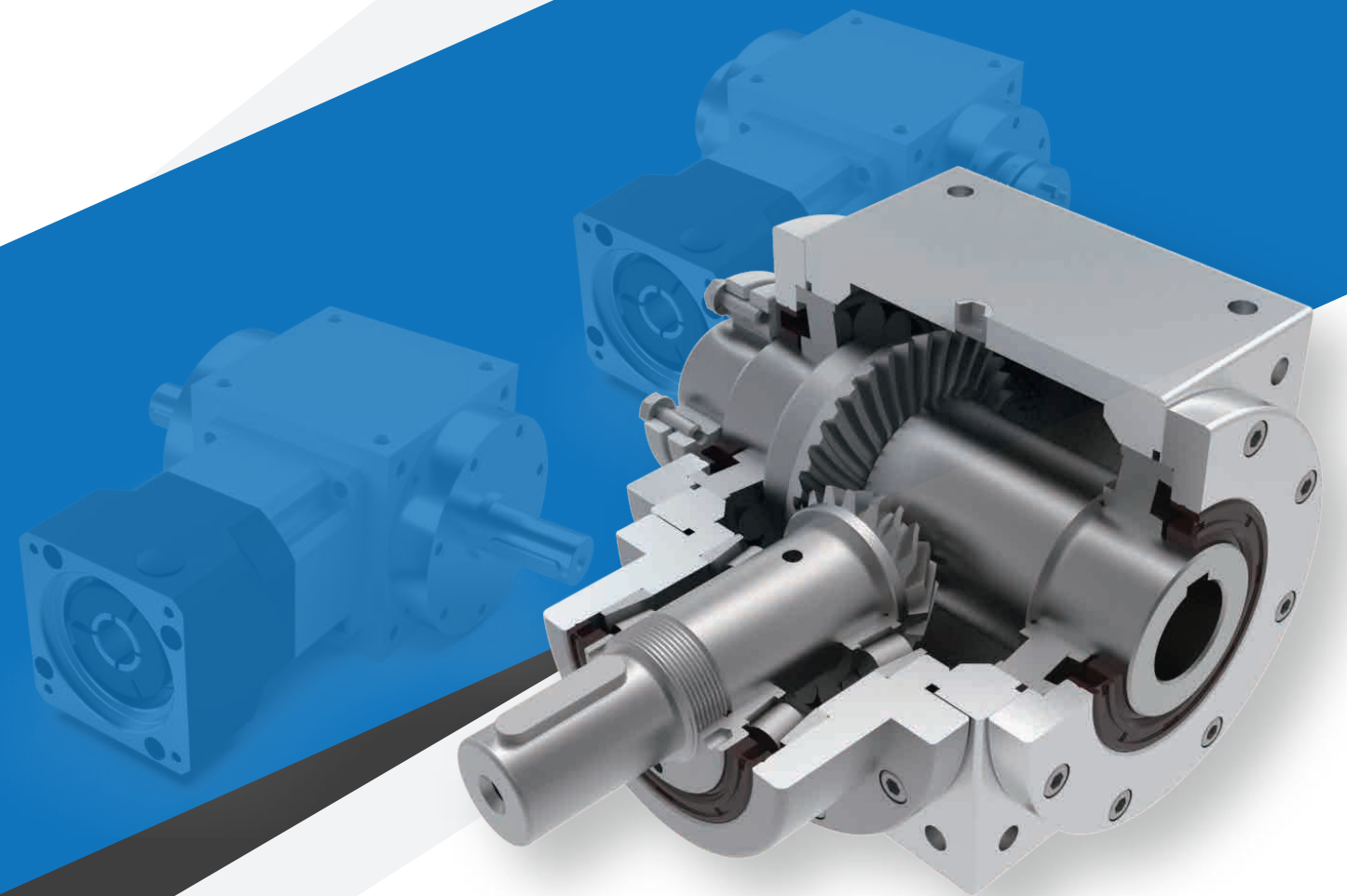
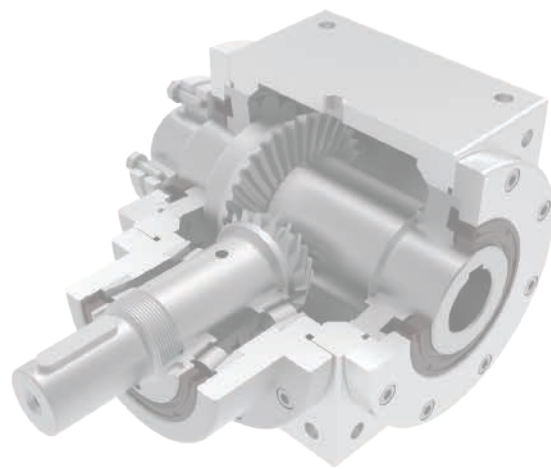


HIGH PRECISION
SPIRAL BEVEL GEARBOX

高精度 螺旋伞齿轮减速机

AT/RA系列





信任源于品质，
服务创造未来，
仟德亿机电与您携手共创美好明天！

ABOUT QIANDEYI 关于仟德亿

苏州仟德亿机电有限公司是一家专业从事研发、生产、销售行星减速机、中空旋转平台、凸轮分割器、转向器、转角器等传动的高新技术企业，拥有先进的机械加工设备和专业的技术人员。技术力量雄厚、加工设备精良、检测手段完善。

高速精密凸轮分割器是实现间歇运转的分度机构。该产品具有分度精密高，高速性能好，运转平稳、传递扭矩大、定位自锁、结构紧凑、体积小、噪音低、寿命长等显著优点。产品广泛应用于各种组合机械、食品包装机械、制药机械、烟草机械、灌装成型机械、玻璃陶瓷机械、灯泡机械、制造装配自动生产线等机械行业中，并已获得使用者的完全信任与一致好评。

公司秉持追求品质完美的理念，除致力于生产、开发种类更多、适用性更强的机型外，更针对客户的特殊用途要求，做快而适用性高的设计制造。对于分割器的正确选型以及使用，欢迎广大用户随时与我公司联络，我们的专业技术人员可随时为您提供详细的解说咨询服务。

信任源于品质，服务创造未来，仟德亿机电与您携手共创美好明天！

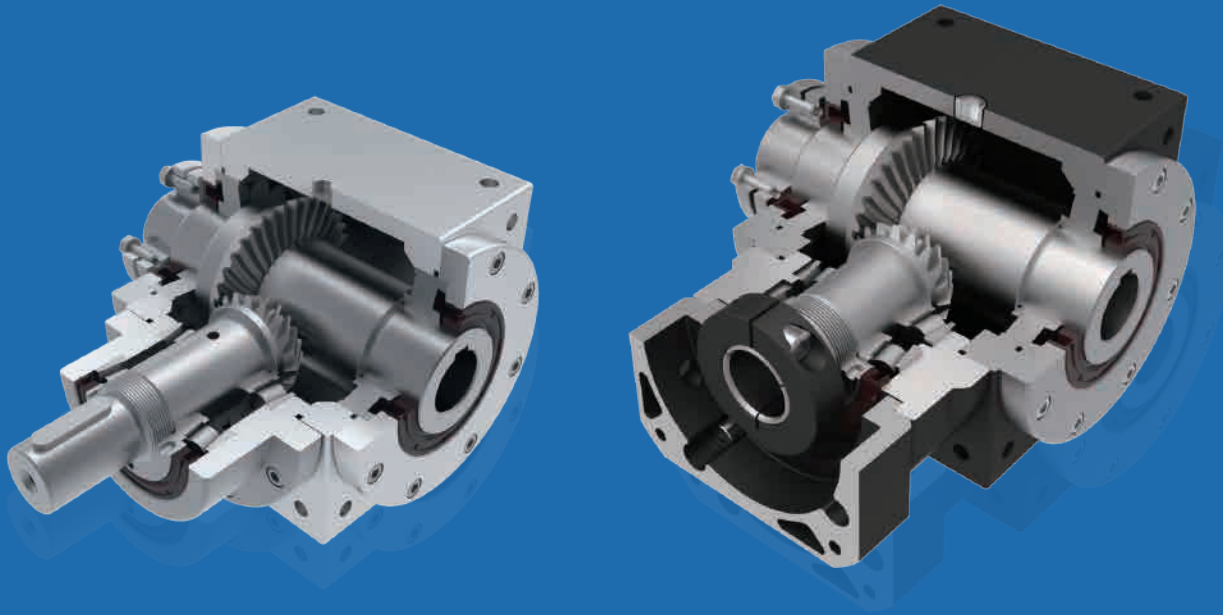
Suzhou Qian De yi Electromechanical co., Ltd. is a high-tech enterprise specializing in r & D, production and sales of planetary reducer, hollow rotary platform, CAM divider, steering gear, rotary gear and other transmission, with advanced mechanical processing equipment and professional technical personnel.Strong technical force, sophisticated processing equipment, perfect detection means.

High-speed precision CAM splitter is a dividing mechanism to realize intermittent operation.The product has high precision dividing, high speed performance, smooth operation, large transmission torque, positioning self-locking, compact structure, small volume, low noise, long life and other remarkable advantages.The products are widely used in various combination machinery, food packaging machinery, pharmaceutical machinery, tobacco machinery, filling molding machinery, glass ceramic machinery, light bulb machinery, manufacturing and assembly automatic production line and other machinery industries, and has won the user's complete trust and consistent praise.

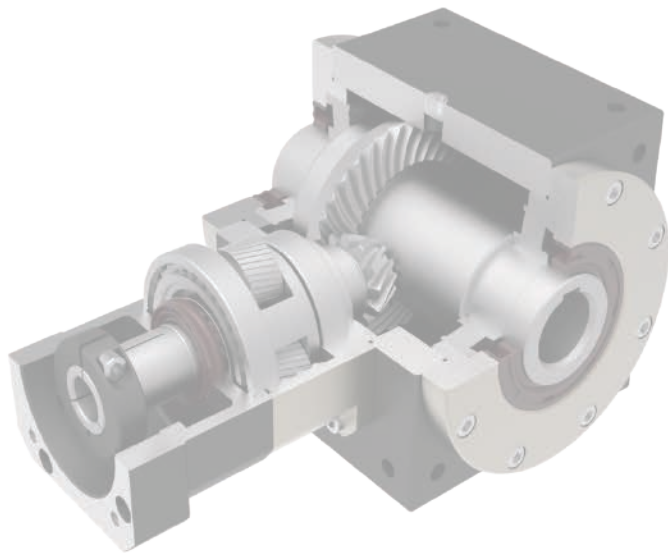
The company uphold the pursuit of perfect quality concept, in addition to committed to the production, development of more types, more applicable models, but also for the special purpose requirements of customers, do fast and high applicability of design and manufacturing.For the correct selection and use of the divider, you are welcome to contact us at any time, and our professional and technical personnel can provide you with detailed interpretation and consulting services at any time.

Trust comes from quality, service creates the future, qian deyi mechatronics will work with you to create a better tomorrow!

减速机系列-AT
Reducer series-AT



产品特性
PRODUCT FEATURES



- △ 精美的外观设计
Exquisite exterior design
- △ 各种输出轴选择
A variety of output shaft options
- △ 高扭力
High torque
- △ 高效率
High efficiency
- △ 使用寿命长
Long service life
- △ 低背隙
Low back lash
- △ 免维护
Free maintenance
- △ 灵活的安装尺寸
Flexible installation dimensions

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AT065

减速机型号 Gearbox Size :
AT065, AT075, AT090, AT110, AT140,
AT170, AT210, AT240, AT280

L

减速机 Gearbox :
L/L1 / H/C/R1 /LM/ RM / 4M

01

比数 Ratio:
1 Stage: 1

S1

输出轴型式选择
S1:平滑直轴
S2:附键直轴

马达

马达类型 Motor Designation :
马达制造商及型号
Manufacturer Type
And Model

Shaft Option :
S1: Smooth Output Shaft
S2: Output Shaft with Key

选用范例：AT065-L-01-S1 /I SMH1-20B30CB
Ordering Example: AT065-L-01-S1 /I SMH1-20B30CB

AT210

减速机型号 Gearbox Size :
AT065, AT075, AT090. AT110. AT140.
AT170, AT210, AT240. AT280

FL1

减速机 Gearbox :
FL/ FLM1 / FLM2/FL1 / FL1M1 / FL1M2 /
FR1/FR1M1/FR1M2/FH/FHM1/FHM2/
FC / FCM1 / FCM2

200

比数 Ratio:
1 Stage:3,4,5,7,10
2 Stage:12,15,20,35,50,70,100
3 Stage:75,100,125,150,200,
250,350,500

