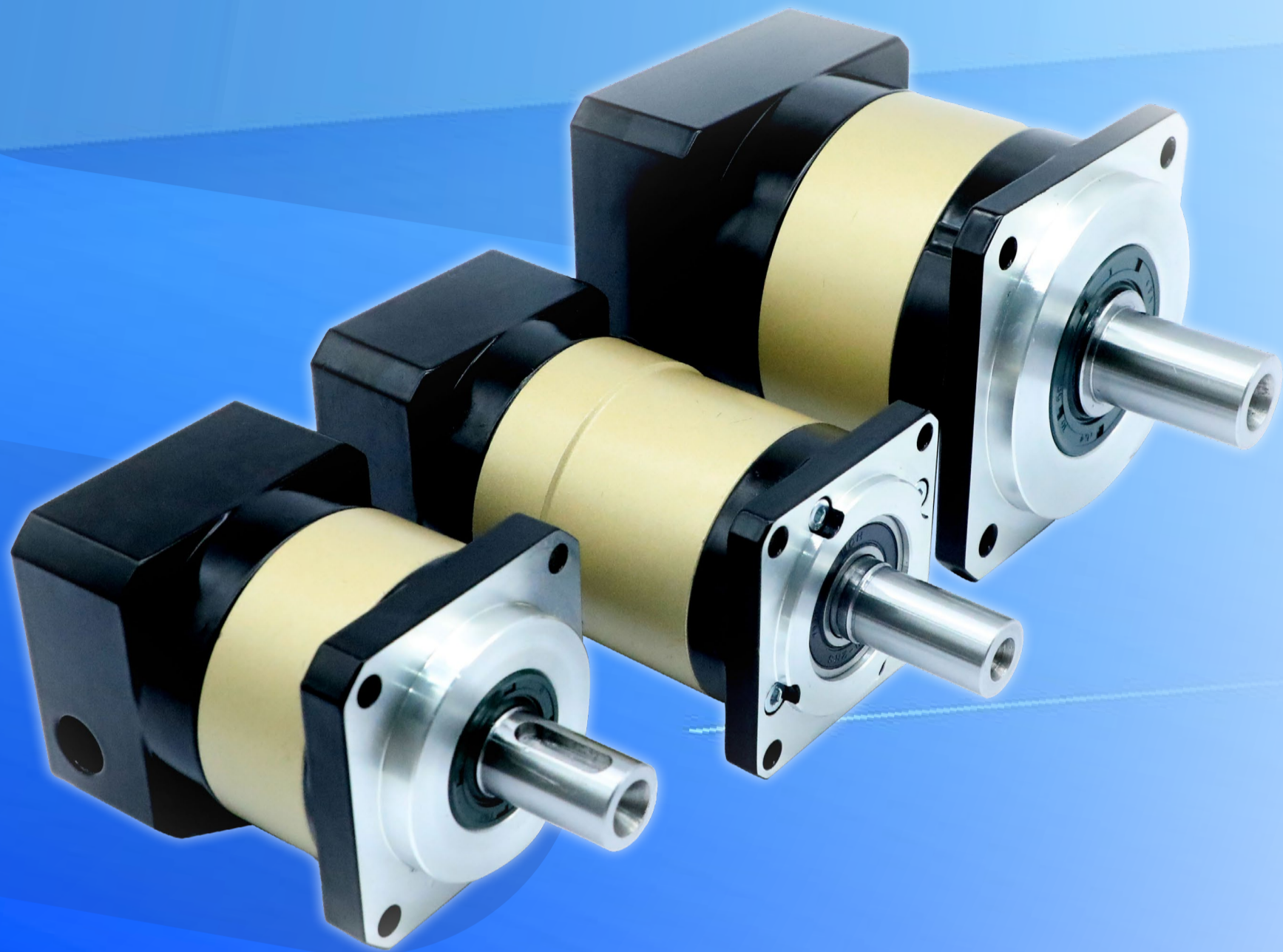


Hetai 合泰



常州合泰精密型减速箱  
Hetai Precision Speed Reducer

Precision planetary gearbox

# 公司简介

合泰（股份代码：834300）是一家以先进技术、创新管理模式领先的厂家。合泰专业生产伺服电机、直流电机、混合动力步进电机、驱动器等。为客户提供专业的电气集成和自动化战略。产品应用于机器人、包装机械、纺织机械、医疗器械、印刷机械、智能物流设备等。合泰还将其产品销往美国、欧洲、东南亚和中国各地。地理位置于江苏省常州市，车间面积超过3.5万平方米。自1998年合泰改革以来，专业化、生产规模保证了每年生产300万台电机。

2003年，合泰获得ISO9001/IATF 16949证书，并成功通过监督认证。公司还获得了自主经营的进出口权。

2005年，合泰通过欧盟型式检验证书，获得发明专利4项、实用新型7项、外观设计专利1项

合泰于2015年上市。并于次年通过安全标准化管理体系进行了认证。公司于2018年获得高新技术企业资格。

Hetai (stock code: 834300) is a leading manufacturer with advanced technology and innovative management mode. Hetai specializes in the production of servo motor, DC motor, hybrid stepper motor, driver, etc. Provide customers with professional electrical integration and automation strategies. The products are used in robots, packaging machinery, textile machinery, medical equipment, printing machinery, intelligent.

In 2003, Hetai obtained the ISO9001 / IATF 16949 certificate, and successfully passed the supervision certification. The company has also obtained the independent management of the import and export rights.

In 2005, Hetai passed the European Union type inspection certificate, and obtained 4 invention patents, 7 utility patents and 1 appearance design patent

Hetai was listed in 2015. And in the next year through the safety standardization management system for certification.

The company obtained the qualification of high-tech enterprise in 2018.

