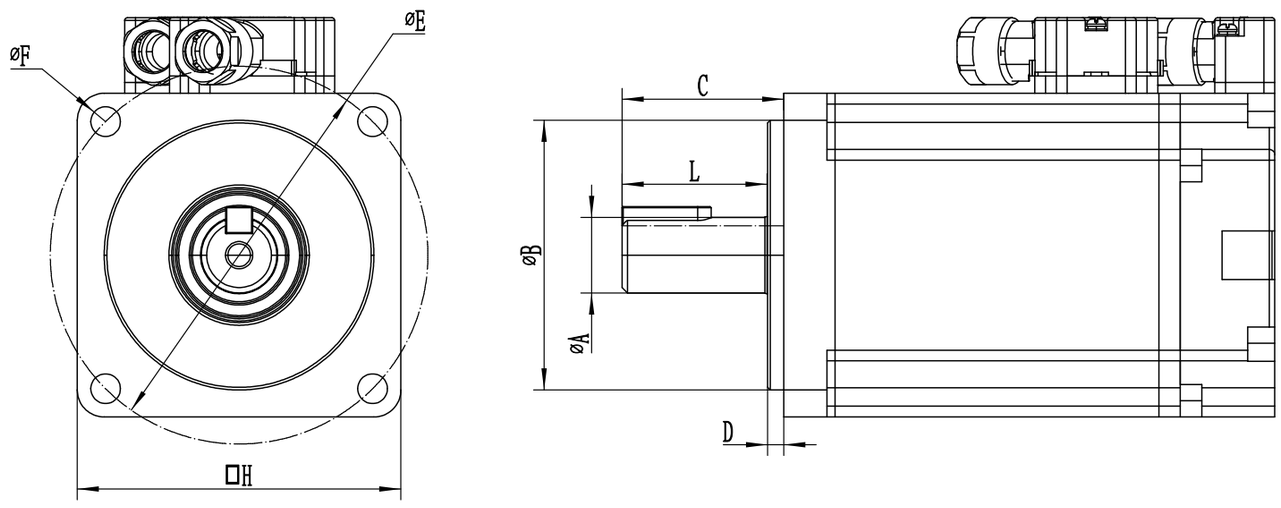
输出转速100RPM时，作用于输出轴长度1/2位置。
When the output speed is 100RPM, it acts on the 1/2 position of the output shaft length.
（容许轴向力,容许径向力指在输出轴上只施加纯粹的轴向或径向负载）。
(Allowable axial force, allowable radial force refers to the application of only pure axial or radial load on the output shaft)
实际减速机所承受的径向力，轴向力会依施力点的位置而不同。
The actual radial force borne by the reducer , the axial force will vary depending on the location of the force application point.

背隙 P0<3弧分，P1<5弧分，P2<8弧分。
Backlash P0 < 3 arc minutes, P1 < 5 arc minutes, P2 < 8 arc minutes.

外型图/Mechanical Dimension

TB090-L1（Stage 1）





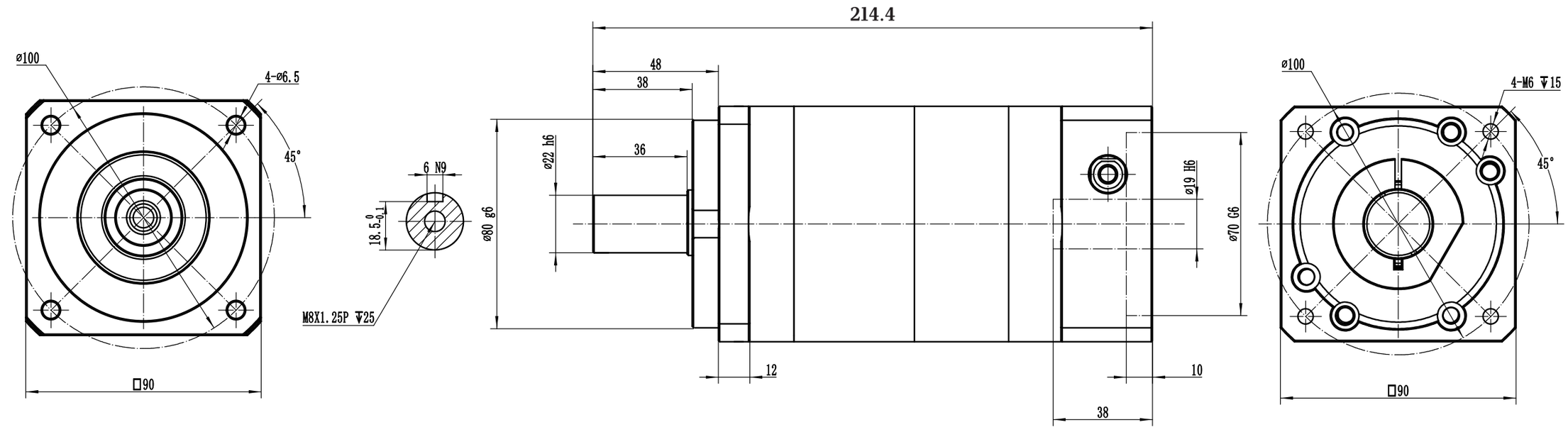
Unit:mm

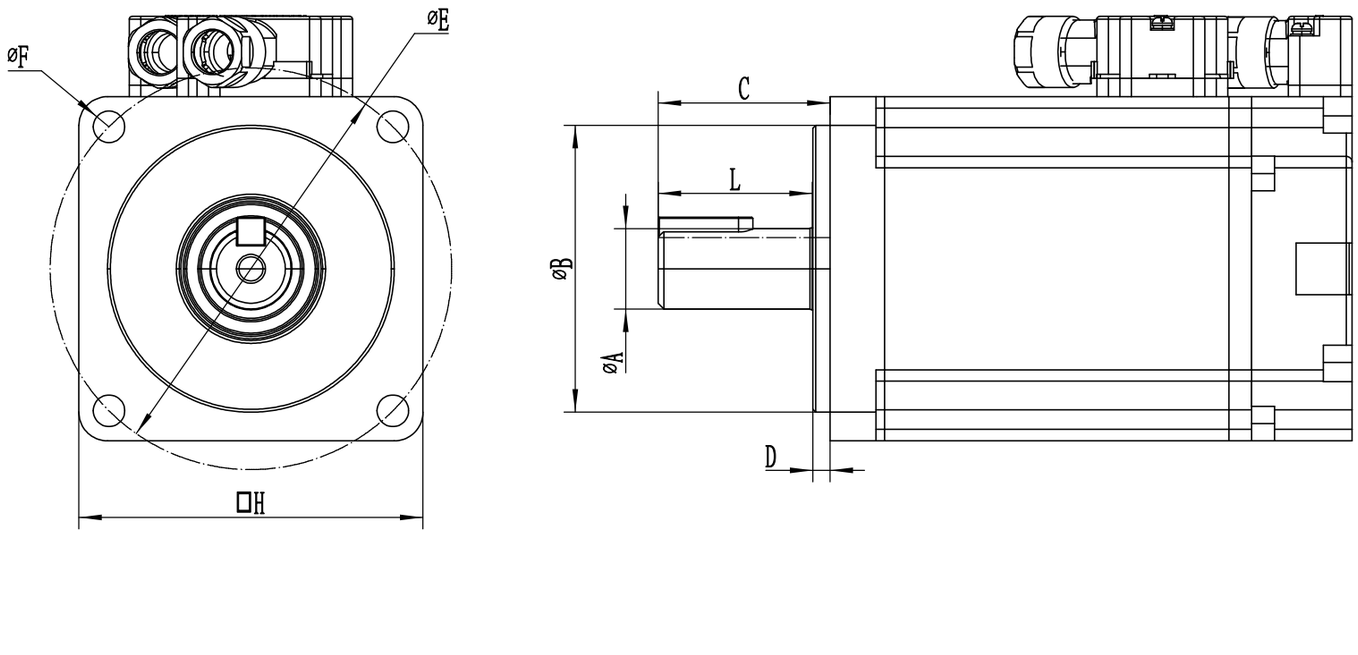
C：马达轴长度。Length of motor ooutput shaft.
D：马达凸缘高度。 Height of motor flange.
L：马达出力轴有效长。Actual lengh of motor shaft.