S1

输出轴型式选择
S1:平滑直轴
S2:附键直轴

马达

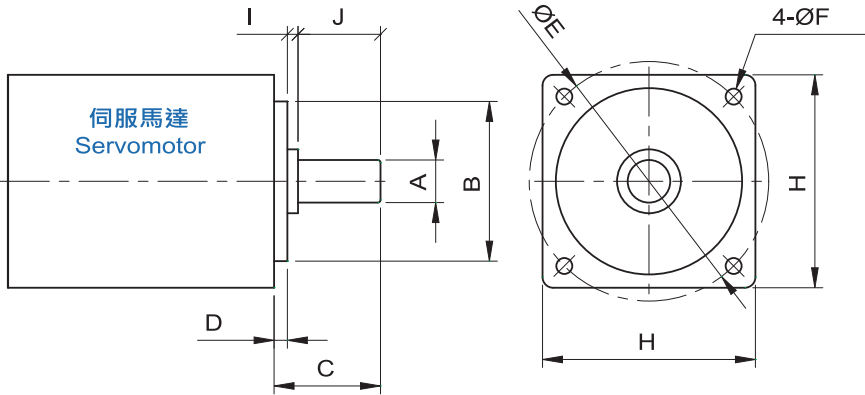
马达类型 Motor Designation :
马达制造商及型号
Manufacturer Type
And Model

Shaft Option :
S1: Smooth Output Shaft
S2: Output Shaft with Key

选用范例：AT110-FL1-50-S1 / ISMH1-75B30CB
Ordering Example: AT110-FL1-50-S1 / ISMH1-75B30CB

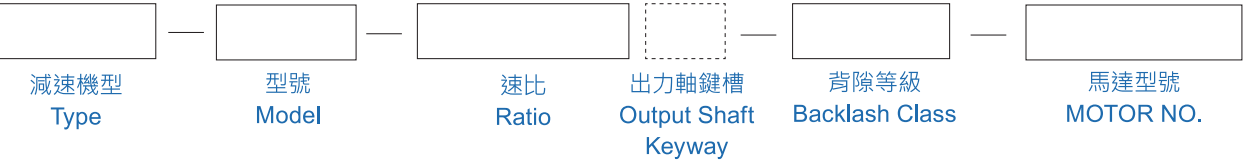
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A	B	C	D	E	F	H	I	J

行星速機訂購編號



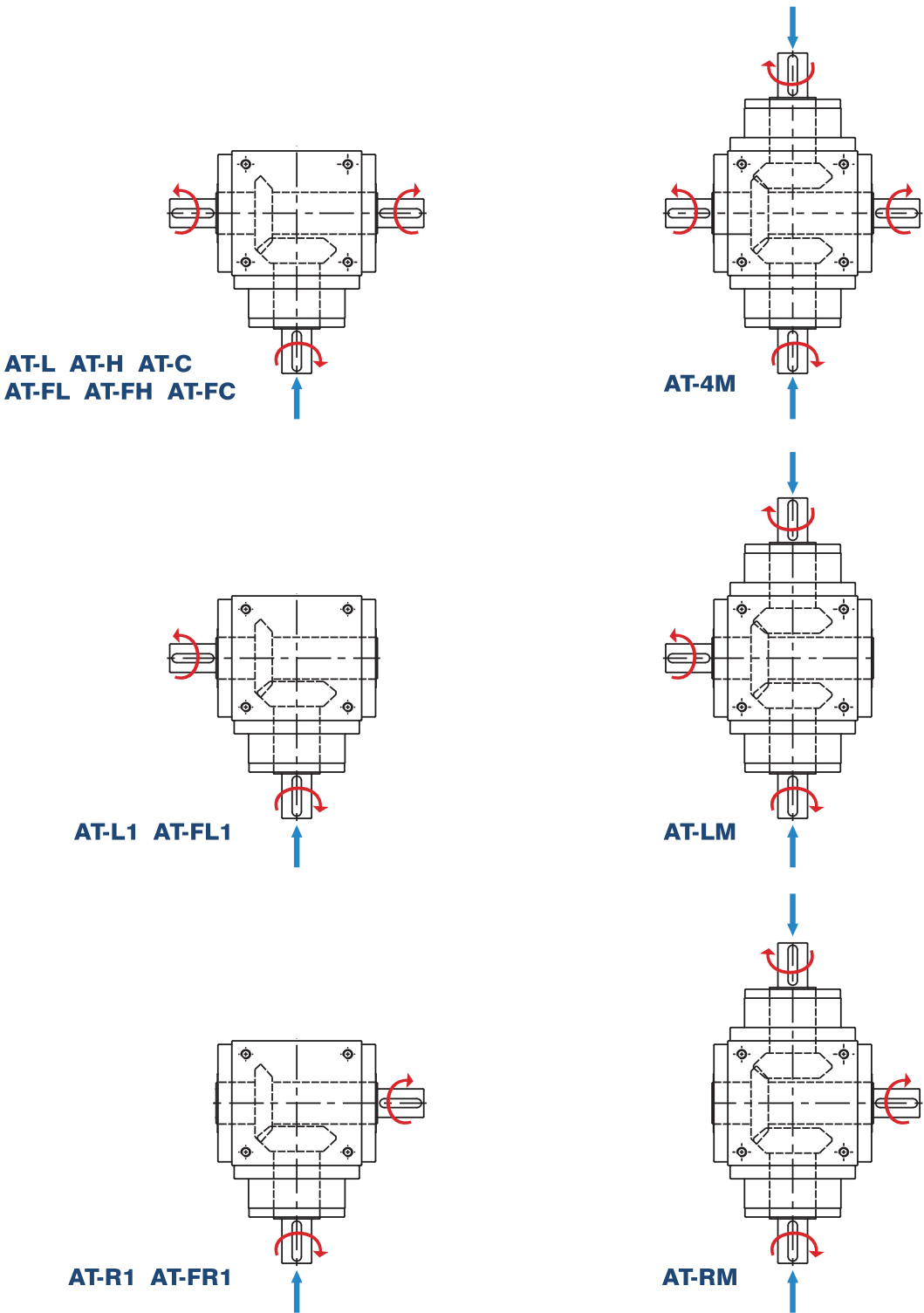
- 訂貨須知：
 - ◆機種、型號、馬力
 - ◆減速比或每分鐘回轉數
 - ◆荷重狀況及聯結方式
 - ◆數量及被安裝的機械名稱
 - ◆入力方式和入力轉速
 - ◆馬達廠牌型號或法蘭及馬達軸尺寸
- General Notices:
 - ◆ Type, model and horsepower
 - ◆ Speed ratio or R.P.M of output shaft
 - ◆ Method of connection and loading
 - ◆ Quantity and applied mechanism
 - ◆ Input connection method and input speed
 - ◆ Motor band Model no or frame & motor shaft dimension

公司名稱 Company Name		聯絡人 Contact Person
地址 Address		
電話 Tel	傳真 Fax	電子信箱 E-Mail
備註 Notes		



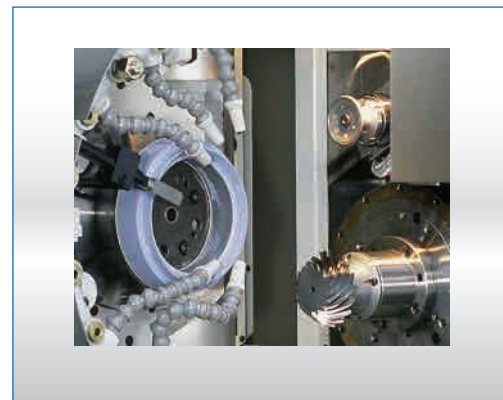
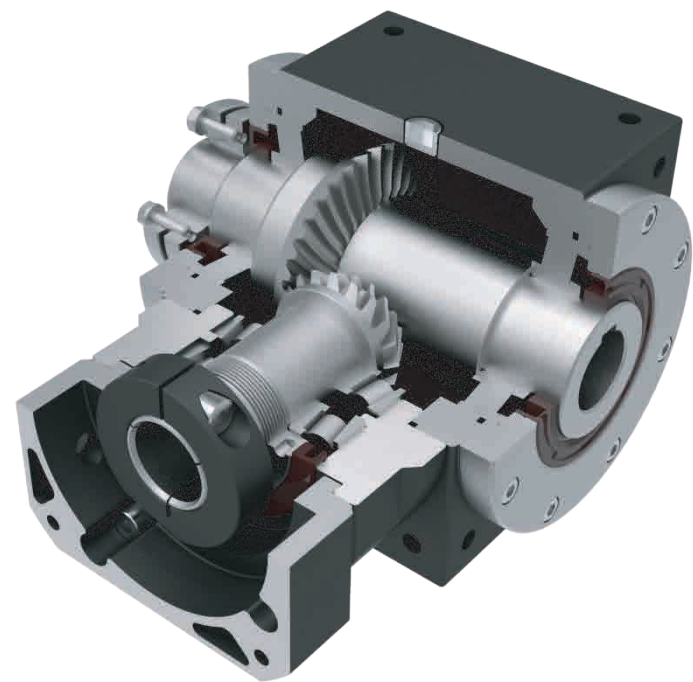
免键式轴套组 Clamping sets

型號 Model			出力軸孔徑 Output Bore (mm)	螺絲規格 Spec. of Screw	螺絲強度等級 Screw Grade	螺絲鎖緊扭矩 Tighten Torque (Nm)	迫緊扭矩 Clench Torque (Nm)	螺絲數量 Quantity of Screw
ST	HY	WE						
65	-	30	Ø14	M6 x P1.0	12.9	16.3	127.53	6
75	-	-	Ø18	M6 x P1.0	12.9	16.3	196.2	6
-	55	40	Ø20	M6 x P1.0	12.9	16.3	196.2	6
110	-	-	Ø22	M6 x P1.0	12.9	16.3	353.6	8
-	75	50 60	Ø25	M6 x P1.0	12.9	16.3	353.6	8
-	90	70	Ø30	M6 x P1.0	12.9	16.3	353.6	8
140	-	-	Ø32	M6 x P1.0	12.9	16.3	735.75	8
170	115	-	Ø40	M8 x P1.25	12.9	41	882	8
-	130	-	Ø48	M8 x P1.25	12.9	41	882	8
210	-	-	Ø50	M8 x P1.25	12.9	41	1400	8
-	140	-	Ø55	M8 x P1.25	12.9	41	1600	8
-	160	-	Ø60	M8 x P1.25	12.9	41	2200	8
-	190	-	Ø70	M10 x P1.5	12.9	81	2880	8



AT 产品特性

AT product features

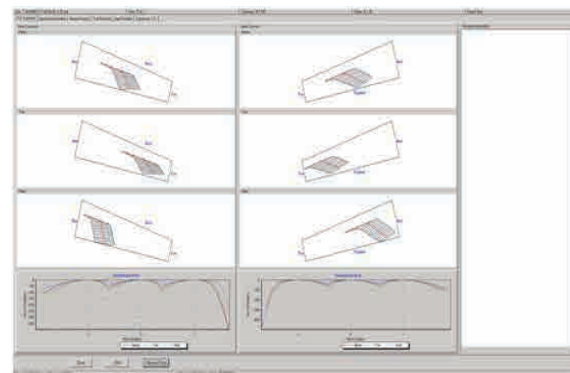
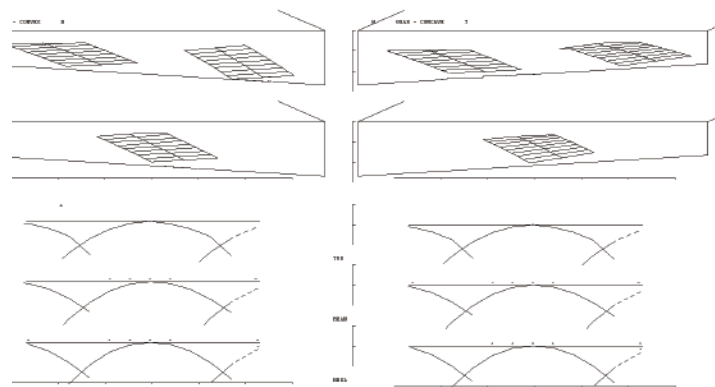


高強度、高精度螺旋傘齒輪

齒輪採高強力滲碳合金鋼，研磨精密度符合 AGMA12級標準以內。

High precision grinded and carburized spiral bevel gears

High precision grinded and carburized spiral bevel gears to meet standard AGMA12.



最優化的設計及CAE分析技術

採用Gleason參數齒輪設計軟件，得到最佳化接觸面積的齒印參數，保證了最高扭矩以及最小噪音。並利用3D-CAE軟體的設計分析技術，對減速機整體強度及螺旋傘齒輪進行分析，增加齒輪系及減速機的使用壽命。

Optimized Design and CAE Analysis

Use Gleason's design software to design new spiral bevel gears. Through the ideal gear contact pattern for application, achieve high permissible output torque.
Employs 3D-CAE software for analysis and design, the software allows for analyzing the strength of the entire gear reducer and helical teeth. Increasing the service life of gears and the gear reducer.