“合泰全新倾力打造，一流静音产品”

# 目录 contents

---

## 精密型减速箱 HIGH PRECISION REDUCER

1. TB042 .....	P. 6-8
2. TB060 .....	P. 9-11
3. TB090 .....	P. 12-14
4. TB115 .....	P. 15-17
5. TB142 .....	P. 18-20



**ISO9001**



# TB042

## 高精度行星减速机 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(°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
610	390	-10°C~+90°C	15000(s1) 30000(s5)	≤60	合成润滑脂 (Synthetic grease)	IP65	任意方向 (Any direction)

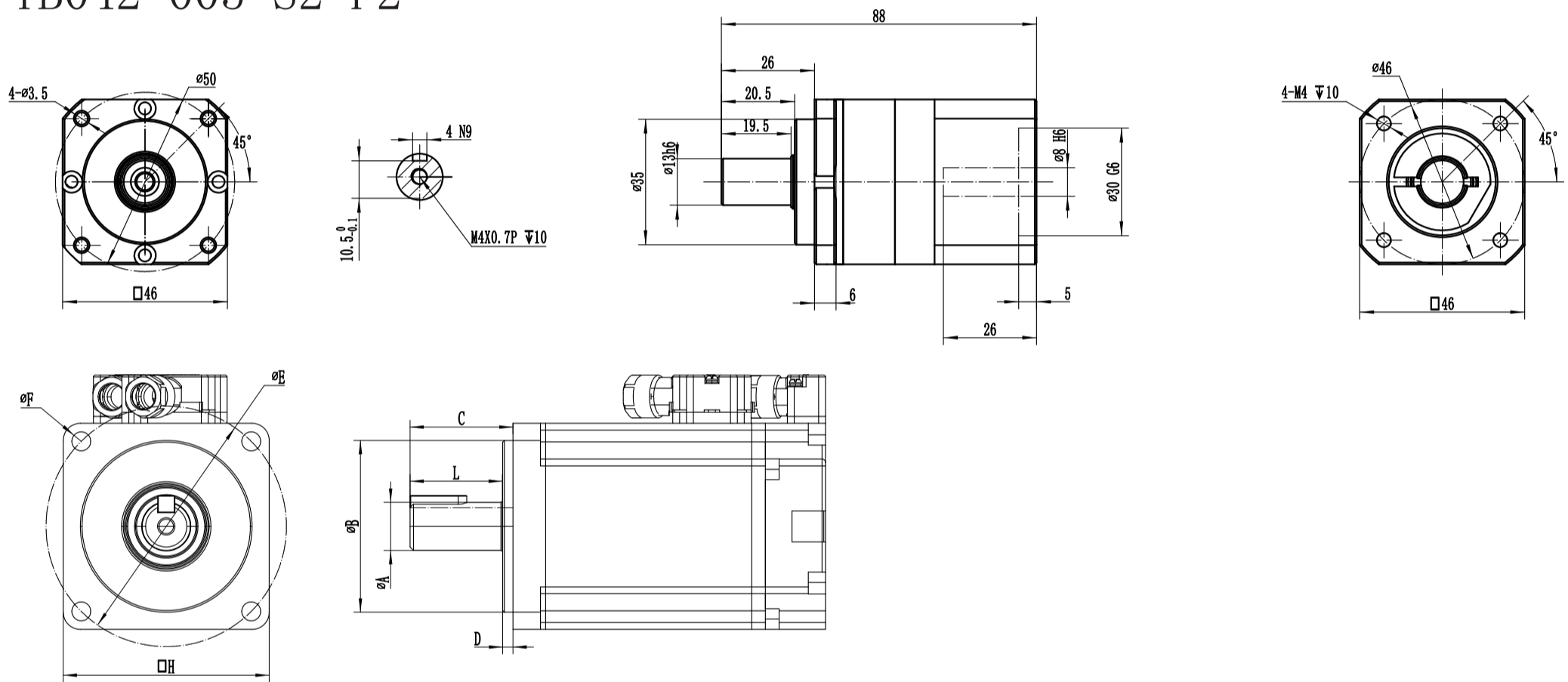
输出转速100RPM时,作用于输出轴长度1/2位置. When the output speed is 100RPM, it acts on the 1/2 position of the output shaft length.

(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)

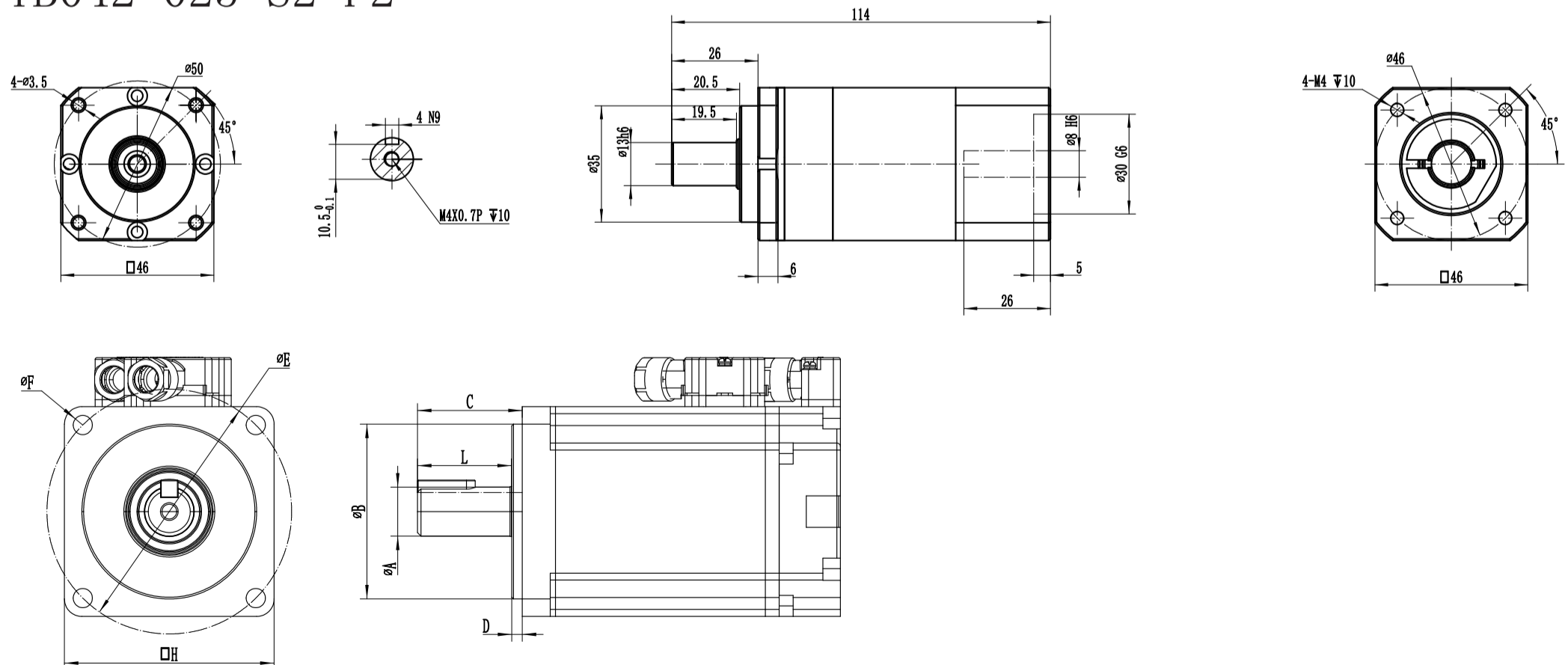
实际减速机所承受的径向力,轴向力会依施力点的位置而不同. The actual radial force borne by the reducer, the axial force will vary depending on the location of the force application point.