TB090

外型图/Mechanical Dimension

TB090-L2（Stage 2）





Unit：mm

1.最大加速力矩（T2B)＝0.6x急停扭矩(T2not)。
Maximum acceleration torque (T2B) = 0.6x emergency stop torque (T2not).

2.噪音值会依比数不同而增加,此数据以10比为准,距减速机1M位置测量。
The noise value will increase according to different ratios.
This data is based on ratio 10 and is measured at a position 1M away from the reducer.

3.使用寿命为低于额定输入转数及额定输出转速之操作状况下寿命。
The service life is under operating conditions that lower than the rated input speed and rated output speed.

*合泰电机保有修改尺寸的权利。所有减速机尺寸以画面确认为准。
*Hetai Motor reserves the right to modify the dimensions. All the dimension according the confirm drawing.

TB090

性能参数 Performance Parameter

性能表 SPECIFICATION				
性能参数(SPEC)		段数 Stage	减速比 Ratio	TB090
额定输出扭矩 Rate output torque T2n(N-M)		1	3	117
			4	126
			5	141
			7	117
			10	114
		2	15	117
			20	126
			25	141
			30	117
			35	141
			40	126
			50	141
			70	117
			100	114
急停扭矩 Emergrncy Stop Torque T2not (N-M)(1)		1,2	3~100	3倍额定输出扭矩 3 times the rated output torque
额定输入转速 Rate Input Speed n	rpm	1,2	3~100	3000
最大输入转速 Max.Inptut Speed n	rpm	1,2	3~100	5000
效率 Effciency	%	1	3~100	≧97%
		2	15~100	≧95%

规格 Norm	段数 Stage	减速比 Ratio	TB090
转动惯量 Mass Mom. of inertia. J(KG-CM^2)	1	3	0.28
		4	0.21
		5	0.17
		7	0.15
		10	0.14
	2	15	0.17
		20	0.17
		25	0.17
		30	0.14
		35	0.15
		40	0.14
		50	0.14
		70	0.14
		100	0.14

TB115



高精密行星减速机 115（mm）
Precision planetary gearbox 115(mm)

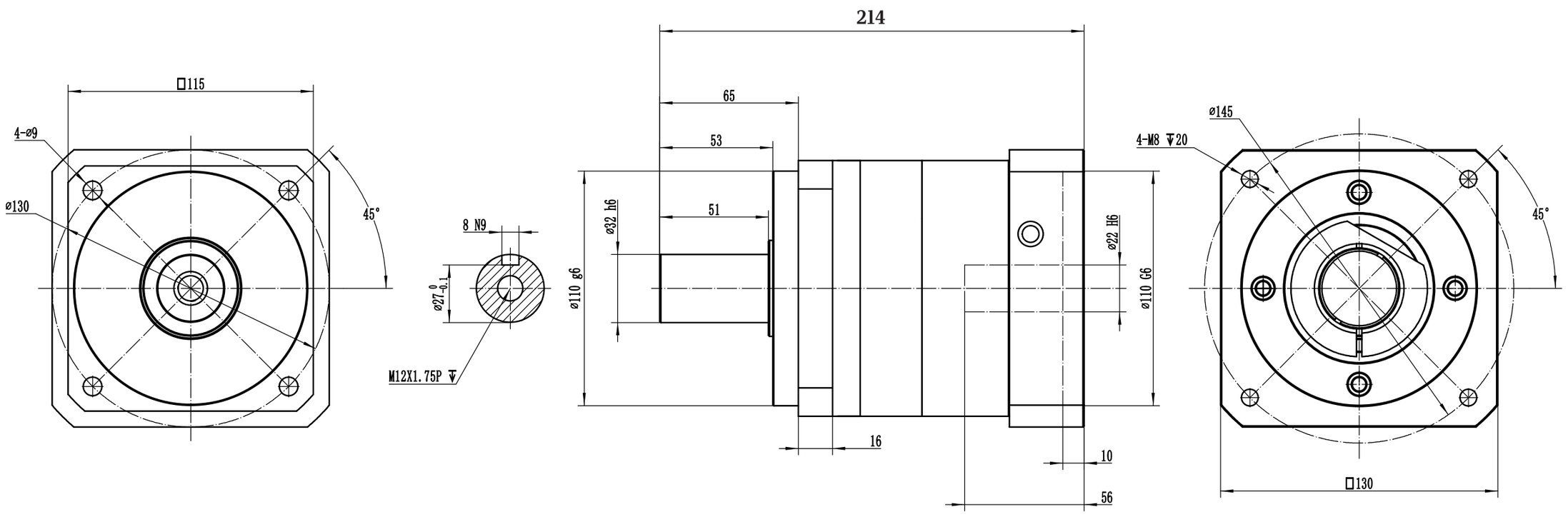
最大径向力 (N) Maximum radial force	最大轴向力 (N) Maximum axial force	操作温度 (°C) Operaring temp	平均寿命 (hr) Average lifetime	噪音 (DB) Noise	润滑油 Lubrication	防护等级 Protection class	安装方式 Mounting position
6700	4300	-10°C~+90°C	15000(s1) 30000(s5)	≤63	合成润滑脂 (Synthetic grease)	IP65	任意方向 (Any direction)

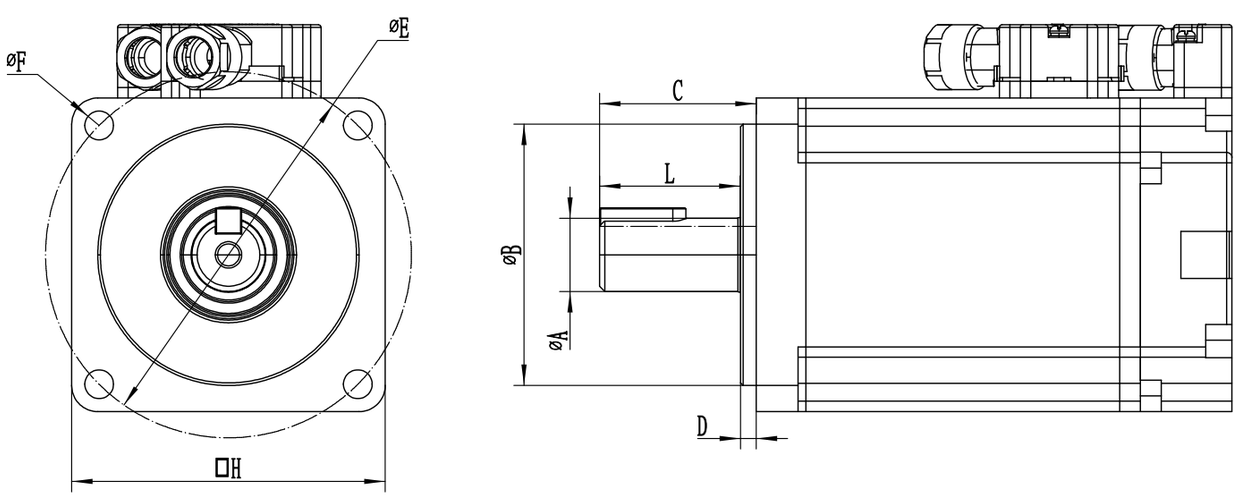
输出转速100RPM时，作用于输出轴长度1/2位置。
When the output speed is 100RPM, it acts on the 1/2 position of the output shaft length.
（容许轴向力,容许径向力指在输出轴上只施加纯粹的轴向或径向负载）。
(Allowable axial force, allowable radial force refers to the application of only pure axial or radial load on the output shaft)
实际减速机所承受的径向力，轴向力会依施力点的位置而不同。
The actual radial force borne by the reducer , the axial force will vary depending on the location of the force application point.

背隙 P0<3弧分，P1<5弧分，P2<8弧分。
Backlash P0 < 3 arc minutes, P1 < 5 arc minutes, P2 < 8 arc minutes.