AT 产品特性

AT product features

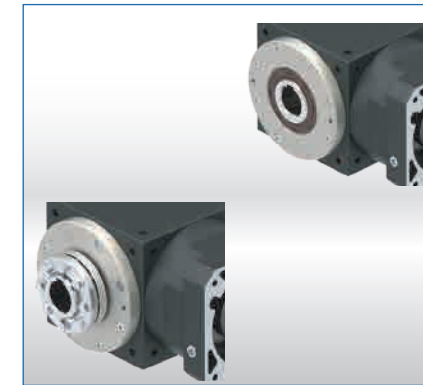


低背隙

使用Gleason參數齒輪加工設備加工研磨等級的螺旋傘齒輪，確保低背隙、低噪音。
背隙最小可達2弧分以內。

L .OW Backlash

Using Gleason high precision CNC grinding machine to grinding the spiral bevel gears. Torsional backlash depending on design up to <2 arcmin.

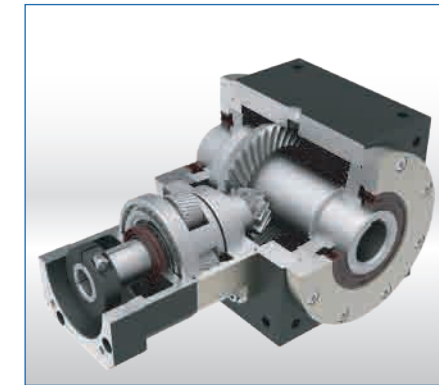


安裝位置

多重精密加工表面易於組裝，適用於任意安裝方向。
入出力軸的設計可以適用於各種工業上應用的需求。

Mounting Position

Multiple precision machined surface is easy for assembly, suitable for any optional mounting orientation.
Output shaft and input shaft are designed to suit for various industries applications.

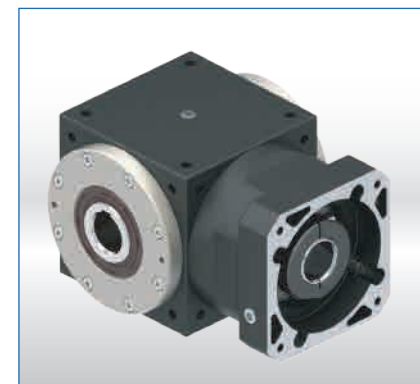


更高的減速比

高精度研磨的蝸線傘齒輪組結合最佳化設計的行星式齒輪組可以達到500:1的減速比

More High Gear Ratio

High precision grinded and carburized spiral bevel gears with optimal designed planetary gear can do ratio 500: 1.



免保養

免保養無須更換潤滑油，運轉壽命長。

No Maintenance

It features no maintenance and long service life.

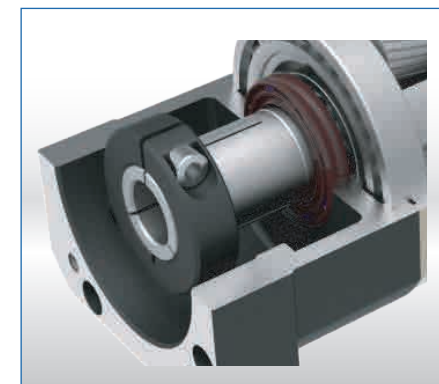


高扭矩密度

一體式齒箱本體確保最大剛性與耐蝕性。結構緊湊，富有剛性的設計保證了在小體積，重量輕的情況下能夠達到最高扭矩及較大的減速比。

High Output Torque

The gear box is one-piece constructed to ensure the high rigidity and corrosion-resistant capability.



筒夾式連結機構

輸入端與馬達的連結採用筒夾式的鎖緊機構，並經動平衡分析，以確保在高輸入轉速下結合介面的同心度和平衡度，及零背隙的動力傳遞。

Collet Locking Mechanism

The input-end and the motor are coupled through a collet locking mechanism. It has passed dynamical balance analysis to assure concentricity and balance on the connection and no backlash for power transmission while running at

减速机性能资料 Gearbox Performance

规格 Model No.		节数 Stage	比数A Ratio ^A	AT065 L	AT075 L	AT090 L	AT110 L	AT140 L	AT170 L	AT210 L	AT240 L	AT280 L
				AT065 L1	AT075 L1	AT090 L1	AT110 L1	AT140 L1	AT170 L1	AT210 L1	AT240 L1	AT280 L1
				AT065 H	AT075 H	AT090 H	AT110 H	AT140 H	AT170 H	AT210 H	AT240 H	AT280 H
				AT065 C	AT075 C	AT090 C	AT110 C	AT140 C	AT170 C	AT210 C	AT240 C	AT280 C
				AT065 R1	AT075 R1	AT090 R1	AT110 R1	AT140 R1	AT170 R1	AT210 R1	AT240 R1	AT280 R1
				AT065 LM	AT065 LM	AT065 LM	AT065 LM	AT065 LM	AT065 LM	AT065 LM	AT065 LM	AT065 LM
				AT065 RM	AT065 RM	AT065 RM	AT065 RM	AT065 RM	AT065 RM	AT065 RM	AT065 RM	AT065 RM
				AT065 4M	AT065 4M	AT065 4M	AT065 4M	AT065 4M	AT065 4M	AT065 4M	AT065 4M	AT065 4M
额定输出力矩 ^{T_{2N}} Nominal Output Torque T _{2N}	Nm	1	1	25	45	78	150	360	585	1300	2150	3200
			1.5	25	45	78	150	360	585	1300	2150	3200
			2	24	42	68	150	330	544	1220	2010	3050
			3	18	33	54	120	270	450	1020	1650	2850
			4	13	28	48	100	224	376	860	1410	2300
			5	12	25	40	85	196	320	740	1210	2000
最大加速力矩 ^{T_{2B}} Max. Acceleration Torque T _{2B}	Nm	1	1~5	1.5倍额定输出力矩 Selection Start								
最大加速输入转速 ^{n_{1B}} Max. Acceleration Input Speed n1B	rpm	1	1~5	7500	6500	5500	4500	3500	3000	2200	2000	1700
背隙 ^B Standard Backlash ^B	arcmin	1	1~5	≤6	≤6	≤6	≤6	≤6	≤6	≤6	≤6	≤6
容许径向力 ^{F_{1rB}} ^C Max. Radial Load ^{F_{1rB}} ^C 输出轴 d1 Output d1	N	1	1~5	700	950	1450	2100	2700	3800	7800	9600	10500
容许径向力 ^{F_{2rB}} ^D Max. Radial Load ^{F_{2rB}} ^D 输出轴 d2 Output d2	N	1	1~5	900	1100	1700	2700	4800	6600	11500	16000	18000
容许轴向力 ^{F_{1aB}} ^C Max. Axial Load ^{F_{1aB}} ^C 输出轴 d1 Output d1	N	1	1~5	350	425	725	1050	1350	1900	3900	4800	5250
容许轴向力 ^{F_{1aB}} ^C Max. Axial Load ^{F_{1aB}} ^C 输出轴 d2 Output d2	N	1	1~5	450	550	850	1350	2400	3300	5750	8500	9000
使用寿命 ^E Service Life ^E	hr	1	1~5	20, 000								
效率 ^η Efficiency ^η	%	1	1~5	≥98%								
使用温度 Operating Temp	℃	1	1~5	-10℃~90℃								
润滑 Lubrication		1	1~5	合成润滑脂 Selection Start								
噪音值 (n1=1500rpm,无负载) ^F Noise Level (n1= 1500rpm, No Load) ^F	dB (A)	1	1~5	≤68	≤70	≤74	≤76	≤77	≤78	≤80	≤82	≤83

减速机转动惯量 Gearbox Inertia

规格 Model No.	节数 Stage	比数A Ratio ^A	AT065 L	AT075 L	AT090 L	AT110 L	AT140 L	AT170 L	AT210 L	AT240 L	AT280 L
			AT065 L1	AT075 L1	AT090 L1	AT110 L1	AT140 L1	AT170 L1	AT210 L1	AT240 L1	AT280 L1
			AT065 H	AT075 H	AT090 H	AT110 H	AT140 H	AT170 H	AT210 H	AT240 H	AT280 H
			AT065 C	AT075 C	AT090 C	AT110 C	AT140 C	AT170 C	AT210 C	AT240 C	AT280 C
			AT065 R1	AT075 R1	AT090 R1	AT110 R1	AT140 R1	AT170 R1	AT210 R1	AT240 R1	AT280 R1
			AT065 LM	AT075 LM	AT090 LM	AT110 LM	AT140 LM	AT170 LM	AT210 LM	AT240 LM	AT280 LM
			AT065 RM	AT075 RM	AT090 RM	AT110 RM	AT140 RM	AT170 RM	AT210 RM	AT240 RM	AT280 RM
			AT065 4M	AT075 4M	AT090 4M	AT110 4M	AT140 4M	AT170 4M	AT210 4M	AT240 4M	AT280 4M
转动惯量 J _i Mass Moments of Inertia J _i	1	1	0.51	1.30	3.16	7.70	23.57	58.99	195.40	369.34	799.12
		1.5	0.64	1.16	2.82	6.74	19.37	49.28	155.45	283.58	595.78
		2	0.44	1.11	2.70	6.31	17.75	45.35	140.24	249.74	511.76
		3	0.43	1.09	2.66	6.17	17.18	44.01	134.95	237.71	483.06
		4	0.43	1.09	2.65	6.13	17.06	43.70	133.58	234.72	476.26
		5	0.43	1.09	2.65	6.12	17.02	43.60	133.14	233.67	473.58

重量 Weight

减速机型号 Model No.		节数 Stage	比数A Ratio ^A	AT065	AT075	AT090	AT110	AT140	AT170	AT210	AT240	AT280
L 系列 Series	kg	1	1~5	2.6	4.2	6.8	11.6	19.8	34.8	66.2	98.1	155.7
L1 系列 Series		1	1~5	2.6	4.1	6.7	11.5	19.5	34.2	65.1	96.6	153.4
H 系列 Series		1	1~5	2.5	3.9	6.4	11.0	18.1	31.6	60.0	89.4	143.4
C 系列 Series		1	1~5	2.8	4.2	6.9	11.4	19.6	33.7	63.3	97.9	149.1
R1 系列 Series		1	1~5	2.6	4.1	6.7	11.5	19.5	34.2	65.1	96.6	153.4
LM 系列 Series		1	1	3.5	5.6	9.0	15.2	24.1	42.4	81.4	122.0	190.9
RM系列 Series		1	1	3.5	5.6	9.0	15.2	24.1	42.4	81.4	122.0	190.9
4M 系列 Series		1	1	3.5	5.6	9.1	15.4	24.8	42.6	82.5	123.5	193.3

A. 比数 (i=N_{in} / N_{out}) : AT-LM/RM/4M 只提供 1:1 比数
B. 背隙值是在 2% 额定力矩 T_{2N} 的扭力下测得。
C. 最大加速输入转速 n_{1B} 作用于输入轴中心位置。

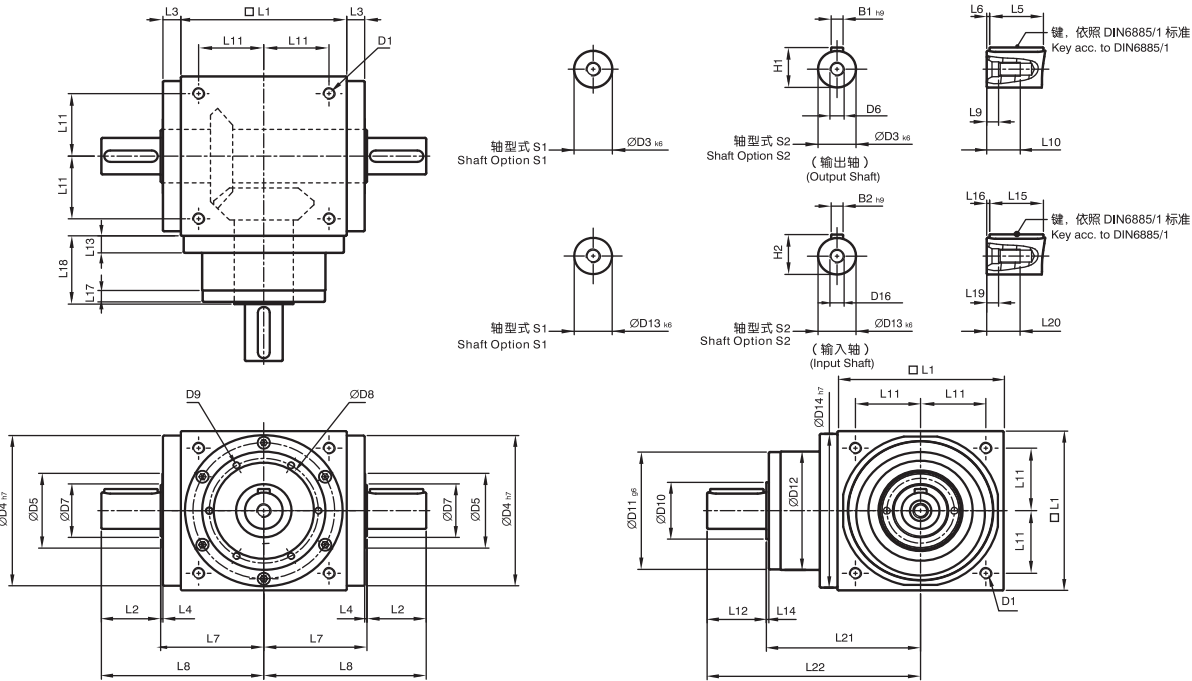
A. Ratio (I = N_{in}/N_{out}) : AT-LM/RM/4M only provides 1:1 ratio
B. Backgap values are measured at torsion at the rated torque of 2% T_{2N}.
C. The maximum accelerating input speed N1B acts on the center position of the input shaft.