### 外型图 Mechanical Dimension

#### TB042-005-S2-P2



#### TB042-025-S2-P2



# TB042

## 外形图尺寸表 Outline dimension

	尺寸 Dimension	TB042	
		1-stage	2-stage
外径 Diameter	D1	50	
	D2	3.4	
	D3	56	
	D4	35	
	D6	13	
	D7	M4X0.7P	
	长度 Length	L1	42
L2		88	114
L3		26	
L4		5.5	
L5		1	
L6		10	
L7		5.5	
L8		16	
宽 Width	W1	H9	5
高 Height	H1		15
接入口尺寸 Interface size	C1	42	
	C2	46	
	C3	30	
	C4	M4X0.7P	
	C5	<12	
	C6	26	
	C7	8.75	
	C8	3.5	
	C9	26	

本公司保有修改尺寸的权利。所有减速机尺寸以画面确认为准。  
reserve the right to modification the SPEC. 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
			7 (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 Emergency 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. Input Speed n	rpm	1, 2	3-100	5000
效率 Efficiency	%	1	3-100	≧97%
		2	15-100	≧95%

规格 Standard	段数 Stage	减速比 Ratio	TB042
转动惯量 Mass Mom. of inertia. J (KG-CM <sup>2</sup> )	1	3	0.02
		4	0.02
		5	0.01
		7 (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

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. \*TB042为8比

(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. \*TB042 is 8 ratio.)

3. 使用寿命为低于额定输入转速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.)

# TB060

## 高精度行星减速机 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 (°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
1170	590	-10°C~+90°C	15000 (s1) 30000 (s5)	≤60	合成润滑脂 (Synthetic grease)	IP65	任意方向 (Any direction)

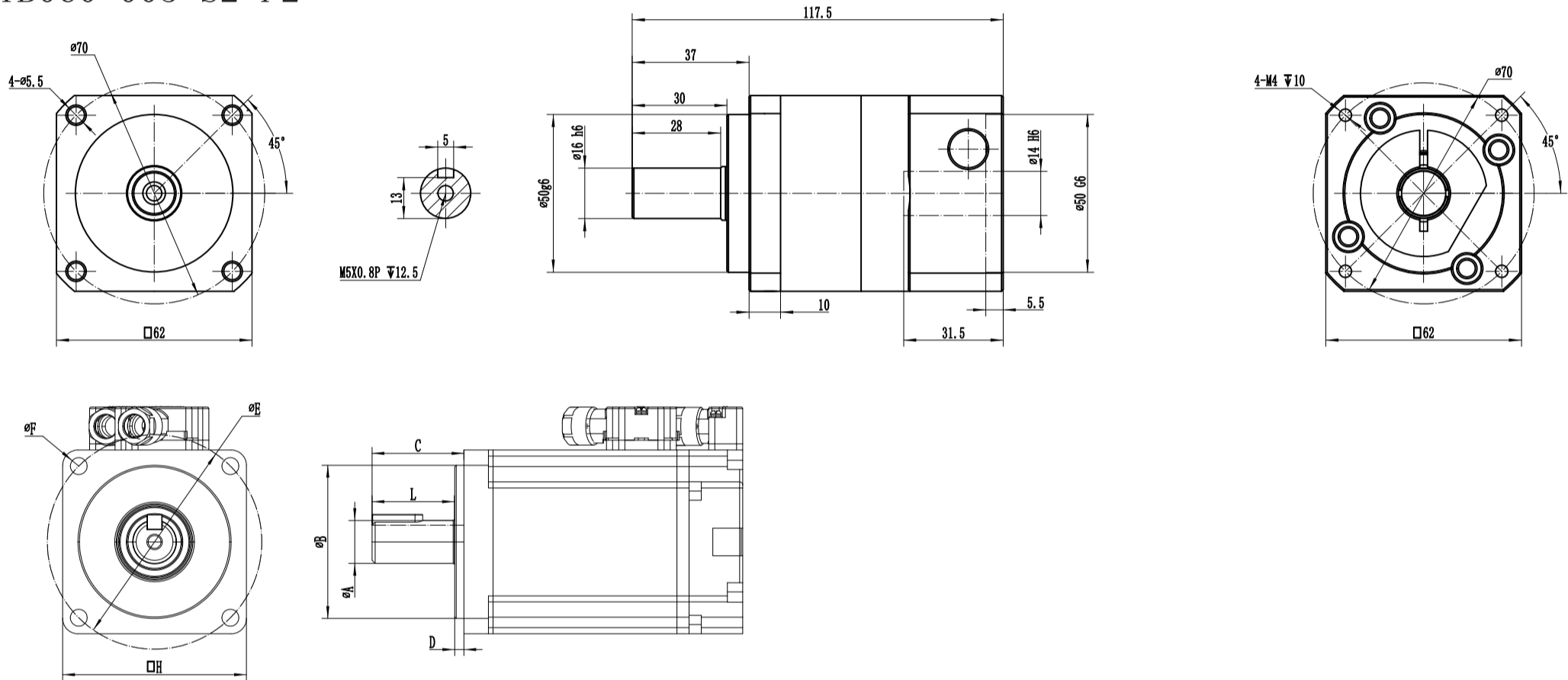
输出转速100RPM时,作用于输出轴长度1/2位置. When the output speed is 100RPM, it acts on the 1/2 position of the output shaft length.