外型图/Mechanical Dimension

TB115-L1（Stage 1）





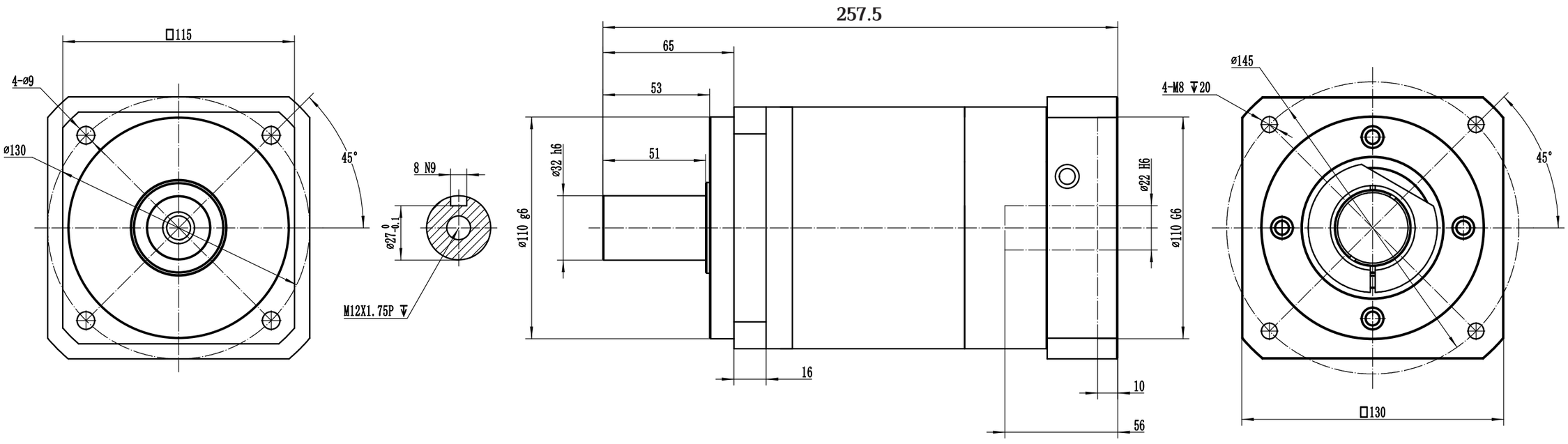
Unit：mm

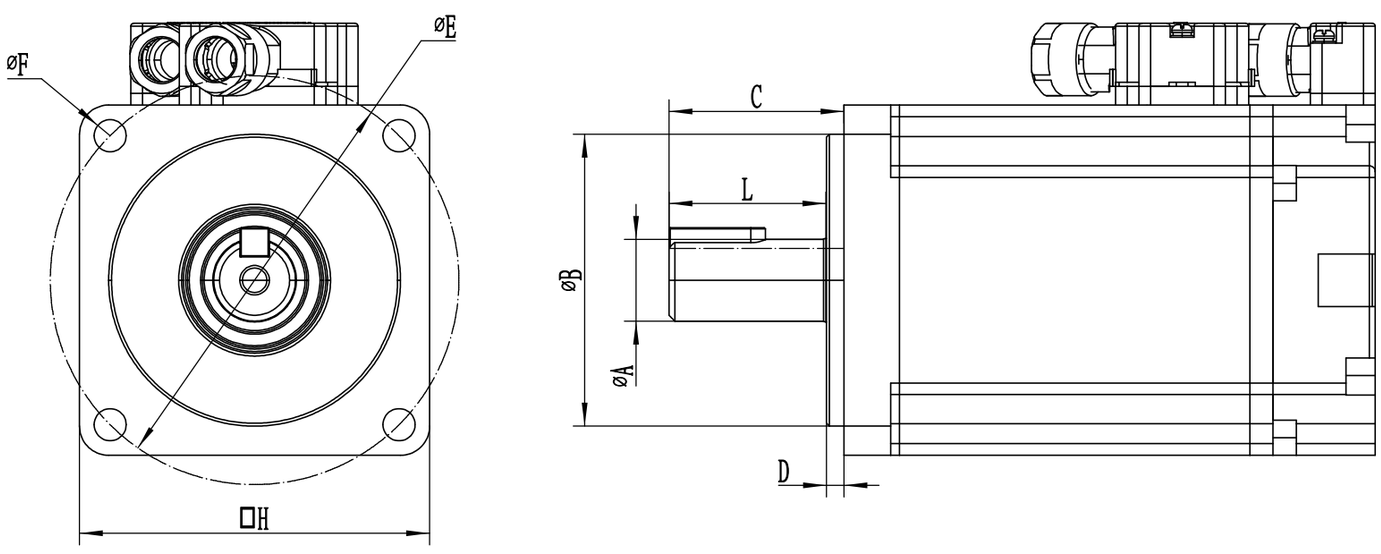
C：马达轴长度。Length of motor ooutput shaft.
D：马达凸缘高度。 Height of motor flange.
L：马达出力轴有效长。Actual lengh of motor shaft.

TB115

外型图/Mechanical Dimension

TB115-L2（Stage 2）





Unit：mm

1.最大加速力矩（T2B)＝0.6x急停扭矩(T2not)。
Maximum acceleration torque (T2B) = 0.6x emergency stop torque (T2not).

2.噪音值会依比数不同而增加,此数据以10比为准,距减速机1M位置测量。
The noise value will increase according to different ratios.
This data is based on ratio 10 and is measured at a position 1M away from the reducer.

3.使用寿命为低于额定输入转数及额定输出转速之操作状况下寿命。
The service life is under operating conditions that lower than the rated input speed and rated output speed.

*合泰电机保有修改尺寸的权利。所有减速机尺寸以画面确认为准。
*Hetai Motor reserves the right to modify the dimensions. All the dimension according the confirm drawing.

TB115

性能参数 Performance Parameter

性能表 SPECIFICATION			
性能参数(SPEC)	段数 Stage	减速比 Ratio	TB115
额定输出扭矩 Rate output torque T2n(N-M)	1	3	187
		4	261
		5	311
		7	277
		10	242
	2	15	187
		20	261
		25	311
		30	187
		35	311
		40	261
		50	311
		70	277
		100	242
急停扭矩 Emergrncy Stop Torque T2not (N-M)(1)	1,2	3~100	3倍额定输出扭矩 3 times the rated output torque
额定输入转速 Rate Input Speed n rpm	1,2	3~100	2000
最大输入转速 Max.Inptut Speed n rpm	1,2	3~100	4000
效率 Effciency %	1	3~100	≧97%
	2	15~100	≧95%

规格 Norm	段数 Stage	减速比 Ratio	TB115
转动惯量 Mass Mom. of inertia.J(KG-CM^2)	1	3	1.39
		4	1.27
		5	1.14
		7	1.01
		10	0.89
	2	15	1.14
		20	0.14
		25	0.14
		30	0.89
		35	1.01
		40	0.89
		50	0.89
		70	0.89
		100	0.89

TB142



高精密行星减速机142（mm）
Precision planetary gearbox 142(mm)

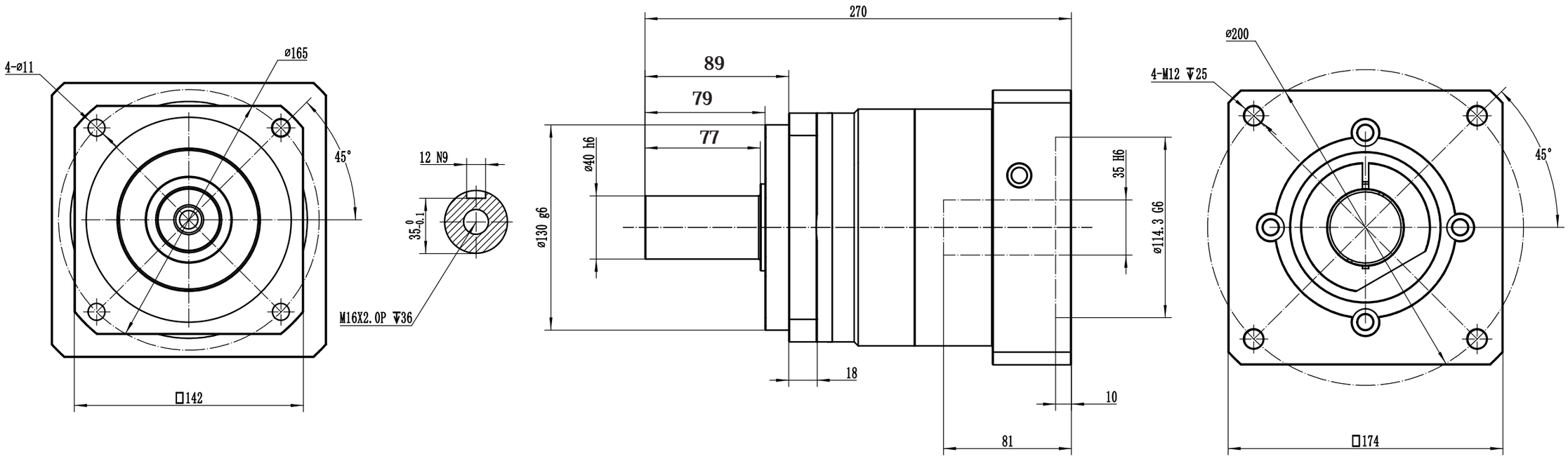
最大径向力 (N) Maximum radial force	最大轴向力 (N) Maximum axial force	操作温度 (°C) Operaring temp	平均寿命 (hr) Average lifetime	噪音 (DB) Noise	润滑油 Lubrication	防护等级 Protection class	安装方式 Mounting position
9400	4700	-10°C~+90°C	15000(s1) 30000(s5)	≤65	合成润滑脂 (Synthetic grease)	IP65	任意方向 (Any direction)