D. 最大加速输出转速 n_{1B} 作用于输入轴中心位置。
E. 连续运转使用寿命为 10,000 小时。
F. 噪音值将会随低减速比及高转速而升高。

D. The maximum accelerated output speed N1B acts on the center position of the input shaft.
E. Service life of continuous operation is 10,000 hours.
F. Noise level will increase with low speed reduction ratio and high speed.

尺寸-AT-L 系列 (单节, 减速比i=1~5)

Dimensions -AT-L series (1-section, Ratio i=1~5)

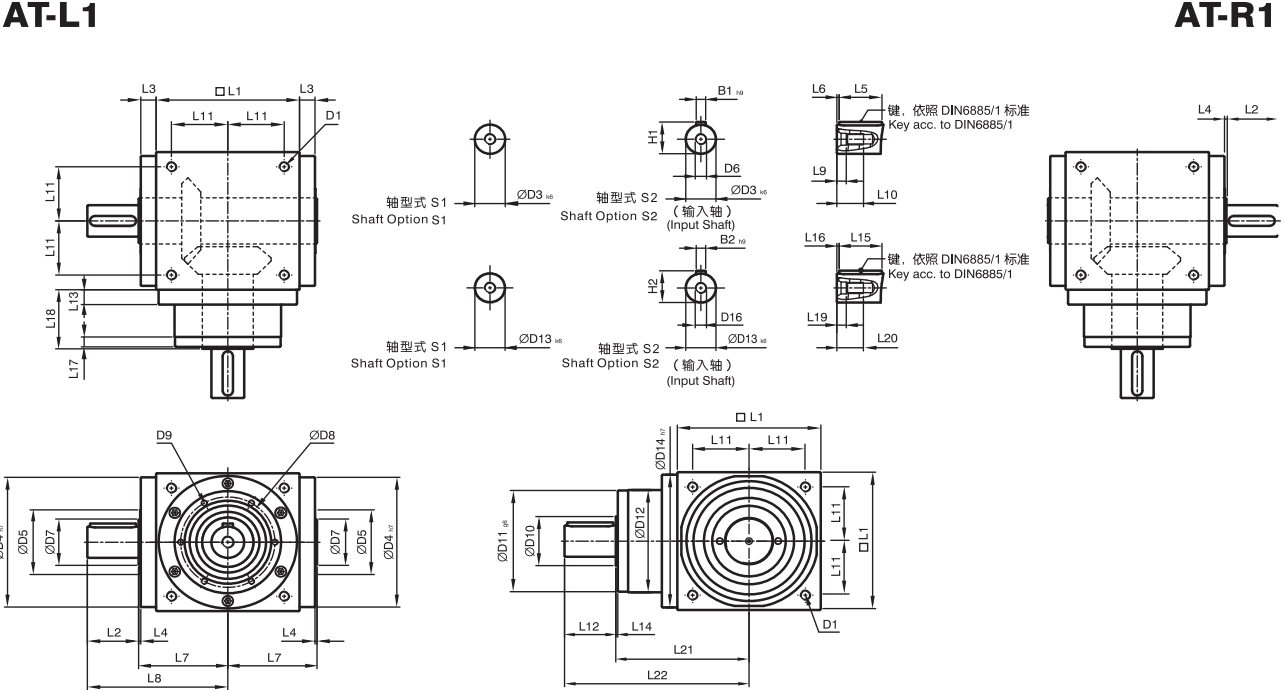


(单位 unit : mm)

尺寸 Dimension	AT065 L	AT075 L	AT090 L	AT110 L	AT140 L	AT170 L	AT210 L	AT240 L	AT280 L
D1	M4	M6	M6	M8	M10	M12	M16	M16	M16
D3 k6	13	16	18	22	32	40	50	55	60
D4 h7	63	73	88	108	135	165	205	235	275
D5	31	35	43	53	68	83	104	124	144
D6	M4	M5	M5	M8	M12	M16	M16	M16	M20
D7	21	22	28	33	47	55	75	85	110
D8	53	62	76	95	92	114	142	160	176
D9	4xM4xL7	4xM5xL8	4xM5xL8	6xM6xL10	6xM6xL10	6xM8xL12.5	6xM8xL12.5	6xM8xL12.5	6xM10xL15
D10	15.4	20.4	25.8	35.8	49.8	59.3	79.3	92.3	102.3
D11 g6	62.9	72.9	87	107	103	127	158	178	198
D12	62	72	86	106	104	128	160	180	200
D13 k6	13	16	18	22	32	40	50	55	60
D14 h7	63	73	88	108	135	165	205	235	275
D16	M4	M5	M5	M8	M12	M16	M16	M16	M20
L1	65	75	90	110	140	170	210	240	280
L2	19.5	30	35	40	50	60	75	85	110
L3	13	14.5	15	15	15	15	20	25	25
L4	2	2	2	2	2	2	2	2	2
L5	16	25	28	32	45	50	70	80	100
L6	2	2.5	3.5	4	2.5	5	2.5	2.5	5
L7	47.5	54	62	72	87	102	127	147	167
L8	67	84	97	112	137	162	202	232	277
L9	4.5	4.8	4.8	7.2	10	12	12	12	15
L10	10	12.5	12.5	19	28	36	36	36	42
L11	27	30	36	44	55	67	85	95	110
L12	19.5	30	35	40	50	60	75	85	110
L13	13	15	15	15	15	15	20	25	25
L14	2	2	2	2	2	2	2	2	2
L15	16	25	28	32	45	50	70	80	100
L16	2	2.5	3.5	4	2.5	5	2.5	2.5	5
L17	6	8	8	8	10	10	10	10	10
L18	43	52.5	55	60	60	70	90	105	120
L19	4.5	4.8	4.8	7.2	10	12	12	12	15
L20	10	12.5	12.5	19	28	36	36	36	42
L21	75.5	90	100	115	130	155	195	225	260
L22	95	120	135	155	180	215	270	310	370
B1 h9	5	5	6	6	10	12	14	16	18
B2 h9	5	5	6	6	10	12	14	16	18
H1	15	18	20.5	24.5	35	43	53.5	59	64
H2	15	18	20.5	24.5	35	43	53.5	59	64

尺寸-AT-L 1/R1轴型系列 (单节, 减速比i=1~5)

Dimensions -AT-L1/R1 Axis Series (1-section, Rratio i=1~5)



(单位 unit : mm)

尺寸 Dimension	AT065 L1/R1	AT075 L1/R1	AT090 L1/R1	AT110 L1/R1	AT140 L1/R1	AT170 L1/R1	AT210 L1/R1	AT240 L1/R1	AT280 L1/R1
D1	M4	M6	M6	M8	M10	M12	M16	M16	M16
D3 k6	13	16	18	22	32	40	50	55	60
D4 h7	63	73	88	108	135	165	205	235	275
D5	31	35	43	53	68	83	104	124	144
D6	M4	M5	M5	M8	M12	M16	M16	M16	M20
D7	21	22	28	33	47	55	75	85	110
D8	53	62	76	95	92	114	142	160	176
D9	4xM4xL7	4xM5xL8	4xM5xL8	6xM6xL10	6xM6xL10	6xM8xL12.5	6xM8xL12.5	6xM8xL12.5	6xM10xL15
D10	15.4	20.4	25.8	35.8	49.8	59.3	79.3	92.3	102.3
D11 g6	62.9	72.9	87	107	103	127	158	178	198
D12	62	72	86	106	104	128	160	180	200
D13 k6	13	16	18	22	32	40	50	55	60
D14 h7	63	73	88	108	135	165	205	235	275
D16	M4	M5	M5	M8	M12	M16	M16	M16	M20
L1	65	75	90	110	140	170	210	240	280
L2	19.5	30	35	40	50	60	75	85	110
L3	13	14.5	15	15	15	15	20	25	25
L4	2	2	2	2	2	2	2	2	2
L5	16	25	28	32	45	50	70	80	100
L6	2	2.5	3.5	4	2.5	5	2.5	2.5	5
L7	47.5	54	62	72	87	102	127	147	167
L8	67	84	97	112	137	162	202	232	277
L9	4.5	4.8	4.8	7.2	10	12	12	12	15
L10	10	12.5	12.5	19	28	36	36	36	42
L11	27	30	36	44	55	67	85	95	110
L12	19.5	30	35	40	50	60	75	85	110
L13	13	15	15	15	15	15	20	25	25
L14	2	2	2	2	2	2	2	2	2
L15	16	25	28	32	45	50	70	80	100
L16	2	2.5	3.5	4	2.5	5	2.5	2.5	5
L17	6	8	8	8	10	10	10	10	10
L18	43	52.5	55	60	60	70	90	105	120
L19	4.5	4.8	4.8	7.2	10	12	12	12	15
L20	10	12.5	12.5	19	28	36	36	36	42
L21	75.5	90	100	115	130	155	195	225	260
L22	95	120	135	155	180	215	270	310	370
B1 h9	5	5	6	6	10	12	14	16	18
B2 h9	5	5	6	6	10	12	14	16	18
H1	15	18	20.5	24.5	35	43	53.5	59	64
H2	15	18	20.5	24.5	35	43	53.5	59	64

高度螺旋伞齿轮减速机 AT 系列

HIGH PRECISION SPIRAL BEVEL GEARBOXES AT SERIES



尺寸 Dimension	AT065 H	AT075 H	AT090 H	AT110 H	AT140 H	AT170 H	AT210 H	AT240 H	AT280 H
D1	M4	M6	M6	M8	M10	M12	M16	M16	M16
D2 _{H7}	13	14	18	22	32	40	50	55	60
D4 _{H7}	63	73	88	108	135	165	205	235	275
D5	31	35	43	53	68	83	104	124	144
D7	21	22	28	33	47	55	75	85	110
D8	53	62	76	95	92	114	142	160	176
D9	4xM4xL7	4xM5xL8	4xM5xL8	6xM6xL10	6xM6xL10	6xM8xL12.5	6xM8xL12.5	6xM8xL12.5	6xM10xL15
D10	15.4	20.4	25.8	35.8	49.8	59.3	79.3	92.3	102.3
D11 _{g6}	62.9	72.9	87	107	103	127	158	178	198
D12	62	72	86	106	104	128	160	180	200
D13 _{k6}	13	16	18	22	32	40	50	55	60
D14 _{H7}	63	73	88	108	135	165	205	235	275
D16	M4	M5	M5	M8	M12	M16	M16	M16	M20
L1	65	75	90	110	140	170	210	240	280
L3	13	14.5	15	15	15	15	20	25	25
L4	2	2	2	2	2	2	2	2	2
L7	47.5	54	62	72	87	102	127	147	167
L11	27	30	36	44	55	67	85	95	110
L12	19.5	30	35	40	50	60	75	85	110
L13	13	15	15	15	15	15	20	25	25
L14	2	2	2	2	2	2	2	2	2
L15	16	25	28	32	45	50	70	80	100
L16	2	2.5	3.5	4	2.5	5	2.5	2.5	5
L17	6	8	8	8	10	10	10	10	10
L18	43	52.5	55	60	60	70	90	105	120
L19	4.5	4.8	4.8	7.2	10	12	12	12	15
L20	10	12.5	12.5	19	28	36	36	36	42
L21	75.5	90	100	115	130	155	195	225	260
L22	95	120	135	155	180	215	270	310	370
L23	40	47	52	53	70	80	95	115	115
L24	30	32	35	35	50	55	65	80	80
B2 _{H9}	5	5	6	6	10	12	14	16	18
B3 _{P9}	5	5	6	6	10	12	14	16	18
H2	15	18	20.5	24.5	35	43	53.5	59	64
H3	15.3	16.3	20.8	24.8	35.3	43.3	53.8	59.3	64.4