(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)

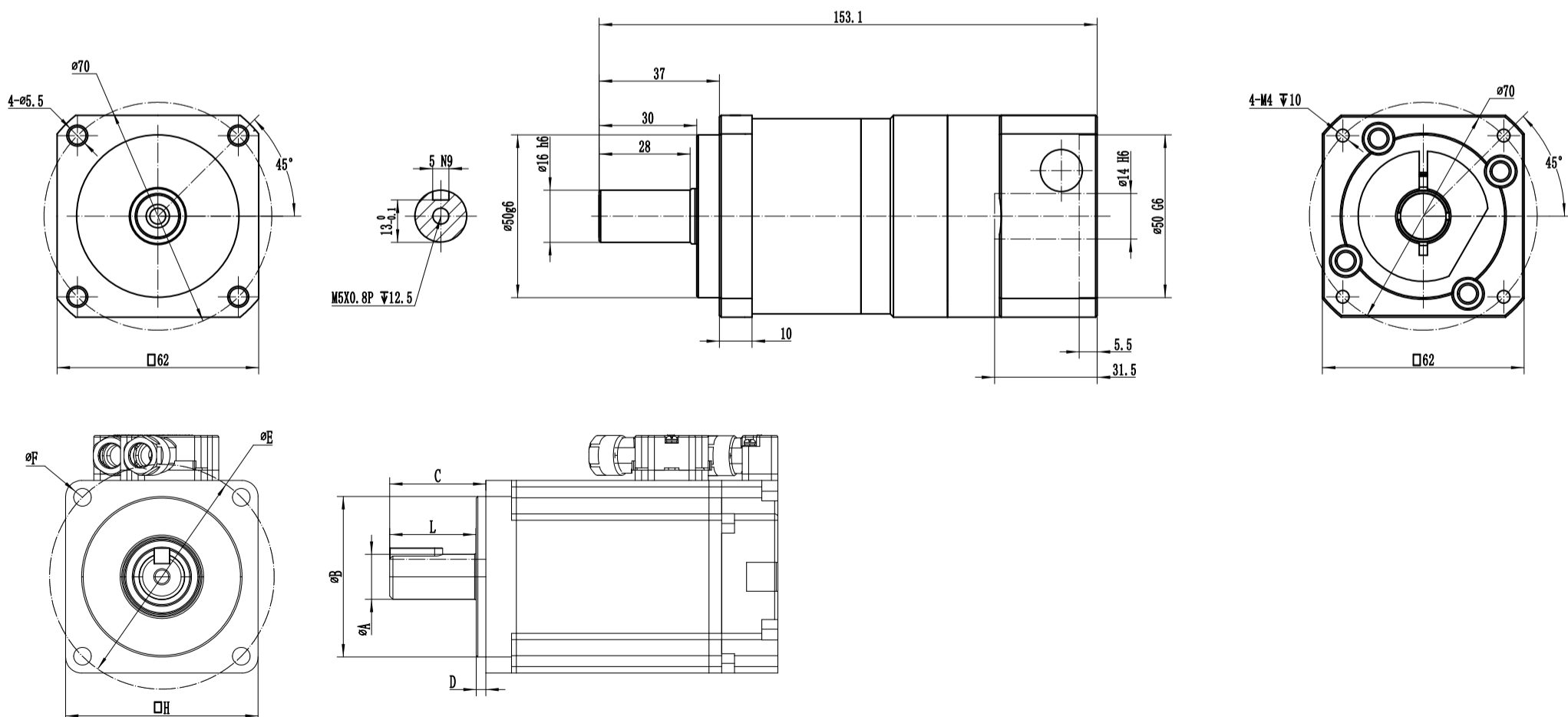
实际减速机所承受的径向力,轴向力会依施力点的位置而不同.The actual radial force borne by the reducer, the axial force will vary depending on the location of the force application point.

### 外型图 Mechanical Dimension

#### TB060-005-S2-P2



#### TB060-025-S2-P2



# ■ TB060

## 外形图尺寸表 Outline dimension

	尺寸 Dimennsion		TB060	
			1-stage	2-stage
外径 Diameter	D1		70	
	D2		5.5	
	D3		80	
	D4		50	
	D6		16	
	D7		M5X0.8P	
	长度 Length	L1		60
L2		117.5	153.1	
L3		37		
L4		7		
L5		2		
L6		12.5		
L7		4.5		
L8		25		
宽 Width	W1	H9	5	
高 Height	H1		18	
接入口尺寸 Interface size	C1		60	
	C2		70	
	C3		50	
	C4		M5X0.8P	
	C5		<16	
	C6		34.5	
	C7		13.5	
	C8		8	
	C9		19	

本公司保有修改尺寸的权利。所有减速机尺寸以画面确认为准。  
reserve the right to modification the SPEC. 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
			7 (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 Efficiency	%	1	3~100	≧97%
		2	15~100	≧95%

规格 Standard	段数 Stage	减速比 Ratio	TB060
转动惯量 Mass Mom. of inertia. J (KG-CM <sup>2</sup> )	1	3	0.01
		4	0.08
		5	0.07
		7 (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

- 最大加速力矩 (T2B)=0.6x急停扭矩(T2not)  
(Maximum acceleration torque (T2B) = 0.6x emergency stop torque (T2not))
- 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. \*TB042为8比  
(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. \*TB042 is 8 ratio.)
- 使用寿命为低于额定输入转速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.)