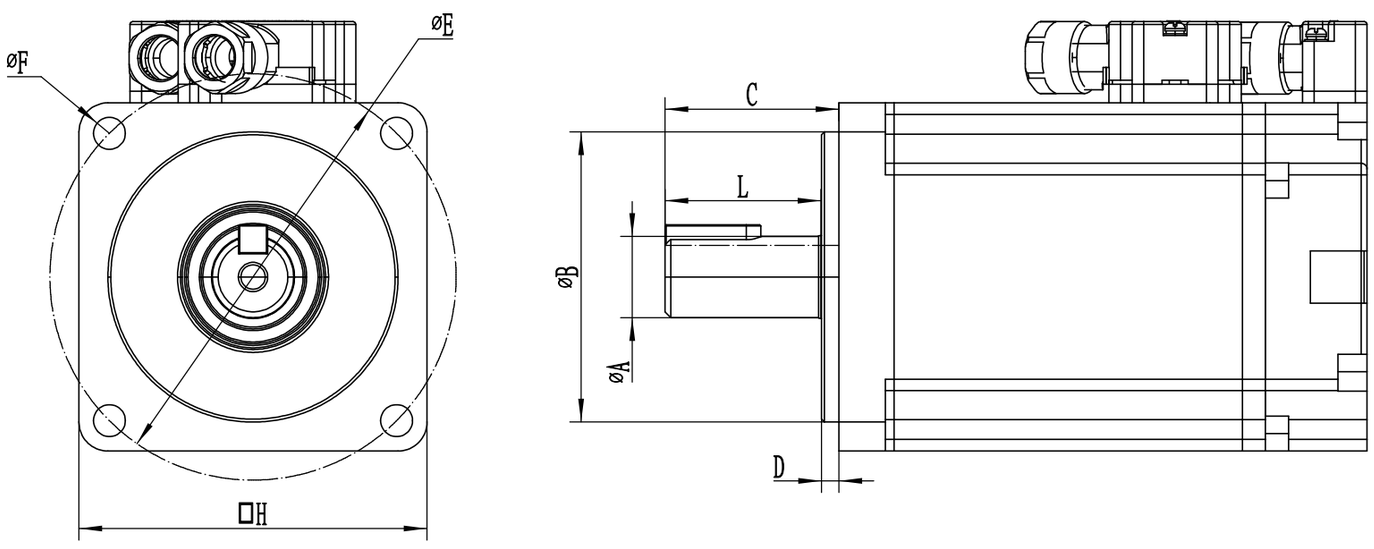
输出转速100RPM时，作用于输出轴长度1/2位置。
When the output speed is 100RPM, it acts on the 1/2 position of the output shaft length.
（容许轴向力,容许径向力指在输出轴上只施加纯粹的轴向或径向负载）。
(Allowable axial force, allowable radial force refers to the application of only pure axial or radial load on the output shaft)
实际减速机所承受的径向力，轴向力会依施力点的位置而不同。
The actual radial force borne by the reducer , the axial force will vary depending on the location of the force application point.

背隙 P0<3弧分，P1<5弧分，P2<8弧分。
Backlash P0 < 3 arc minutes, P1 < 5 arc minutes, P2 < 8 arc minutes.

外型图/Mechanical Dimension

TB142-L1（Stage 1）





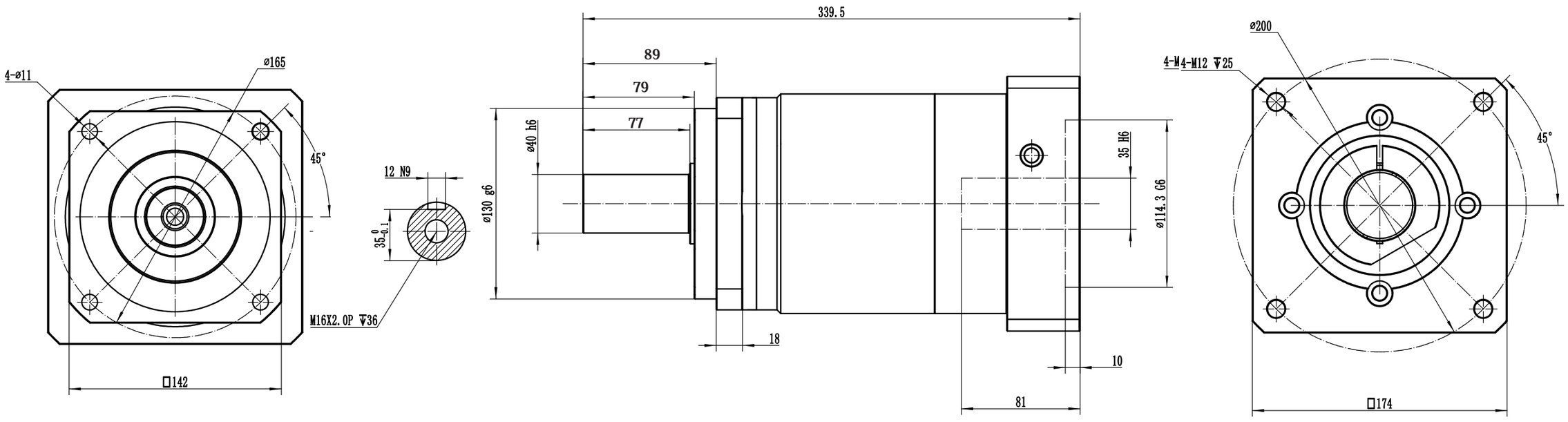
Unit:mm

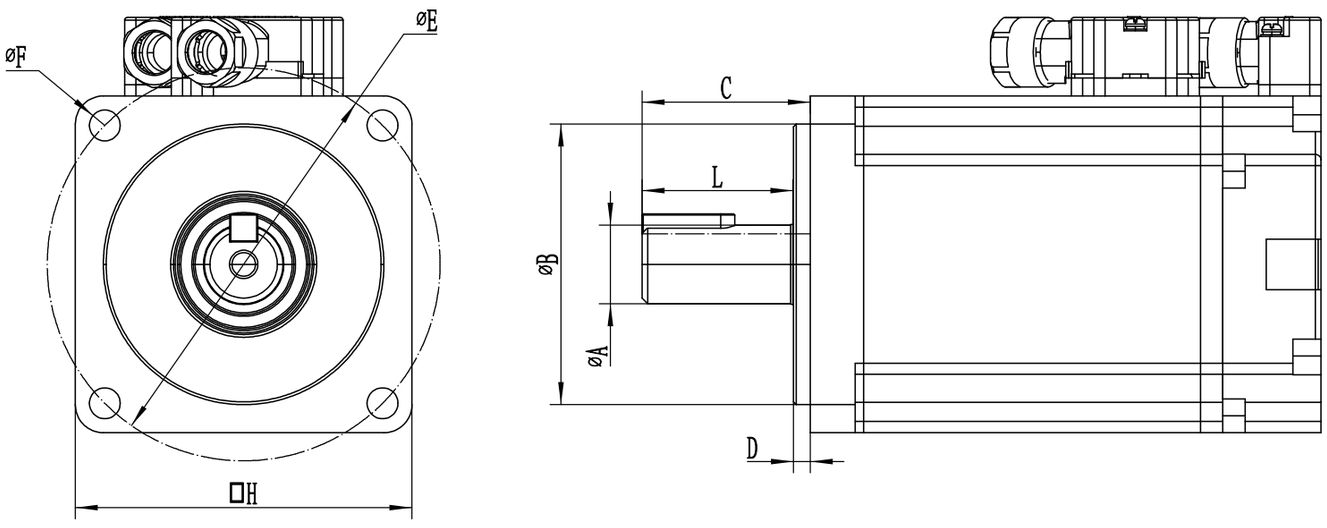
C：马达轴长度。Length of motor ooutput shaft.
D：马达凸缘高度。 Height of motor flange.
L：马达出力轴有效长。Actual lengh of motor shaft.