高度螺旋伞齿轮减速机AT系列

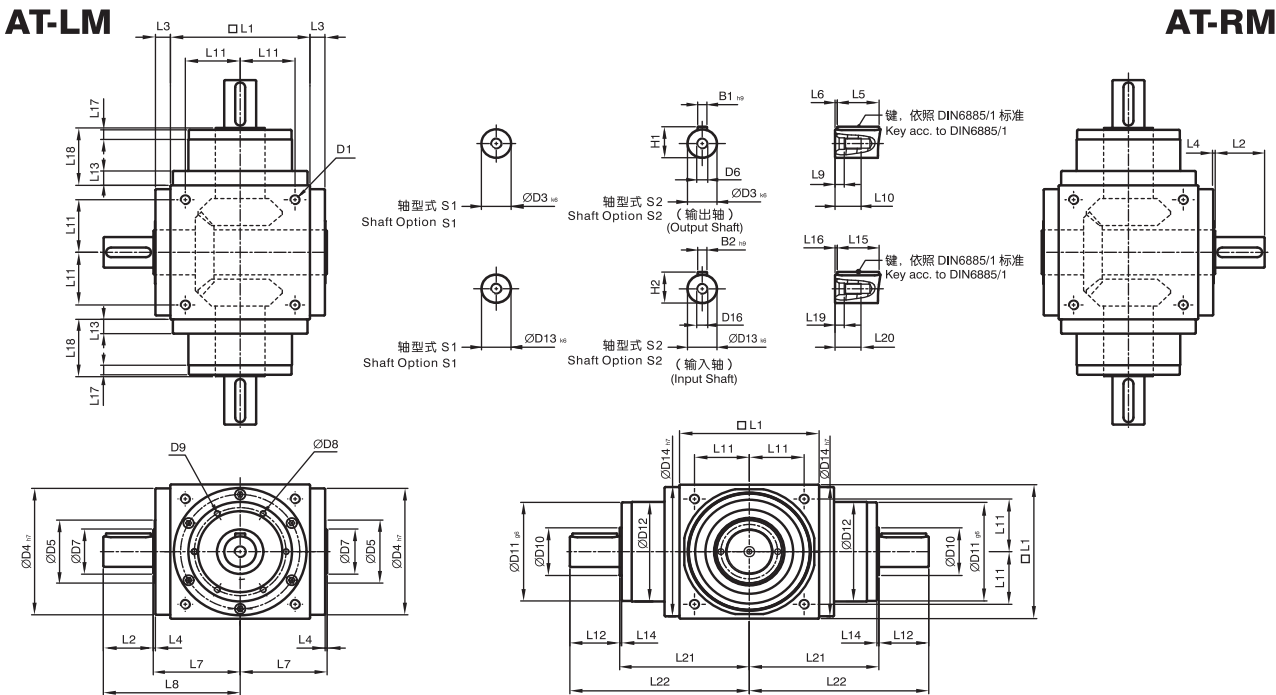
HIGH PRECISION SPIRAL BEVEL GEARBOXES AT SERIES



尺寸 Dimension	AT065 C	AT075 C	AT090 C	AT110 C	AT140 C	AT170 C	AT210 C	AT240 C	AT280 C
D1	M4	M6	M6	M8	M10	M12	M16	M16	M16
D2 _{H6}	13	14	18	22	32	40	50	55	60
D3 _{H8}	16	16	22	25	44	50	62	68	75
D4 _{H7}	63	73	88	108	135	165	205	235	275
D8	53	62	76	95	92	114	142	160	176
D9	4xM4xL7	4xM5xL8	4xM5xL8	6xM6xL10	6xM6xL10	6xM8xL12.5	6xM8xL12.5	6xM8xL12.5	6xM10xL15
D10	15.4	20.4	25.8	35.8	49.8	59.3	79.3	92.3	102.3
D11 _{G6}	62.9	72.9	87	107	103	127	158	178	198
D12	62	72	86	106	104	128	160	180	200
D13 _{K6}	13	16	18	22	32	40	50	55	60
D14 _{H7}	63	73	88	108	135	165	205	235	275
D16	M4	M5	M5	M8	M12	M16	M16	M16	M20
D17	26	26	36	38	61	70	86	86	100
D18	41	41	50	50	80	90	110	115	138
L1	65	75	90	110	140	170	210	240	280
L2	14	14	18	18	24	26	29	29	30.5
L3	13	14.5	15	15	15	15	20	25	25
L4	2	2	2	2	2	2	2	2	2
L7	47.5	54	62	72	87	102	127	147	167
L8	66	72.5	85	95	116.5	133.5	161.5	181.5	205
L11	27	30	36	44	55	67	85	95	110
L12	19.5	30	35	40	50	60	75	85	110
L13	13	15	15	15	15	15	20	25	25
L14	2	2	2	2	2	2	2	2	2
L15	16	25	28	32	45	50	70	80	100
L16	2	2.5	3.5	4	2.5	5	2.5	2.5	5
L17	6	8	8	8	10	10	10	10	10
L18	43	52.5	55	60	60	70	90	105	120
L19	4.5	4.8	4.8	7.2	10	12	12	12	15
L20	10	12.5	12.5	19	28	36	36	36	42
L21	75.5	90	100	115	130	155	195	225	260
L22	95	120	135	155	180	215	270	310	370
L23	15	15	20	20	26	28	31	31	32.5
L24	15	15	20	20	26	28	31	31	32.5
L25	15	15	19.5	19.5	25.5	27.5	30.5	30.5	32.5
L26	18.5	18.5	23	23	29.5	31.5	34.5	34.5	38
B2 _{H9}	5	5	6	6	10	12	14	16	18
H2	15	18	20.5	24.5	35	43	53.5	59	64

尺寸-AT-LM/RM 系列 (单节, 减速比i=1)

Dimensions -AT-LM/RM series (single section, Ratio i=1)

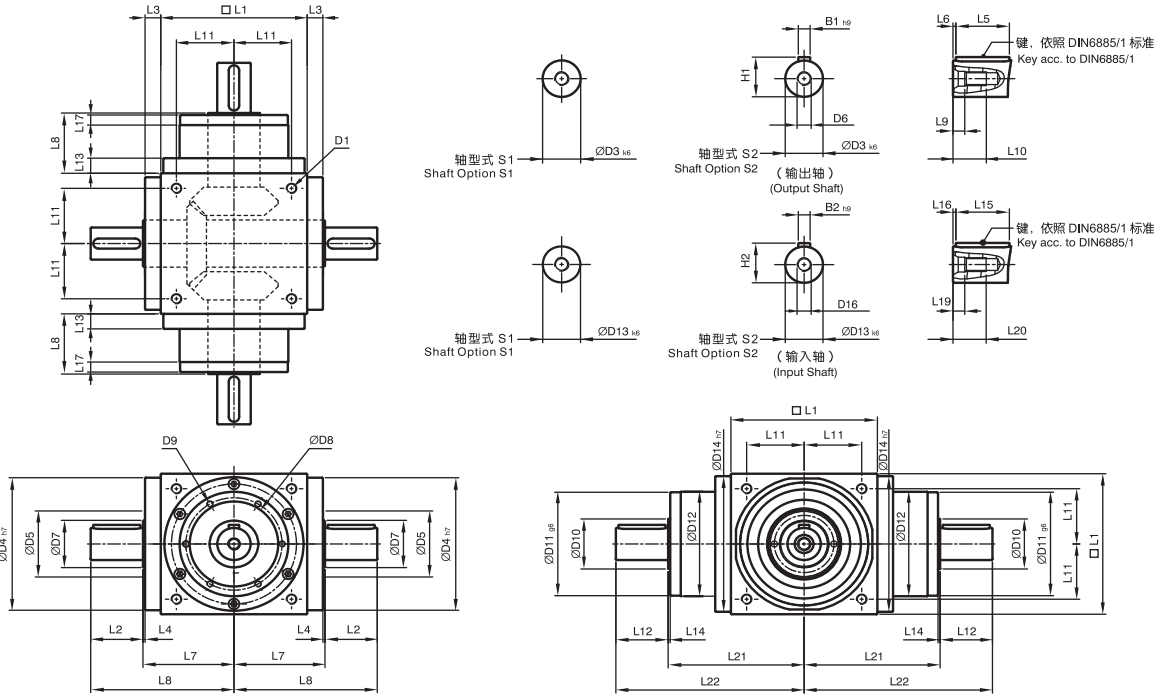


(单位 unit : mm)

尺寸 Dimension	AT065LM/RM	AT075LM/RM	AT090LM/RM	AT110LM/RM	AT140LM/RM	AT170LM/RM	AT210LM/RM	AT240LM/RM	AT280LM/RM
D1	M4	M6	M6	M8	M10	M12	M16	M16	M16
D3 k6	13	16	18	22	32	40	50	55	60
D4 h7	63	73	88	108	135	165	205	235	275
D5	31	35	43	53	68	83	104	124	144
D6	M4	M5	M5	M8	M12	M16	M16	M16	M20
D7	21	22	28	33	47	55	75	85	110
D8	53	62	76	95	92	114	142	160	176
D9	4xM4xL7	4xM5xL8	4xM5xL8	6xM6xL10	6xM6xL10	6xM8xL12.5	6xM8xL12.5	6xM8xL12.5	6xM10xL15
D10	15.4	20.4	25.8	35.8	49.8	59.3	79.3	92.3	102.3
D11 g6	62.9	72.9	87	107	103	127	158	178	198
D12	62	72	86	106	104	128	160	180	200
D13 k6	13	16	18	22	32	40	50	55	60
D14 h7	63	73	88	108	135	165	205	235	275
D16	M4	M5	M5	M8	M12	M16	M16	M16	M20
L1	65	75	90	110	140	170	210	240	280
L2	19.5	30	35	40	50	60	75	85	110
L3	13	14.5	15	15	15	15	20	25	25
L4	2	2	2	2	2	2	2	2	2
L5	16	25	28	32	45	50	70	80	100
L6	2	2.5	3.5	4	2.5	5	2.5	2.5	5
L7	47.5	54	62	72	87	102	127	147	167
L8	67	84	97	112	137	162	202	232	277
L9	4.5	4.8	4.8	7.2	10	12	12	12	15
L10	10	12.5	12.5	19	28	36	36	36	42
L11	27	30	36	44	55	67	85	95	110
L12	19.5	30	35	40	50	60	75	85	110
L13	13	15	15	15	15	15	20	25	25
L14	2	2	2	2	2	2	2	2	2
L15	16	25	28	32	45	50	70	80	100
L16	2	2.5	3.5	4	2.5	5	2.5	2.5	5
L17	6	8	8	8	10	10	10	10	10
L18	43	52.5	55	60	60	70	90	105	120
L19	4.5	4.8	4.8	7.2	10	12	12	12	15
L20	10	12.5	12.5	19	28	36	36	36	42
L21	75.5	90	100	115	130	155	195	225	260
L22	95	120	135	155	180	215	270	310	370
B1 h9	5	5	6	6	10	12	14	16	18
B2 h9	5	5	6	6	10	12	14	16	18
H1	15	18	20.5	24.5	35	43	53.5	59	64
H2	15	18	20.5	24.5	35	43	53.5	59	64

尺寸-AT-4M 系列 (单节, 减速比i=1)

Dimensions -AT-4M Series (1-section, Ratio i=1)



(单位 unit : mm)

尺寸 Dimension	AT065 4M	AT075 4M	AT090 4M	AT110 4M	AT140 4M	AT170 4M	AT210 4M	AT240 4M	AT280 4M
D1	M4	M6	M6	M8	M10	M12	M16	M16	M16
D3 k6	13	16	18	22	32	40	50	55	60
D4 h7	63	73	88	108	135	165	205	235	275
D5	31	35	43	53	68	83	104	124	144
D6	M4	M5	M5	M8	M12	M16	M16	M16	M20
D7	21	22	28	33	47	55	75	85	110
D8	53	62	76	95	92	114	142	160	176
D9	4xM4xL7	4xM5xL8	4xM5xL8	6xM6xL10	6xM6xL10	6xM8xL12.5	6xM8xL12.5	6xM8xL12.5	6xM10xL15
D10	15.4	20.4	25.8	35.8	49.8	59.3	79.3	92.3	102.3
D11 g6	62.9	72.9	87	107	103	127	158	178	198
D12	62	72	86	106	104	128	160	180	200
D13 k6	13	16	18	22	32	40	50	55	60
D14 h7	63	73	88	108	135	165	205	235	275
D16	M4	M5	M5	M8	M12	M16	M16	M16	M20
L1	65	75	90	110	140	170	210	240	280
L2	19.5	30	35	40	50	60	75	85	110
L3	13	14.5	15	15	15	15	20	25	25
L4	2	2	2	2	2	2	2	2	2
L5	16	25	28	32	45	50	70	80	100
L6	2	2.5	3.5	4	2.5	5	2.5	2.5	5
L7	47.5	54	62	72	87	102	127	147	167
L8	67	84	97	112	137	162	202	232	277
L9	4.5	4.8	4.8	7.2	10	12	12	12	15
L10	10	12.5	12.5	19	28	36	36	36	42
L11	27	30	36	44	55	67	85	95	110
L12	19.5	30	35	40	50	60	75	85	110
L13	13	15	15	15	15	15	20	25	25
L14	2	2	2	2	2	2	2	2	2
L15	16	25	28	32	45	50	70	80	100
L16	2	2.5	3.5	4	2.5	5	2.5	2.5	5
L17	6	8	8	8	10	10	10	10	10
L18	43	52.5	55	60	60	70	90	105	120
L19	4.5	4.8	4.8	7.2	10	12	12	12	15
L20	10	12.5	12.5	19	28	36	36	36	42
L21	75.5	90	100	115	130	155	195	225	260
L22	95	120	135	155	180	215	270	310	370
B1 h9	5	5	6	6	10	12	14	16	18
B2 h9	5	5	6	6	10	12	14	16	18
H1	15	18	20.5	24.5	35	43	53.5	59	64
H2	15	18	20.5	24.5	35	43	53.5	59	64