# TB090

## 高精度行星减速机 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)

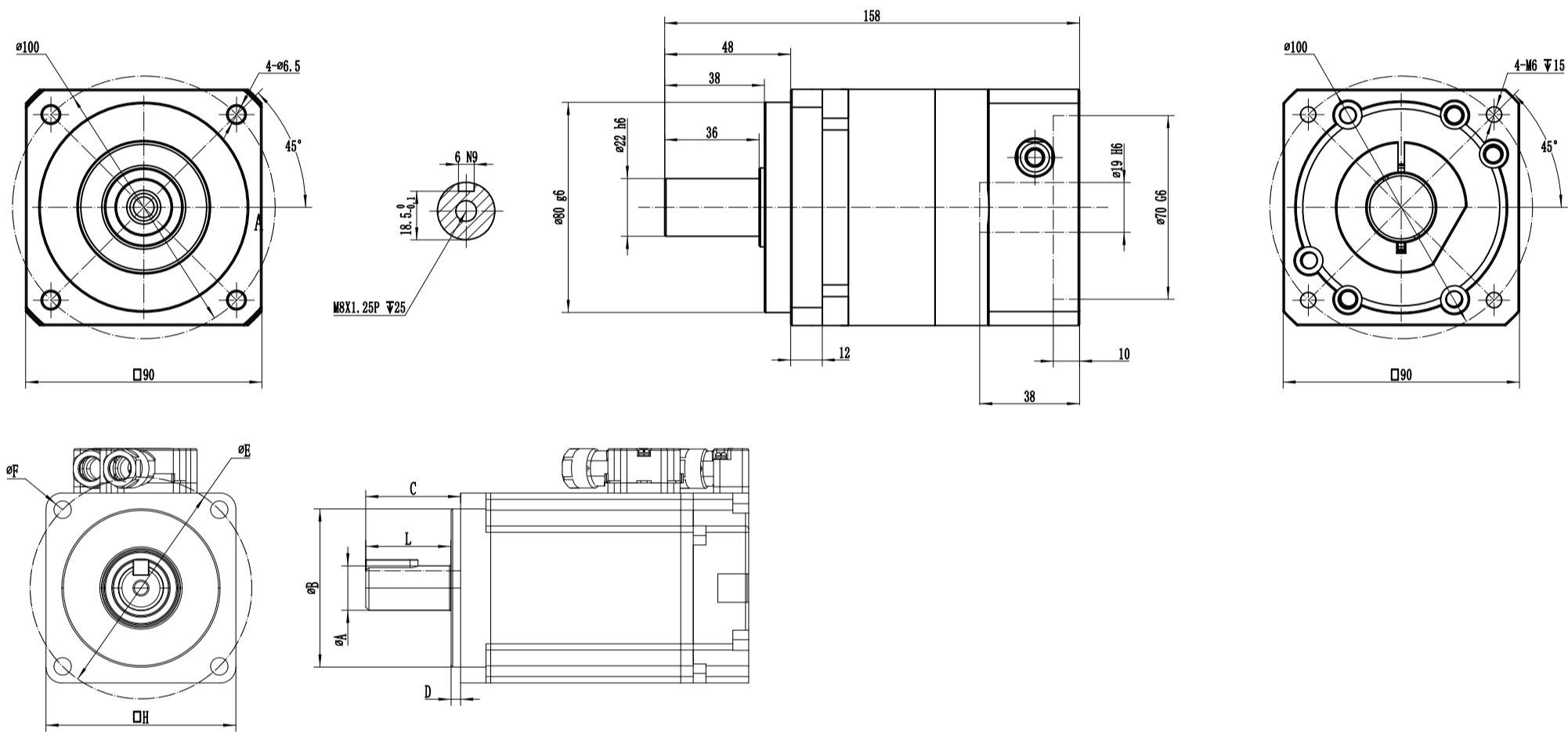
输出转速100RPM时,作用于输出轴长度1/2位置. When the output speed is 100RPM, it acts on the 1/2 position of the output shaft length.

(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)

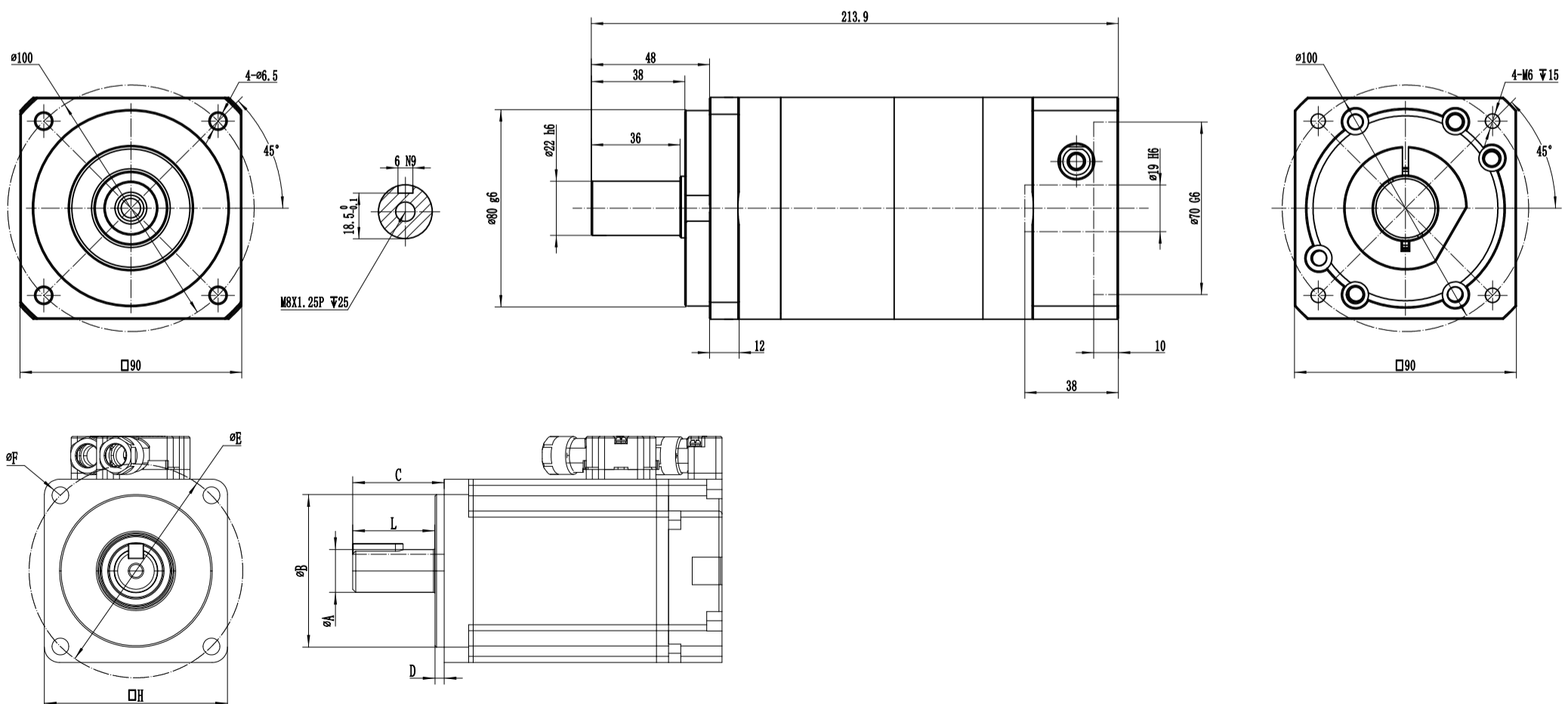
实际减速机所承受的径向力,轴向力会依施力点的位置而不同.The actual radial force borne by the reducer, the axial force will vary depending on the location of the force application point.