TB142

外型图 Mechanical Dimension

TB142-L2（Stage 2）





Unit:mm

1.最大加速力矩（T2B)＝0.6x急停扭矩(T2not)。
Maximum acceleration torque (T2B) = 0.6x emergency stop torque (T2not).

2.噪音值会依比数不同而增加,此数据以10比为准,距减速机1M位置测量。
The noise value will increase according to different ratios.
This data is based on ratio 10 and is measured at a position 1M away from the reducer.

3.使用寿命为低于额定输入转数及额定输出转速之操作状况下寿命。
The service life is under operating conditions that lower than the rated input speed and rated output speed.

*合泰电机保有修改尺寸的权利。所有减速机尺寸以画面确认为准。
*Hetai Motor reserves the right to modify the dimensions. All the dimension according the confirm drawing.

TB142

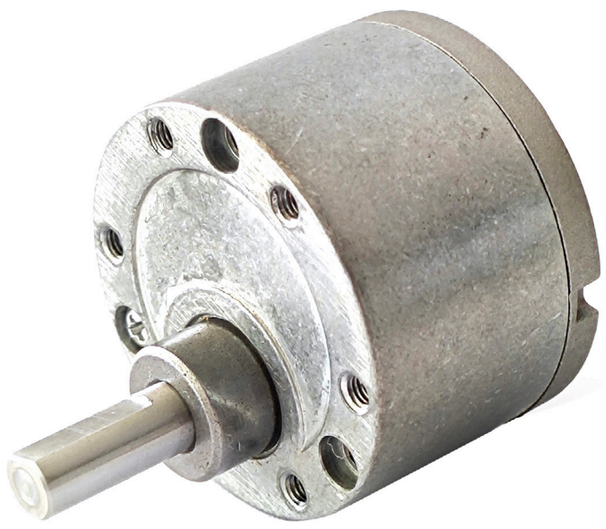
性能参数 Performance Parameter

性能表 SPECIFICATION				
性能参数(SPEC)		段数 Stage	减速比 Ratio	TB142
额定输出扭矩 Rate output torque T2n(N-M)		1	3	351
			4	516
			5	588
			8	539
			10	505
		2	15	351
			20	516
			25	588
			30	351
			35	588
			40	516
			50	588
			70	539
			100	505
急停扭矩 Emergrncy Stop Torque T2not (N-M)(1)		1,2	3~100	3倍额定输出扭矩 3 times the rated output torque
额定输入转速 Rate Input Speed n	rpm	1,2	3~100	2000
最大输入转速 Max.Inptut Speed n	rpm	1,2	3~100	3000
效率 Effciency	%	1	3~100	≧97%
		2	15~100	≧95%

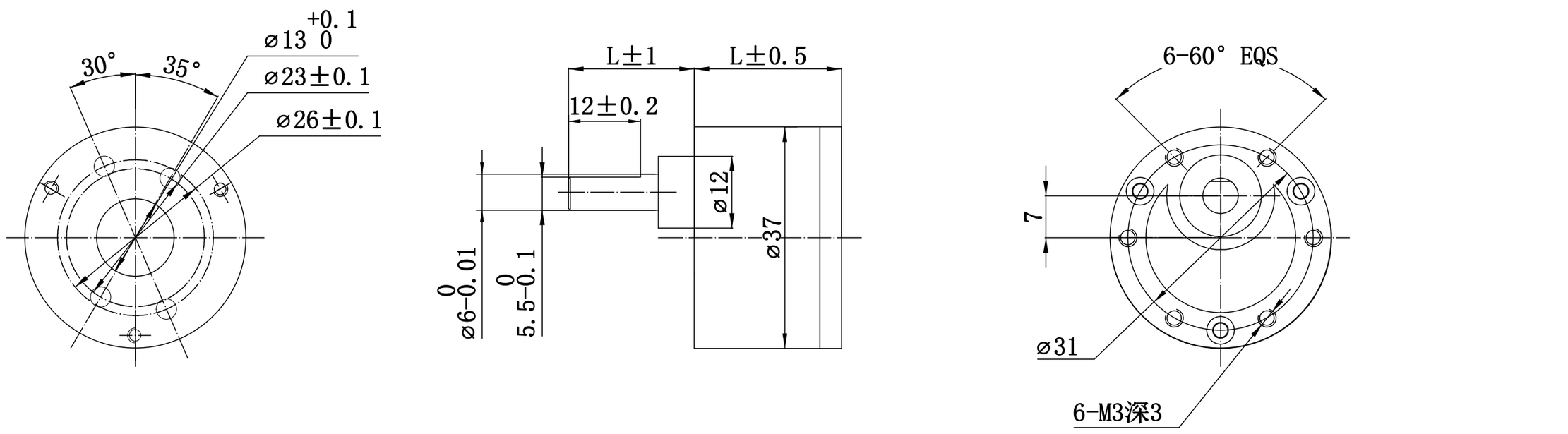
规格 Norm	段数 Stage	减速比 Ratio	TB142
转动惯量 Mass Mom. of inertia.J(KG-CM^2)	1	3	2.97
		4	2.19
		5	2.03
		8	1.72
		10	1.56
	2	15	2.03
		20	2.03
		25	2.03
		30	1.56
		35	1.72
		40	1.56
		50	1.56
		70	1.56
		100	1.56