产品规格-AT 法兰型系列

Specification -AT flange series

减速机性能资料 Gearbox Performance

规格 Model No.		节数 Stage	比数 ^A Ratio ^A	AT065 FL	AT075 FL	AT090 FL	AT110 FL	AT140 FL	AT170 FL	AT210 FL	AT240 FL	AT280 FL	
				AT065 FL1	AT075 FL1	AT090 FL1	AT110 FL1	AT140 FL1	AT170 FL1	AT210 FL1	AT240 FL1	AT280 FL1	
				AT065 FH	AT075 FH	AT090 FH	AT110 FH	AT140 FH	AT170 FH	AT210 FH	AT240 FH	AT280 FH	
				AT065 FC	AT075 FC	AT090 FC	AT110 FC	AT140 FC	AT170 FC	AT210 FC	AT240 FC	AT280 FC	
				AT065 FR1	AT075 FR1	AT090 FR1	AT110 FR1	AT140 FR1	AT170 FR1	AT210 FR1	AT240 FR1	AT280 FR1	
额定输出力矩 T _{2N} Nominal Output Torque T _{2N}	Nm	1	1	25	45	78	150	360	585	1,300	2,150	3,200	
			1.5	25	45	78	150	360	585	1,300	2,150	3,200	
			2	24	42	68	150	330	544	1,220	2,010	3,050	
			3	18	33	54	120	270	450	1,020	1,650	2,850	
			4	13	28	48	100	224	376	860	1,410	2,300	
			5	12	25	40	85	196	320	740	1,210	2,000	
		2	7	12	12	33	91	91	91	195	358	358	
			10	24	28	68	150	208	208	430	846	846	
			15	18	33	54	120	270	312	645	1,269	1,269	
			20	13	28	48	100	224	376	860	1,410	1,692	
			25	12	25	40	85	196	320	740	1,210	2,000	
			35	12	25	40	85	196	320	740	1,210	1,790	
		3	50	12	25	40	85	196	320	740	1,210	1,465	
			75	-	-	-	120	210	312	585	1,269	1,269	
			100	-	-	-	100	224	376	780	1,410	1,692	
			125	-	-	-	85	196	320	740	1,210	2,000	
			150	-	-	-	120	135	312	390	975	975	
			200	-	-	-	100	180	376	520	1,300	1,300	
			250	-	-	-	85	196	320	650	1,210	1,625	
			350	-	-	-	85	196	320	740	1,210	1,790	
		500	-	-	-	85	196	320	740	1,210	1,465		
最大加速力矩 T _{2B} Max. Acceleration Torque T _{2B}		Nm	1,2,3	1~500	1.5 倍额定输出力矩 1.5 times of Nominal Output Torque								
最大加速输入转速 n _{1B} Max. Acceleration Input Speed n _{1B}		rpm	1	1~5	7,500	6,500	5,500	4,500	3,500	3,000	2,200	2,000	1,700
			2	7~50	8,000	8,000	6,000	6,000	6,000	6,000	4,800	3,600	3,600
			3	75~500	-	-	-	8,000	8,000	6,000	6,000	6,000	6,000
背隙 ^B Standard Backlash ^B		arcmin	1	1~5	≤6	≤6	≤6	≤6	≤6	≤6	≤6	≤6	≤6
			2	7~50	≤8	≤8	≤8	≤8	≤8	≤8	≤8	≤8	≤8
			3	75~500	-	-	-	≤10	≤10	≤10	≤10	≤10	≤10
容许径向力 F _{2rB} ^C Max. Radial Load F _{2rB} ^C 输出轴 d2 Output d2		N	1,2,3	1~500	900	1,100	1,700	2,700	4,800	6,600	11,500	16,000	18,000
容许轴向力 F _{2aB} ^C Max. Axial Load F _{2aB} ^C 输出轴 d2 Output d2		N	1,2,3	1~500	450	550	850	1,350	2,400	3,300	5,750	8,500	9,000
使用寿命 ^D Service Life ^D		hr	1,2,3	1~500	20,000								
效率 η Efficiency η		%	1	1~5	≥98%								
			2,3	7~500	≥94%								
使用温度 Operating Temp		°C	1,2,3	1~500	-10°C ~ 90°C								
润滑 Lubrication				1~500	合成润滑油脂 Synthetic lubrication oils								
噪音值 (n ₁ =1500rpm, 无负载) ^E Noise Level (n ₁ =1500rpm, No Load) ^E		dB (A)	1,2,3		≤71	≤72	≤76	≤77	≤78	≤79	≤81	≤83	≤84

产品规格-AT 法兰型系列

Specification -AT flange series

减速机性能资料 Gearbox Performance

规格 Model No.	节数 Stage	比数 ^A Ratio ^A	AT065 FL	AT075 FL	AT090 FL	AT110 FL	AT140 FL	AT170 FL	AT210 FL	AT240 FL	AT280 FL
			AT065 FL1	AT075 FL1	AT090 FL1	AT110 FL1	AT140 FL1	AT170 FL1	AT210 FL1	AT240 FL1	AT280 FL1
			AT065 FH	AT075 FH	AT090 FH	AT110 FH	AT140 FH	AT170 FH	AT210 FH	AT240 FH	AT280 FH
			AT065 FC	AT075 FC	AT090 FC	AT110 FC	AT140 FC	AT170 FC	AT210 FC	AT240 FC	AT280 FC
			AT065 FR1	AT075 FR1	AT090 FR1	AT110 FR1	AT140 FR1	AT170 FR1	AT210 FR1	AT240 FR1	AT280 FR1
转动惯量 J ₁ Mass Moments of Inertia J ₁	1	1	0.51	1.30	3.14	7.62	23.54	59.09	195.96	365.38	787.63
		1.5	0.46	1.15	2.80	6.65	19.34	49.38	156.02	279.62	584.28
		2	0.44	1.10	2.68	6.23	17.72	45.44	140.80	245.78	500.26
		3	0.43	1.09	2.64	6.08	17.16	44.11	135.51	233.75	471.56
		4	0.43	1.08	2.63	6.05	17.03	43.79	134.14	230.77	464.76
		5	0.43	1.08	2.63	6.04	16.99	43.69	133.71	229.71	462.08
	2	7	0.15	0.15	0.50	2.79	2.79	2.79	9.91	29.26	29.26
		10	0.15	0.15	0.50	2.80	2.80	2.80	9.96	29.43	29.43
		15	0.15	0.15	0.50	2.80	2.80	2.80	9.96	29.43	29.43
		20	0.15	0.15	0.50	2.80	2.80	2.80	9.96	29.43	29.43
		25	0.15	0.15	0.50	2.80	2.80	2.80	9.96	29.43	29.43
		35	0.15	0.15	0.50	2.79	2.79	2.79	9.91	29.26	29.26
		50	0.15	0.15	0.50	2.79	2.79	2.79	9.89	29.20	29.20
	3	75	-	-	-	0.15	0.15	0.50	0.50	2.80	2.80
		100	-	-	-	0.15	0.15	0.50	0.50	2.80	2.80
		125	-	-	-	0.15	0.15	0.50	0.50	2.80	2.80
		150	-	-	-	0.15	0.15	0.50	0.50	2.79	2.79
		200	-	-	-	0.15	0.15	0.50	0.50	2.79	2.79
		250	-	-	-	0.15	0.15	0.50	0.50	2.79	2.79
		350	-	-	-	0.15	0.15	0.50	0.50	2.79	2.79
		500	-	-	-	0.15	0.15	0.50	0.50	2.79	2.79

重量 Weight

减速机型号 Model No.		齿数 Stage	齿数 ^A Ratio ^A	AT065	AT075	AT090	AT110	AT140	AT170	AT210	AT240	AT280	
FL 系列 FL Series		kg	1	1~5	2.8	4.4	7.1	12.1	20.9	36.1	69.4	101.2	158.3
			2	7~50	3.2	4.8	8.1	14.3	24.2	38.5	74.1	112.4	171.0
			3	75~500	-	-	-	13.9	23.7	38.8	73.4	110.2	168.7
FL1 系列 FL1 Series			1	1~5	2.7	4.3	7.1	11.9	20.3	35.5	68.3	99.6	156.0
			2	7~50	3.2	4.8	8.0	14.2	23.9	37.9	73.0	110.8	168.6
			3	75~500	-	-	-	13.8	23.4	38.2	72.3	108.6	166.4
FH 系列 FH Series			1	1~5	2.6	4.1	6.7	11.4	18.9	32.9	63.2	92.5	146.0
			2	7~50	3.1	4.6	7.7	13.6	22.4	35.3	67.9	103.7	158.7
			3	75~500	-	-	-	13.3	21.9	35.6	67.2	101.5	156.5
FC 系列 FC Series			1	1~5	2.9	4.4	7.2	11.8	20.4	35.0	66.5	96.0	151.7
			2	7~50	3.3	4.9	8.2	14.1	24.1	37.4	71.2	107.2	164.4
			3	75~500	-	-	-	13.7	23.5	37.5	70.5	105.0	162.2
FR1 系列 FR1 Series			1	1~5	2.7	4.3	7.1	11.9	20.3	35.5	68.3	99.6	156.0
			2	7~50	3.2	4.8	8.0	14.2	23.9	37.9	73.0	110.8	168.6
			3	75~500	-	-	-	13.8	23.4	38.2	72.3	108.6	166.4

高度螺旋伞齿轮减速机 AT 系列

HIGH PRECISION SPIRAL BEVEL GEARBOXES AT SERIES



1. C1~C10为公制马达规范尺寸。请参考艾特技/ATG网页“减速机选用”功能, 来查看您的马达安装搭配。
2. AT065 FLM1提供C3≤12选择; AT075 FLM1提供C3≤12选择; AT075 FLM2提供C3≤15,875选择。

高度螺旋伞齿轮减速机AT系列

HIGH PRECISION SPIRAL BEVEL GEARBOXES AT SERIES



3. C1~C10 is the standard size of metric motor. Please refer to the "Reducer Selection" function on the AI /ATG web page to view your motor installation.

高強度螺旋傘齒輪減速機 AT 系列

HIGH PRECISION SPIRAL BEVEL GEARBOXES AT SERIES



4. C1-C10 is the standard size of metric motor. Please refer to the "Reducer Selection" function on the AI /ATG web page to view your motor installation.

高度螺旋伞齿轮减速机AT系列

HIGH PRECISION SPIRAL BEVEL GEARBOXES AT SERIES

AT-FR1

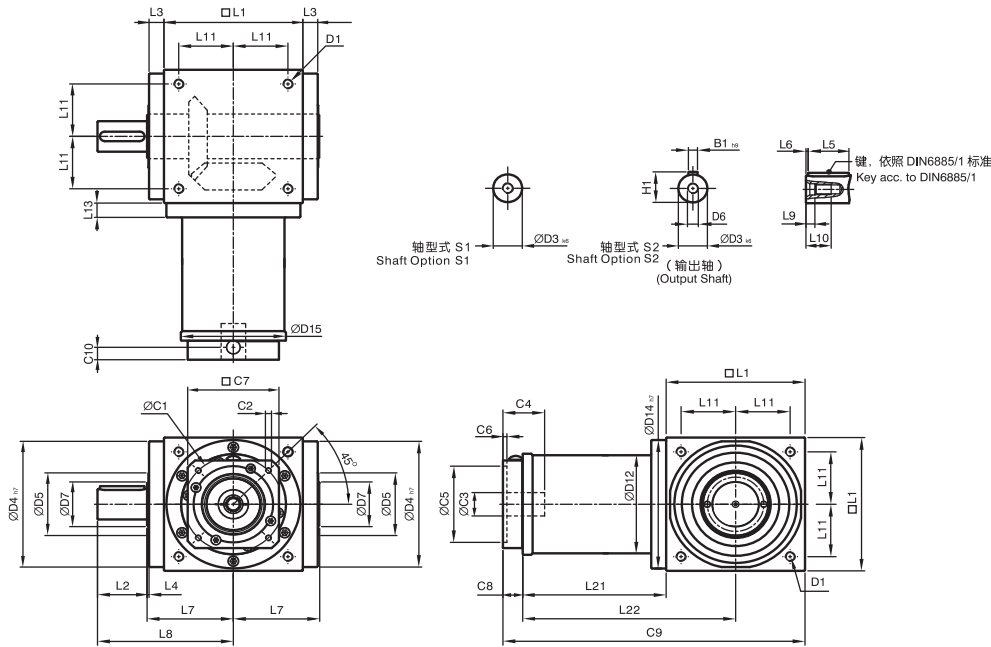
5. C1-C10为公制马达规范尺寸。请参考艾特佳(ATG网页“减速机选用”功能, 来查看您的马达安装搭配。 5. C1-C10 is the standard size of metric motor, Please refer to the "Reducer Selection" function on the ATG web page to view your motor installation.