### 外型图 Mechanical Dimension

#### TB090-005-S2-P2



#### TB090-025-S2-P2



# TB090

## 外形图尺寸表 Outline dimension

	尺寸 Dimennsion	TB90	
		1-stage	2-stage
外径 Diameter	D1	100	
	D2	6.5	
	D3	116	
	D4	80	
	D6	22	
	D7	M8X1.25P	
	长度 Length	L1	90
L2		158	213.9
L3		48	
L4		10	
L5		1.5	
L6		25	
L7		8	
L8		30	
宽 Width	W1	H9	6
高 Height	H1		24.5
接入口尺寸 Interface size	C1	80	
	C2	90	
	C3	70	
	C4	M6X1P	
	C5	<24	
	C6	41	
	C7	9.75	
	C8	4	
	C9	17	

本公司保有修改尺寸的权利。所有减速机尺寸以画面确认为准。

reserve the right to modification the SPEC. 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 (8) *	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 Efficiency	%	1	3-100	≥97%
		2	15-100	≥95%

规格 Standard	段数 Stage	减速比 Ratio	TB090
转动惯量 Mass Mom. of inertia. J(KG-CM <sup>2</sup> )	1	3	0.28
		4	0.21
		5	0.17
		7 (8) *	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

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. \*TB042为8比

( 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. \*TB042 is 8 ratio )

3. 使用寿命为低于额定输入转速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. )

# TB115

## 高精度行星减速机 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)

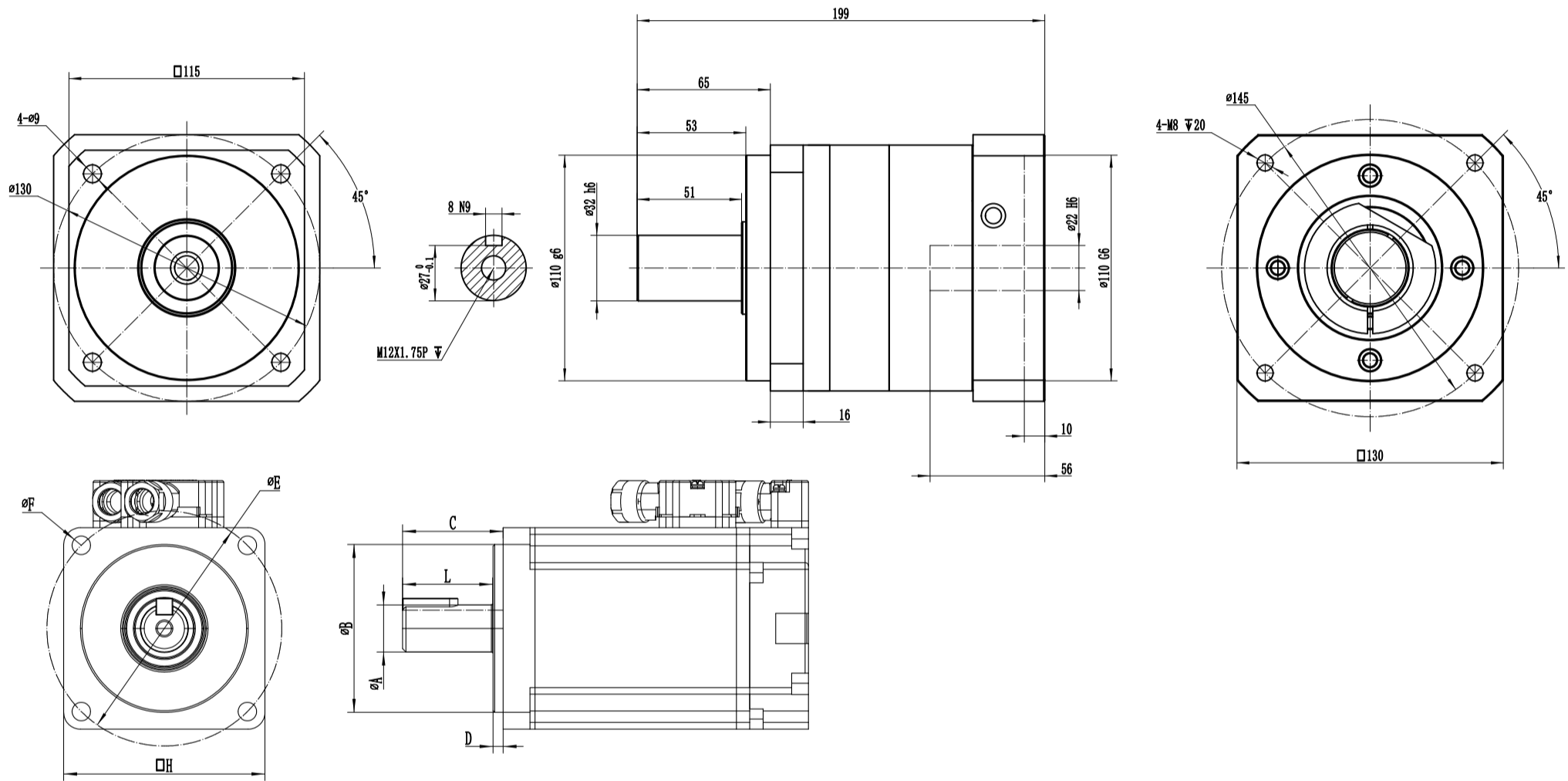
输出转速100RPM时,作用于输出轴长度1/2位置. When the output speed is 100RPM, it acts on the 1/2 position of the output shaft length.

(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)