塔式减速箱 Tower Gearbox





外型图/Mechanical Dimension

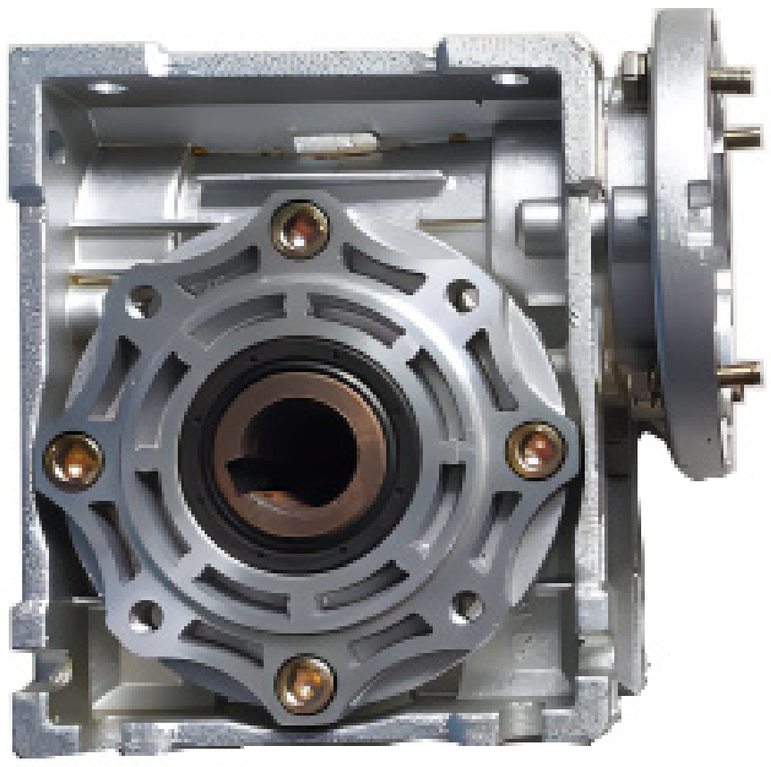


Unit：mm

标准减速比形式/Gearbox Specification

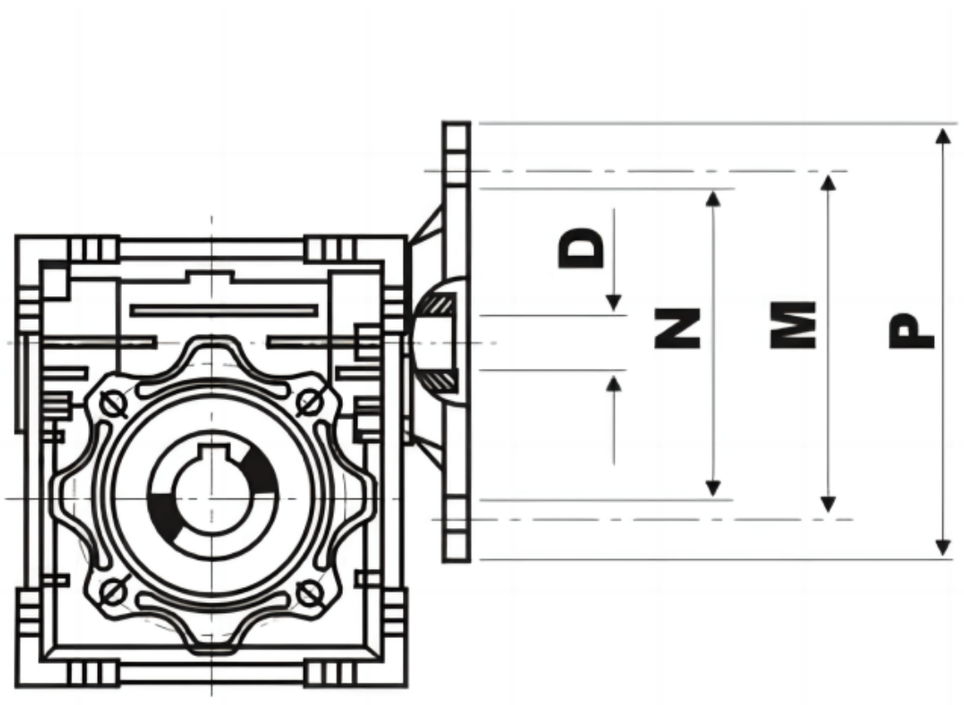
减速比 Reduction Ratio	额定力矩 Rated torque (N.m)	额定转速 Rated speed (RPM)	额定力矩 Rated torque (Nm)	额定转速 Rated speed (RPM)	长度 Length (mm)	重量 Weight (g)	效率 Efficiency (%)
	额定值 Rating：12.0 V		额定值 Rating：24.0 V				
1/5	0.045	920	0.045	920	22.1	55	90%
1/10	0.08	460	0.08	460	22.1	70	81%
1/18	0.14	255	0.14	255	22.1		
1/20	0.16	230	0.16	230	22.1		
1/30	0.2	153	0.2	153	22.1		
1/50	0.35	92	0.35	92	24.7	92	72%
1/60	0.43	76	0.43	76	24.7		
1/84	0.54	54	0.54	54	24.7		
1/90	0.58	50	0.58	50	24.7		
1/150	0.93	30	0.93	30	28.4	130	65%
1/270	1.5	17	1.5	17	28.4		
1/300	1.75	15	1.75	15	28.4		
1/710	3.7	6.5	3.7	6.5	31.5	200	58%

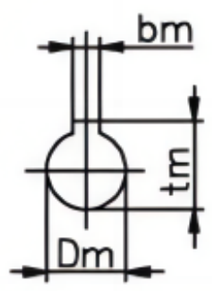
RV蜗轮蜗杆减速箱 RV Worm Gearbox





外型图/Mechanical Dimension



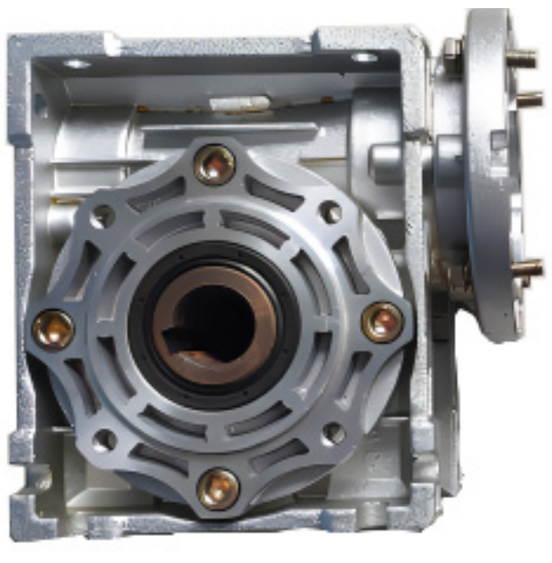


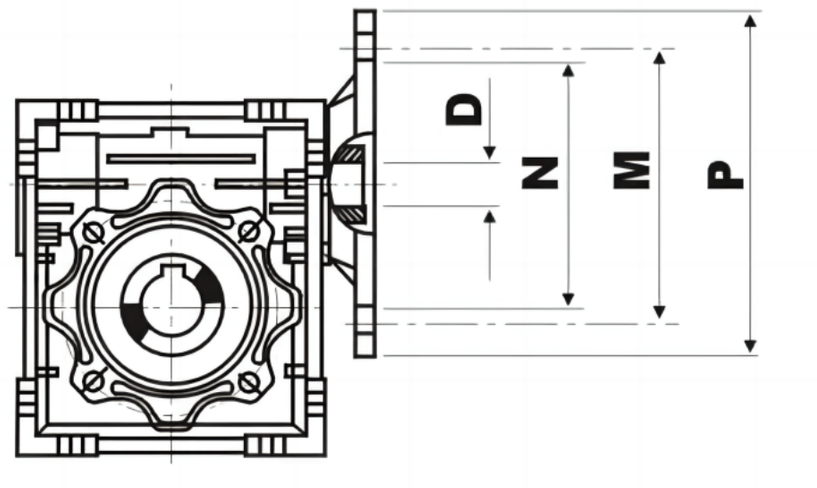
Unit：mm

NMRV	安装规格/Mounting spec						传动比 Transmission ratio
	PAM-IMC	N	M	P	bm	tm	
25	56B14	50	65	80	3	10.4	7.5;10;15;20;30;40;50;60
30	63B5	95	115	140	4	12.8	7.5;10;15;20;25;30;40;50;60;80
	63B14	60	75	90	4	12.8	
	56B5	80	100	120	3	10.4	
	56B14	50	65	80	3	10.4	
40	71B5	110	130	160	5	16.3	7.5;10;15;20;25;30;40;50;60;80;100
	71B14	70	85	105	5	16.3	
	63B5	95	115	140	4	12.8	
	63B14	60	75	90	4	12.8	
	56B5	80	100	120	3	10.4	
50	80B5	130	165	200	6	21.8	7.5;10;15;20;25;30;40;50;60;80;100
	80B14	80	100	120	6	21.8	
	71B5	110	130	160	5	16.3	
	71B14	70	85	105	5	16.3	
	63B5	95	115	140	4	12.8	