6. AT065 FL1/FR1M1提供C3≤12选择; AT075 FL1/FR1M1提供C3≤12选择; AT075 FL1/FR1M2提供C3≤15.875选择。 6. AT065 FL1/FR1M1 offers C3≤12 option; AT075 FL1/FR1M1 offers C3≤16 option; AT075 FL1/FR1M2 offers C3≤15.875 option.

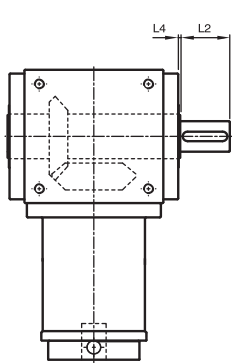
尺寸-AT-FL1/FR1 系列 (双节, 减速比i=7~50)

Dimensions -AT-FL1/FR1 series (2-section, Ratio i=7~50)

AT-FL1



AT-FR1



(单位 unit : mm)

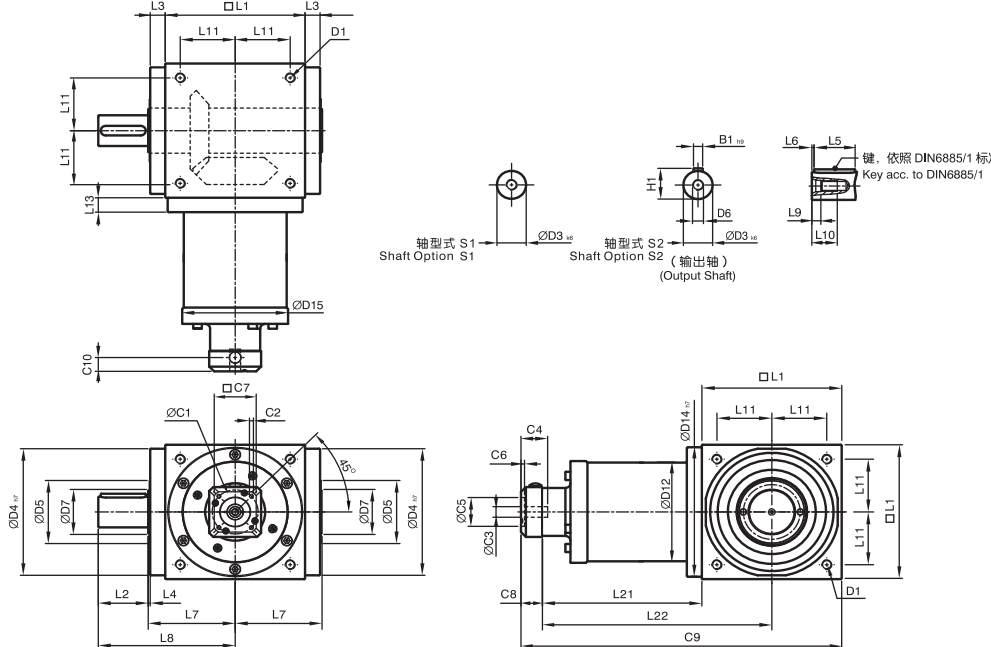
尺寸 Dimension	AT065 FL1/FR1	AT075 FL1/FR1	AT090 FL1/FR1	AT110 FL1/FR1	AT140 FL1/FR1	AT170 FL1/FR1	AT210 FL1/FR1	AT240 FL1/FR1	AT280 FL1/FR1
D1	M4	M6	M6	M8	M10	M12	M16	M16	M16
D3 k6	13	16	18	22	32	40	50	55	60
D4 h7	63	73	88	108	135	165	205	235	275
D5	31	35	43	53	68	83	104	124	144
D6	M4	M5	M5	M8	M12	M16	M16	M16	M20
D7	21	22	28	33	47	55	75	85	110
D12	62	72	86	106	104	128	160	180	200
D14 h7	63	73	88	108	135	165	205	235	275
D15	62.9	72.9	87	107	106	130	158	178	198
L1	65	75	90	110	140	170	210	240	280
L2	19.5	30	35	40	50	60	75	85	110
L3	13	14.5	15	15	15	15	20	25	25
L4	2	2	2	2	2	2	2	2	2
L5	16	25	28	32	45	50	70	80	100
L6	2	2.5	3.5	4	2.5	5	2.5	2.5	5
L7	47.5	54	62	72	87	102	127	147	167
L8	67	84	97	112	137	162	202	232	277
L9	4.5	4.8	4.8	7.2	10	12	12	12	15
L10	10	12.5	12.5	19	28	36	36	36	42
L11	27	30	36	44	55	67	85	95	110
L13	13	15	15	15	15	15	20	25	25
L21	75	84.5	99	122	144.5	157.5	206.5	239	248
L22	107.5	122	144	177	214.5	242.5	311.5	359	388
C1 ⁷	46	46	70	100	100	100	130	165	165
C2 ⁷	M4	M4	M5	M6	M6	M6	M8	M10	M10
C3 ⁷	≤12	≤12	≤16	≤24	≤24	≤24	≤32	≤38	≤38
C4 ⁷	30	30	34	40	40	40	50	60	60
C5 ⁷	30	30	50	80	80	80	110	130	130
C6 ⁷	3.5	3.5	8	4	4	4	5	6	6
C7 ⁷	42	42	60	92	92	92	115	142	142
C8 ⁷	21.5	21.5	21.5	20	20	20	24	31	31
C9 ⁷	161.5	181	210.5	252	304.5	347.5	440.5	510	559
C10 ⁷	14.55	14.5	15.5	13	13	13	16	21	21
B1 h9	5	5	6	6	10	12	14	16	18
H1	15	18	20.5	24.5	35	43	53.5	59	64

7.C1~C10为公制马达规范尺寸。请参考艾特技/ATG网页"减速机选用"功能，来查看您的马达安装搭配。
7. C1~C10 is the standard size of metric motor.Please refer to the "Reducer Selection" function on the AT/ATG web page to view your motor installation.

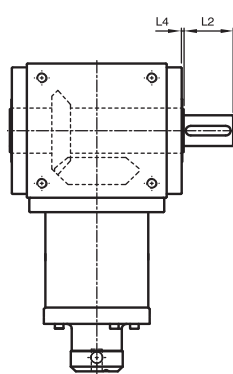
尺寸-AT-FL1/FR1 系列 (三节, 减速比i=75~500)

Dimensions -AT-FL1/FR1 series (3-section, Ratio i=75~500)

AT-FL1



AT-FR1



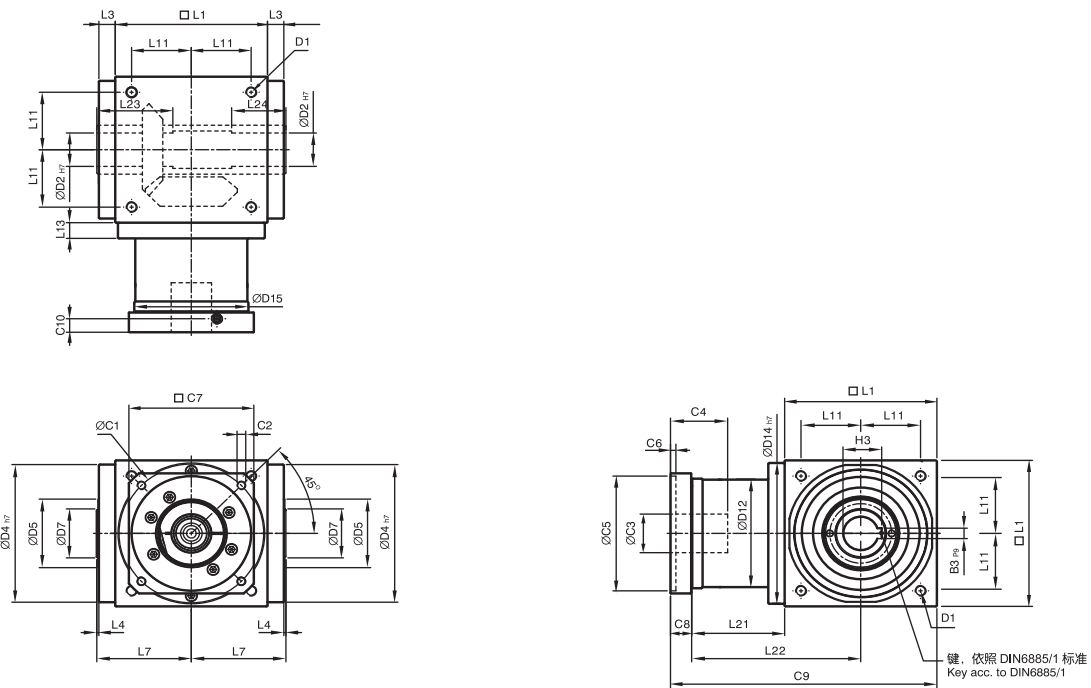
(单位 unit : mm)

尺寸 Dimension	AT110 FL1/FR1	AT140 FL1/FR1	AT170 FL1/FR1	AT210 FL1/FR1	AT240 FL1/FR1	AT280 FL1/FR1
D1	M8	M10	M12	M16	M16	M16
D3 k6	22	32	40	50	55	60
D4 h7	108	135	165	205	235	275
D5	53	68	83	104	124	144
D6	M8	M12	M16	M16	M16	M20
D7	33	47	55	75	85	110
D12	106	104	128	160	180	200
D14 h7	108	135	165	205	235	275
D15	107	106	130	158	178	198
L1	110	140	170	210	240	280
L2	40	50	60	75	85	110
L3	15	15	15	20	25	25
L4	2	2	2	2	2	2
L5	32	45	50	70	80	100
L6	4	2.5	5	2.5	2.5	5
L7	72	87	102	127	147	167
L8	112	137	162	202	232	277
L9	7.2	10	12	12	12	15
L10	19	28	36	36	36	42
L11	44	55	67	85	95	110
L13	15	15	15	20	25	25
L21	136.5	159.5	183.5	226	269	278
L22	191.5	229.5	268.5	331	389	418
C1 ⁸	46	46	70	70	100	100
C2 ⁸	M4	M4	M5	M5	M6	M6
C3 ⁸	≤12	≤12	≤16	≤16	≤24	≤24
C4 ⁸	30	30	34	34	40	40
C5 ⁸	30	30	50	50	80	80
C6 ⁸	3.5	3.5	8	8	4	4
C7 ⁸	42	42	60	60	92	92
C8 ⁸	21.5	21.5	21.5	21.5	20	20
C9 ⁸	268	321	375	457.5	529	578
C10 ⁸	14.5	14.5	15.5	15.5	13	13
B1 h9	6	10	12	14	16	18
H1	24.5	35	43	53.5	59	64

8.C1~C10为公制马达规范尺寸。请参考艾特技/ATG网页"减速机选用"功能，来查看您的马达安装搭配。
8. C1~C10 is the standard size of metric motor.Please refer to the "Reducer Selection" function on the AT/ATG web page to view your motor installation.

尺寸-AT-FH 系列 (单节, 减速比i=1~5)

Dimensions -AT-FH series (1-section, Ratio i=1~5)



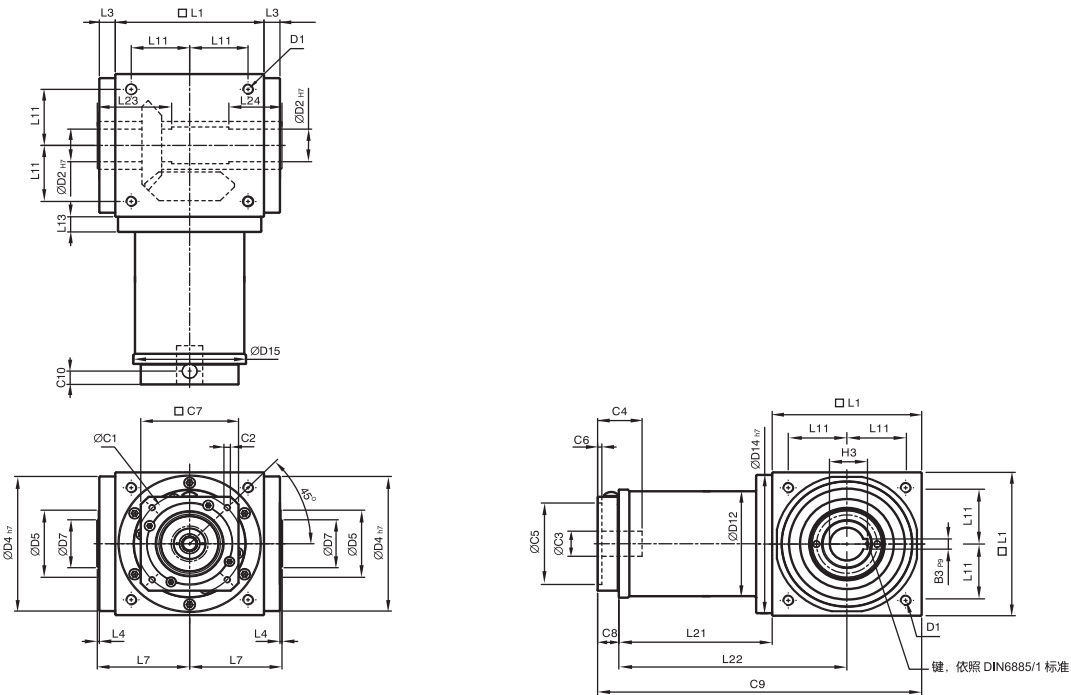
(单位 unit : mm)