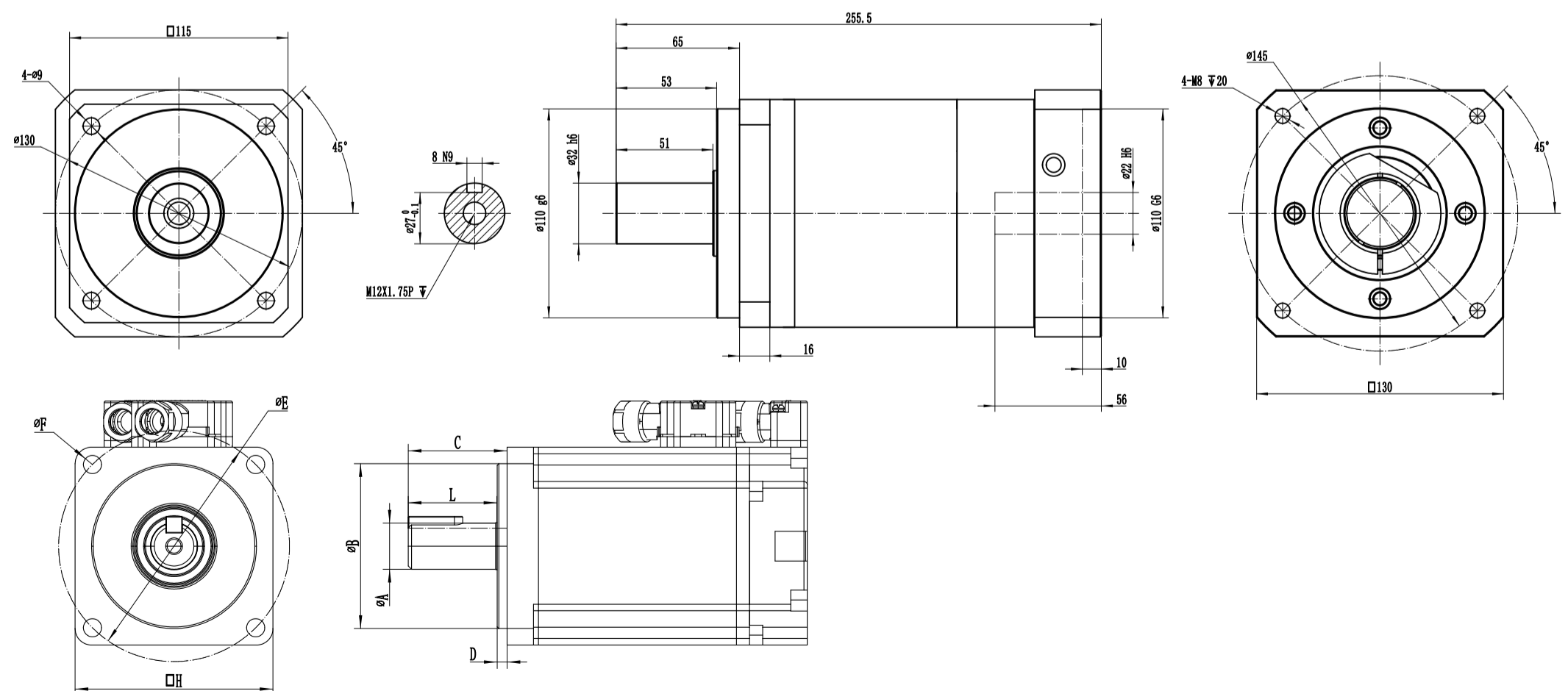
实际减速机所承受的径向力,轴向力会依施力点的位置而不同.The actual radial force borne by the reducer, the axial force will vary depending on the location of the force application point.

### 外型图 Mechanical Dimension

#### TB115-005-S2-P2



#### TB115-025-S2-P2



# TB115

## 外形图尺寸表 Outline dimension

	尺寸 Dimennsion		TB115	
			1-stage	2-stage
外径 Diameter	D1		130	
	D2		9	
	D3		152	
	D4		110	
	D6		32	
	D7		M12X1.75P	
	长度 Length	L1		115
L2		199	255.5	
L3		65		
L4		12		
L5		2		
L6		28		
L7		10		
L8		40		
宽 Width	W1	H9	10	
高 Height	H1		35	
接入口尺寸 Interface size	C1		115	
	C2		130	
	C3		110	
	C4		M8X1.25P	
	C5		<32	
	C6		53	
	C7		13	
	C8		5	
	C9		19.5	

本公司保有修改尺寸的权利。所有减速机尺寸以画面确认为准。  
reserve the right to modification the SPEC. 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 (8) *	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 Emergncy 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 Efficiency	%	1	3~100	≥97%
		2	15~100	≥95%

规格 Standard		段数 Stage	减速比 Ratio	TB115
转动惯量 Mass Mom. of inertia. J(KG-CM <sup>2</sup> )		1	3	1.39
			4	1.27
			5	1.14
			7 (8) *	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

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. \*TB042为8比

(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. \*TB042 is 8 ratio.)

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.)

# TB142

## 高精度行星减速机 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)

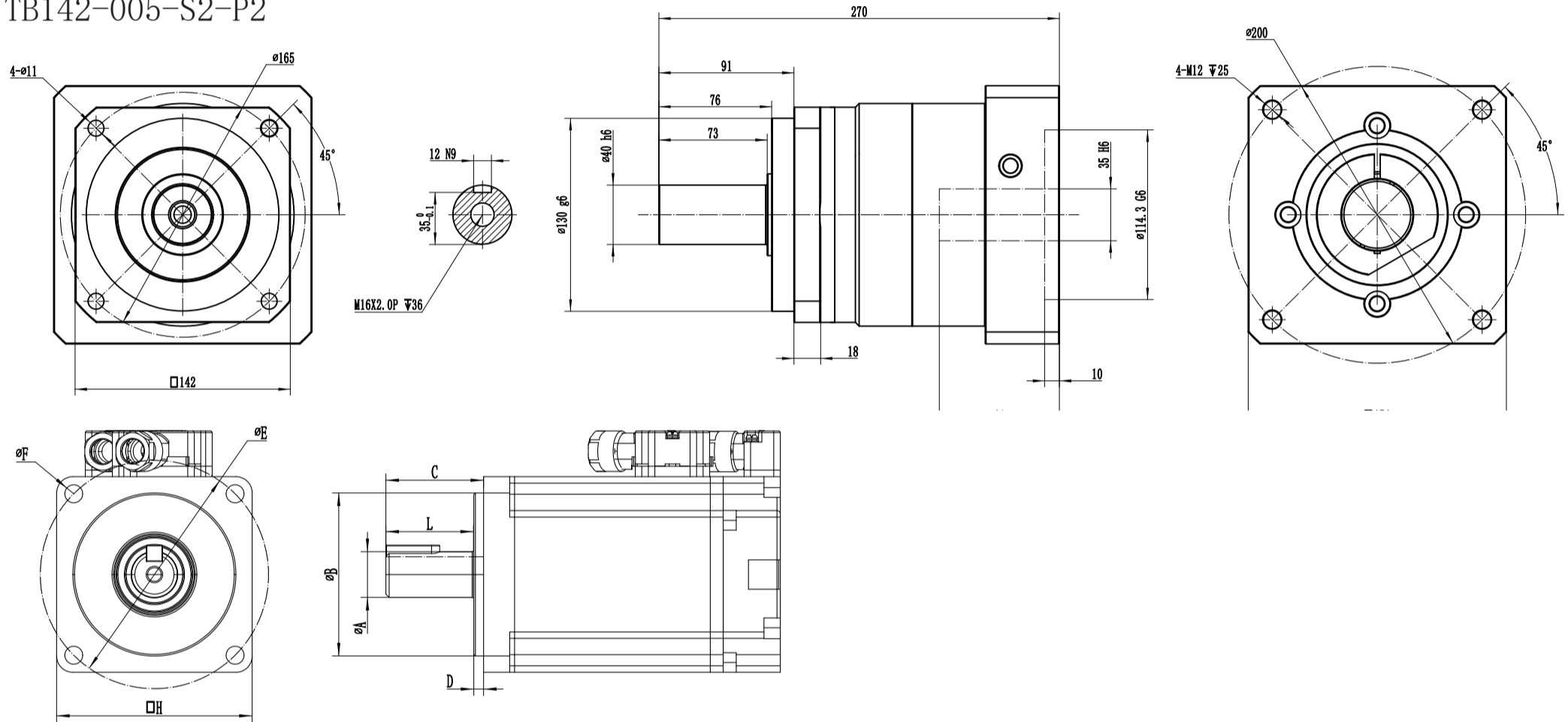
输出转速100RPM时,作用于输出轴长度1/2位置。 When the output speed is 100RPM, it acts on the 1/2 position of the output shaft length.