RV蜗轮蜗杆减速箱 RV Worm Gearbox



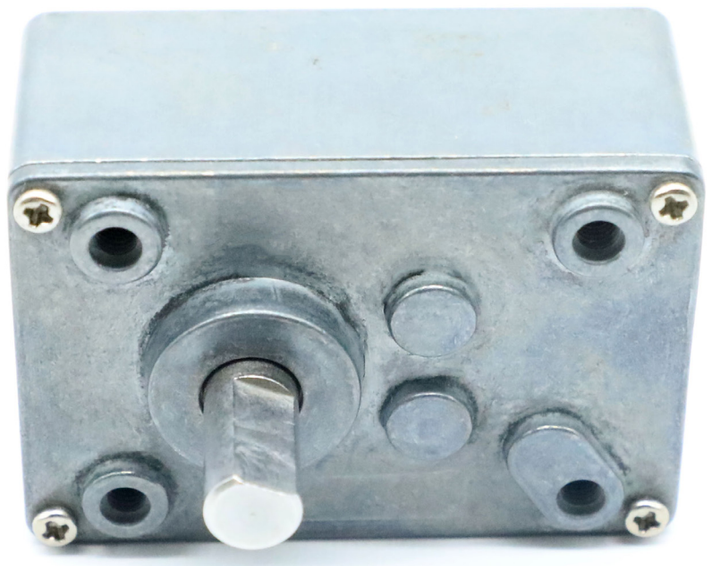


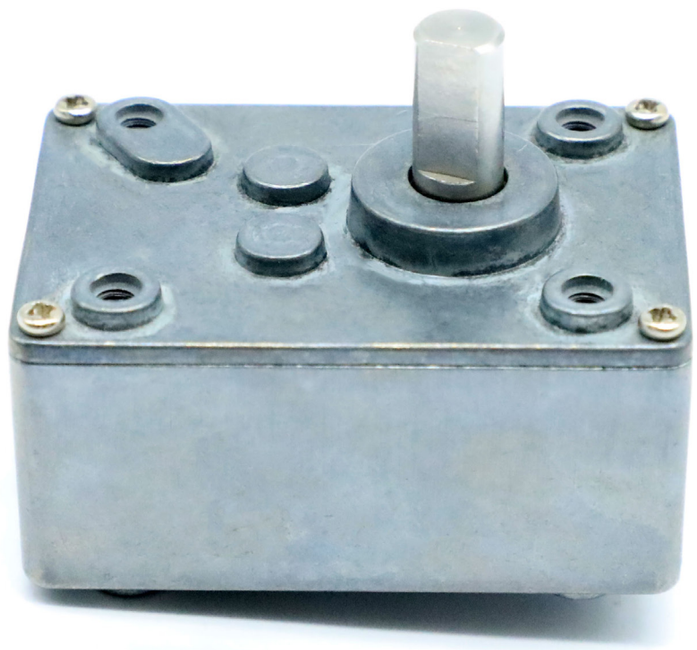


NMRV	安装规格/Mounting spec						传动比 Transmission ratio
	PAM-IMC	N	M	P	bm	tm	
63	90B5	130	165	200	8	27.3	7.5;10;15;20;25;30;40;50;60;80;100
	90B14	95	115	140	8	27.3	
	80B5	130	165	200	6	21.8	
	80B14	80	110	120	6	21.8	
	71B5	110	130	160	5	16.3	
	71B14	70	85	105	5	16.3	

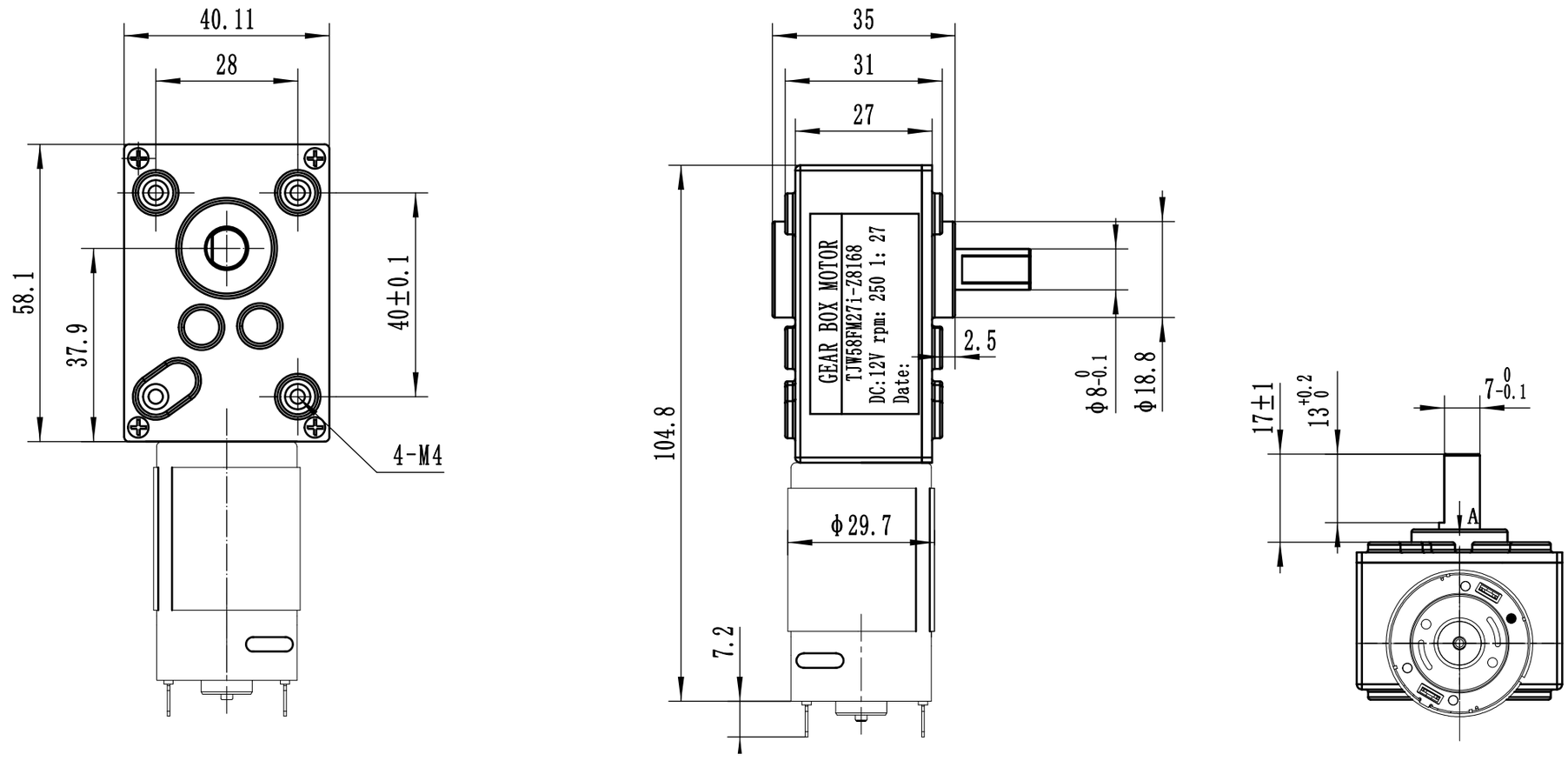
NMRV	Dm												传动比 Transmission ratio
	PAM-IMC	5	7.5	10	15	20	25	30	40	50	60	80	90	
25	56B14	9	9	9	9	9	9	9	9	9	9	-	-	7.5;10;15;20;30;40;50;60
30	63B5	11	11	11	11	11	11	11	11	11	11	11	-	7.5;10;15;20;25;30;40;50;60;80
	63B14													
	56B5	9	9	9	9	9	9	9	9	9	9	9	-	
	56B14													
40	71B5	14	14	14	14	14	14	14	14	-	-	-	-	7.5;10;15;20;25;30;40;50;60;80;100
	71B14													
	63B5	11	11	11	11	11	11	11	11	11	11	11	11	
	63B14													
	56B5	-	-	-	-	-	-	-	-	-	-	-	-	
50	80B5	19	19	19	19	19	19	19	-	-	-	-	-	7.5;10;15;20;25;30;40;50;60;80;100
	80B14													
	71B5	14	14	14	14	14	14	14	14	14	14	14	-	
	71B14													
	63B5	-	-	-	-	-	-	-	-	-	-	-	-	
63	90B5	-	24	24	24	24	24	24	-	-	-	-	-	7.5;10;15;20;25;30;40;50;60;80;100
	90B14													
	80B5	-	-	-	-	19	19	19	19	19	19	19	19	
	80B14													
	71B5	-	-	-	-	-	-	-	14	14	14	14	14	
	71B14													

方型减速机 Square-shaped Gearbox





外型图/Mechanical Dimension



Unit：mm

*齿轮箱内部油脂使用航空28（mobi1-28)。
The grease inside the gearbox uses aviation 28 (mobi1-28).
*电机处压配涡杆材质为40Cr。
The material of the pressure-matching vortex rod at the motor is 40 Cr.
*配对涡轮材质为锡青铜。
The matching turbine is made of tin bronze.