(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)

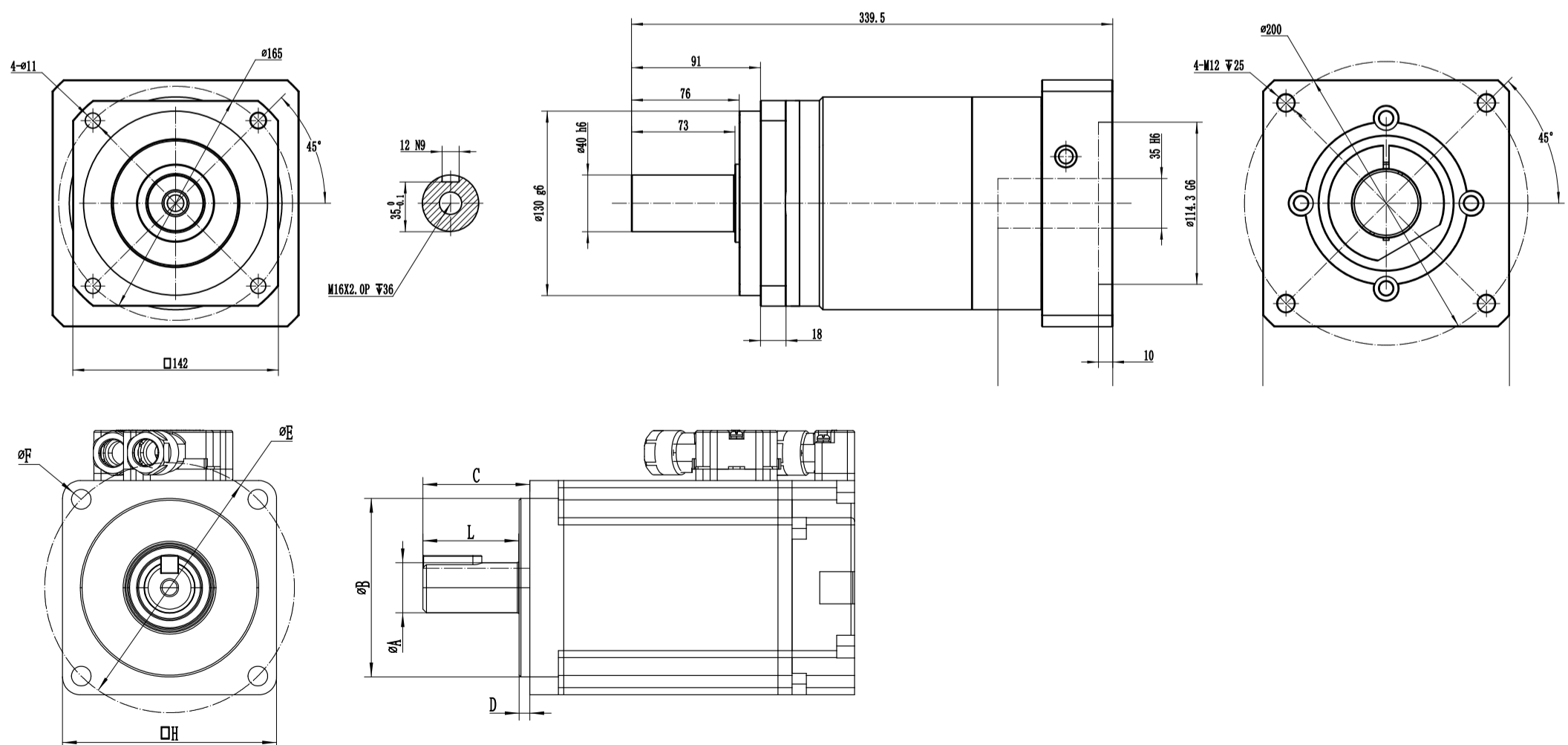
实际减速机所承受的径向力,轴向力会依施力点的位置而不同。The actual radial force borne by the reducer, the axial force will vary depending on the location of the force application point.

### 外型图 Mechanical Dimension

#### TB142-005-S2-P2



#### TB142-025-S2-P2





# ■ TB142

## 外形图尺寸表 Outline dimension

	尺寸 Dimennsion	TB142	
		1-stage	2-stage
外径 Diameter	D1	165	
	D2	11	
	D3	185	
	D4	130	
	D6	40	
	D7	M16X2P	
	长度 Length	L1	142
L2		270	339.5
L3		91	
L4		15	
L5		3	
L6		36	
L7		12	
L8		60	
宽 Width	W1	H9	12
高 Height	H1		43
接入口尺寸 Interface size	C1	142	
	C2	165	
	C3	130	
	C4	M10X1.5P	
	C5	<38	
	C6	63	
	C7	15	
	C8	6	
	C9	22.5	

本公司保有修改尺寸的权利。所有减速机尺寸以画面确认为准。  
reserve the right to modification the SPEC. 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
			7 (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 Efficiency	%	1	3-100	≥97%
		2	15-100	≥95%

规格 Standard	段数 Stage	减速比 Ratio	TB142
转动惯量 Mass Mom. of inertia. J(KG-CM <sup>2</sup> )	1	3	2.97
		4	2.19
		5	2.03
		7 (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

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. \*TB042为8比

(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. \*TB042 is 8 ratio.)

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.)

# 质量. 诚信. 创新. 发展



常州合泰电机电器股份有限公司

邮箱/Email: [info@ht-motor.com](mailto:info@ht-motor.com)

网址/Website: <http://www.ht-motor.com>

电话/Telephone: 0519-88369920

地址/Address:

江苏省常州市武进区遥观镇勤新村工业集中区 勤建段17号

No.17, Qinjian Section, QinNew Village, Yaguan Town, Wujin District, Changzhou City, Jiangsu Province.