技术要求/ Technical Requirement

减速比 Reduction Ratio	额定力矩 Rated torque (N.m)	额定电压 Rated voltage (V)	绝缘等级 Insulation class	重量 Weight (g)
1/27	0.3	12	F	173.3

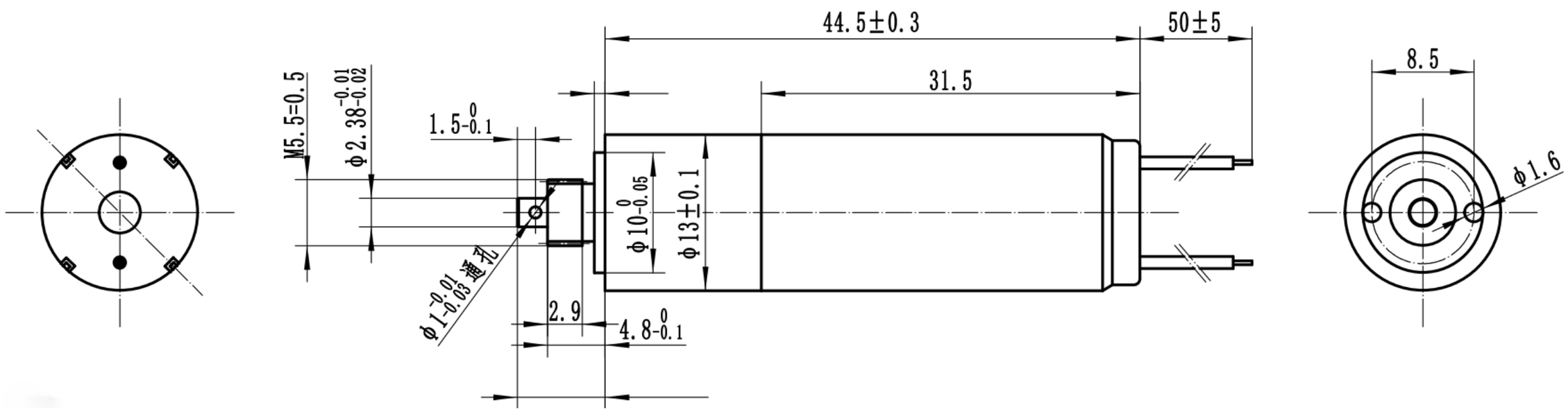
空载转速 No load speed (rpm)	空载电流 No load current (mA)	额定转速 Rated speed (rpm)	额定电流 Rated current (mA)	堵转电流 Stall current (mA)	堵转力矩 Stall torque (kg.cm)
250±10%	≤250	200±10%	≤1100	4200	15

PG13行星减速机
13 Planetary Gearboxes





外型图/Mechanical Dimension



Unit：mm

*零件符合ROHS要求。
Parts meet the ROHS requirements.

*同轴配合处为双滚珠轴承。
The coaxial fit is a double ball bearing.

电机性能/Motor Performance

额定电压 Rated voltage (V)	额定力矩 Rated torque (g.cm)	空载转速 No load speed (rpm)	空载电流 No load current (mA)	额定转速 Rated speed (rpm)	额定电流 Rated current (mA)	启动电压 Starting voltage (A)	堵转电流 Stall current (A)	堵转力矩 Stall torque (g.cm)	重量 Weight (g)
3	20	17500±3%	≤130	16000±15%	≤1300	≤0.8	≤12	≥110	30

标准减速比形式/Gearbox Specifications

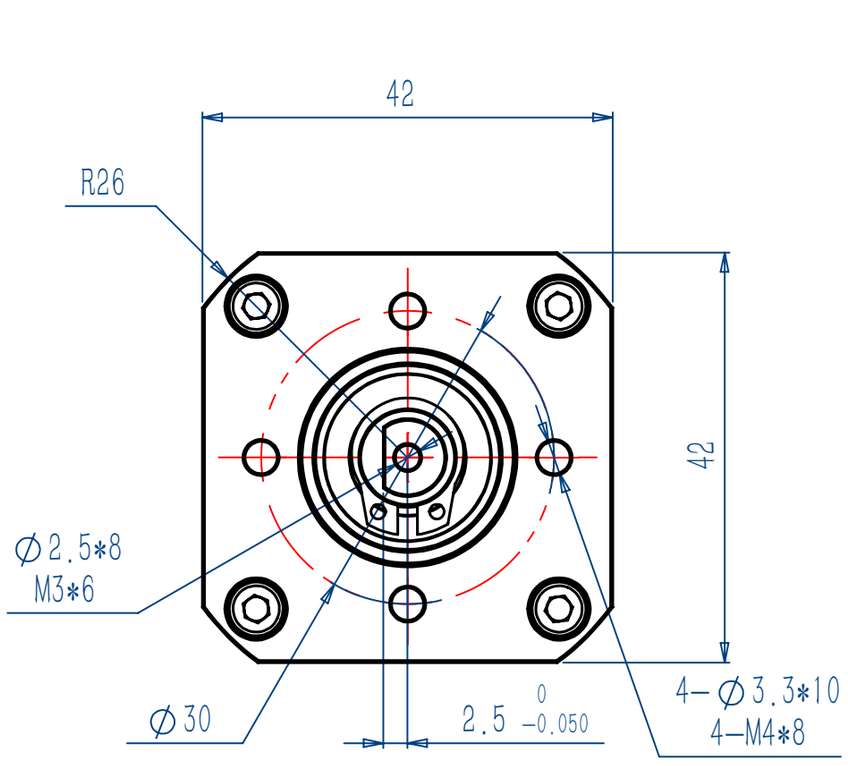
减速比 Reduction Ratio	输出轴轴向间隙 Output shaft axial clearance (mm)	减速箱效率 Reducer box efficiency (%)
1:16	0.05~0.3	81%

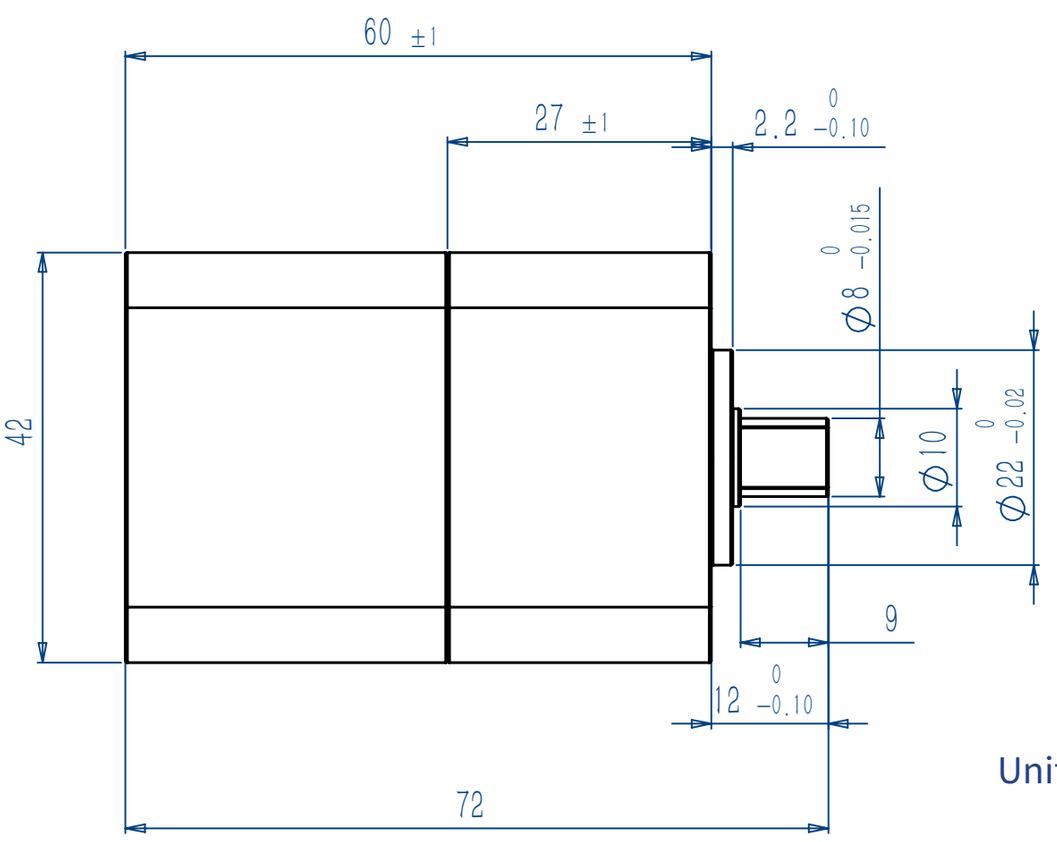
步进电机减速机042-10K
Stepper motor reducer





外型图/Mechanical Dimension





Unit:mm

基本参数/Essential parameter

减速比 Reduction Ratio	额定输出扭矩 Rated output torque (Nm)	额定输入转速 Rated output speed (100r/min)	精度 Degree of accuracy (Arc/sec)	重量 Weight (g)	噪音 Noise (DB)
10/1	2.5	8.0	⩾45	200	⩾62

设计寿命 Designed life (H)	允许轴向/径向力 Allowable axial radial force (N)	启停允许最大转矩 Start-stop maximum allowable torque (Nm)	瞬间最大转矩 Moment maximum torque (Nm)	平均最大转矩 Average maximum torque (Nm)	使用温度 Temperature (℃)
⩾10000	100/120	7.5	10	5.4	-10℃~+90℃

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选型小程序

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