尺寸 Dimension	AT065FH	AT075FH	AT090FH	AT110FH	AT140FH	AT170FH	AT210FH	AT240FH	AT280FH
D1	M4	M6	M6	M8	M10	M12	M16	M16	M16
D2 H7	13	14	18	22	32	40	50	55	60
D4 h7	63	73	88	108	135	165	205	235	275
D5	31	35	43	53	68	83	104	124	144
D7	21	22	28	33	47	55	75	85	110
D12	62	72	86	106	104	128	160	180	200
D14 h7	63	73	88	108	135	165	205	235	275
D15	62.9	72.9	87	107	105	130	158	178	198
L1	65	75	90	110	140	170	210	240	280
L3	13	14.5	15	15	15	15	20	25	25
L4	2	2	2	2	2	2	2	2	2
L7	47.5	54	62	72	87	102	127	147	167
L11	27	30	36	44	55	67	85	95	110
L13	13	15	15	15	15	15	20	25	25
L21	49	60.5	63	69.5	85.5	95	130	144.5	135
L22	81.5	98	108	124.5	155.5	180	235	264.5	275
L23	40	47	52	53	70	80	95	115	115
L24	30	32	35	35	50	55	65	80	80
C1 ⁹	46	70	100	100	130	165	215	215	235
C2 ⁹	M4	M5	M6	M6	M8	M10	M12	M12	M12
C3 ⁹	≤11 / ≤12 ¹⁰	≤14 / ≤15.875 / ≤16 ¹⁰	≤19	≤24	≤32	≤38	≤42	≤48	≤55
C4 ⁹	30	34	40	40	50	60	85	85	116
C5 ⁹	30	50	80	80	110	130	180	180	200
C6 ⁹	3.5	8	4	4	5	6	6	6	6
C7 ⁹	42	60	90	90	115	142	190	190	220
C8 ⁹	19.5	19	17	17	19.5	22.5	29	29	63
C9 ⁹	133.5	154.5	170	196.5	245	287.5	369	413.5	478
C10 ⁹	13.25	13.5	10.75	10.75	13	15	20.75	20.75	53.5
B3 P9	5	5	6	6	10	12	14	16	18
H3	15.3	16.3	20.8	24.8	35.3	43.3	53.8	59.3	64.4

9.C1-C10为公制马达规范尺寸。请参考艾特技/ATG网页“减速机选用”功能，来看您的马达安装搭配。
10.AT065 FHM1提供C3≤12选择; AT075 FHM1提供C3≤16选择; AT075 FHM2提供C3≤15.875选择。
9. C1-C10 is the standard size of metric motor.Please refer to the "Reducer Selection" function on the AI /ATG web page to view your motor installation.
10. AT065 FHM1 offers C3≤12 option; AT075 FHM1 offers C3≤16 option; AT075 FHM2 offers C3≤15.875 option.

尺寸-AT-FH 系列 (双节, 减速比i=7~50)

Dimensions -AT-FH series (2-section, Ratio i=7~50)



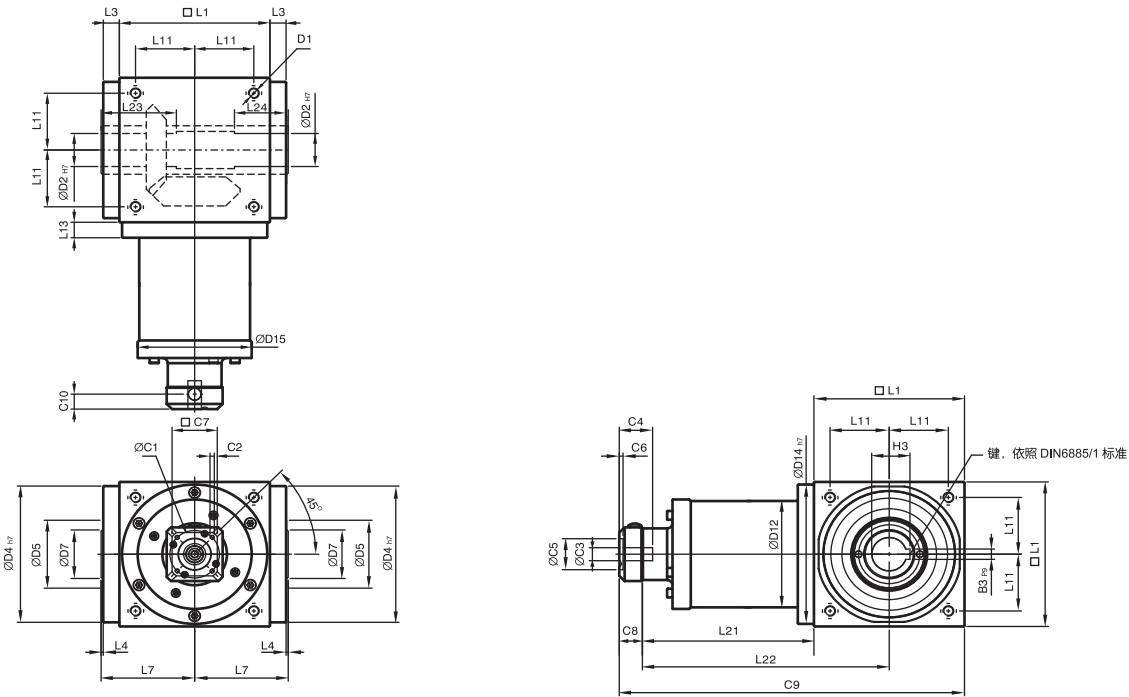
(单位 unit : mm)

尺寸 Dimension	AT065FH	AT075FH	AT090FH	AT110FH	AT140FH	AT170FH	AT210FH	AT240FH	AT280FH
D1	M4	M6	M6	M8	M10	M12	M16	M16	M16
D2 H7	13	14	18	22	32	40	50	55	60
D4 h7	63	73	88	108	135	165	205	235	275
D5	31	35	43	53	68	83	104	124	144
D7	21	22	28	33	47	55	75	85	110
D12	62	72	86	106	104	128	160	180	200
D14 h7	63	73	88	108	135	165	205	235	275
D15	62.9	72.9	87	107	106	130	158	178	198
L1	65	75	90	110	140	170	210	240	280
L3	13	14.5	15	15	15	15	20	25	25
L4	2	2	2	2	2	2	2	2	2
L7	47.5	54	62	72	87	102	127	147	167
L11	27	30	36	44	55	67	85	95	110
L13	13	15	15	15	15	15	20	25	25
L21	75	84.5	99	122	144.5	157.5	206.5	239	248
L22	107.5	122	144	177	214.5	242.5	311.5	359	388
L23	40	47	52	53	70	80	95	115	115
L24	30	32	35	35	50	55	65	80	80
C1 ¹¹	46	46	70	100	100	100	130	165	165
C2 ¹¹	M4	M4	M5	M6	M6	M6	M8	M10	M10
C3 ¹¹	≤12	≤12	≤16	≤24	≤24	≤24	≤32	≤38	≤38
C4 ¹¹	30	30	34	40	40	40	50	60	60
C5 ¹¹	30	30	50	80	80	80	110	130	130
C6 ¹¹	3.5	3.5	8	4	4	4	5	6	6
C7 ¹¹	42	42	60	92	92	92	115	142	142
C8 ¹¹	21.5	21.5	21.5	20	20	20	24	31	31
C9 ¹¹	161.5	181	210.5	252	304.5	347.5	440.5	510	559
C10 ¹¹	14.5	14.5	15.5	13	13	13	16	21	21
B3 P9	5	5	6	6	10	12	14	16	18
H3	15.3	16.3	20.8	24.8	35.3	43.3	53.8	59.3	64.4

11.C1-C10为公制马达规范尺寸。请参考艾特技/ATG网页“减速机选用”功能，来看您的马达安装搭配。
11. C1-C10 is the standard size of metric motor.Please refer to the "Reducer Selection" function on the AI /ATG web page to view your motor installation.

尺寸-AT-FH 系列 (三节, 减速比i=75~500)

Dimensions -AT-FH series (3-section, Ratio i=75~500)



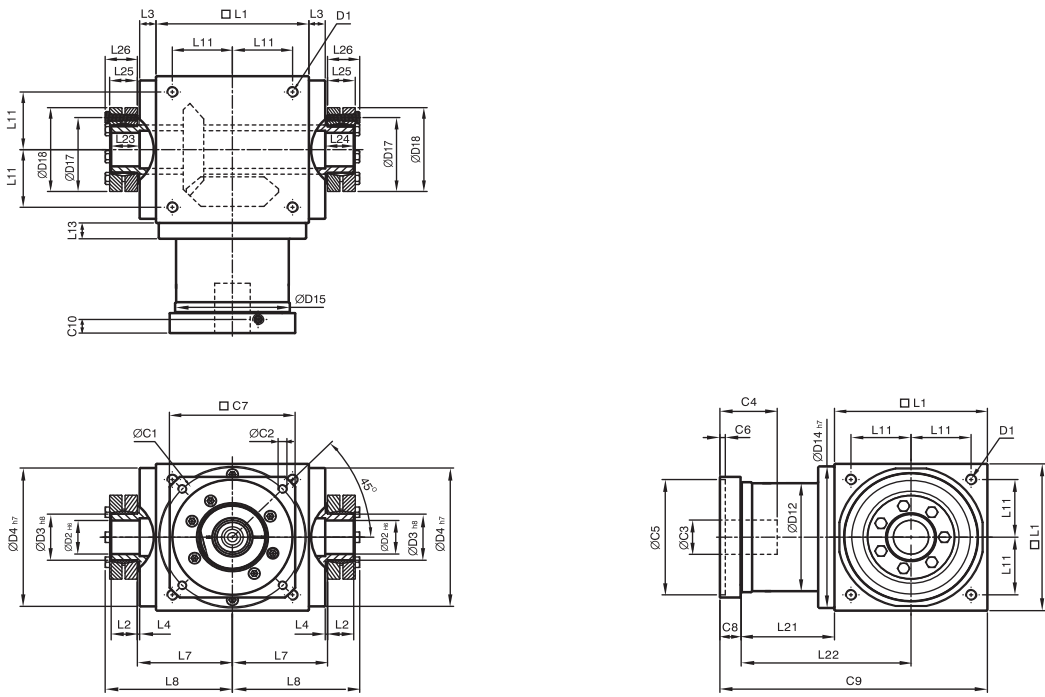
(单位 unit : mm)

尺寸 Dimension	AT110FH	AT140FH	AT170FH	AT210FH	AT240FH	AT280FH
D1	M8	M10	M12	M16	M16	M16
D2 _{H7}	22	32	40	50	55	60
D4 _{H7}	108	135	165	205	235	275
D5	53	68	83	104	124	144
D7	33	47	55	75	85	110
D12	106	104	128	160	180	200
D14 _{H7}	108	135	165	205	235	275
D15	107	106	130	158	178	198
L1	110	140	170	210	240	280
L3	15	15	15	20	25	25
L4	2	2	2	2	2	2
L7	72	87	102	127	147	167
L11	44	55	67	85	95	110
L13	15	15	15	20	25	25
L21	136.5	159.5	183.5	226	269	278
L22	191.5	229.5	268.5	331	389	418
L23	53	70	80	95	115	115
L24	35	50	55	65	80	80
C1 ¹²	46	46	70	70	100	100
C2 ¹²	M4	M4	M5	M5	M6	M6
C3 ¹²	≤12	≤12	≤16	≤16	≤24	≤24
C4 ¹²	30	30	34	34	40	40
C5 ¹²	30	30	50	50	80	80
C6 ¹²	3.5	3.5	8	8	4	4
C7 ¹²	42	42	60	60	92	92
C8 ¹²	21.5	21.5	21.5	21.5	20	20
C9 ¹²	268	321	375	457.5	529	578
C10 ¹²	14.5	14.5	15.5	15.5	13	13
B3 _{P9}	6	10	12	14	16	18
H3	24.8	35.3	43.3	53.8	59.3	64.4

12.C1~C10为公制马达规范尺寸。请参考艾特技/ATG网页"减速机选用"功能, 来查看您的马达安装搭配。
12. C1~C10 is the standard size of metric motor.Please refer to the "Reducer Selection" function on the AI /ATG web page to view your motor installation.

尺寸-AT-FC 系列 (单节, 减速比i=1~5)

Dimensions -AT-FC series (1-section, Ratio i=1~5)



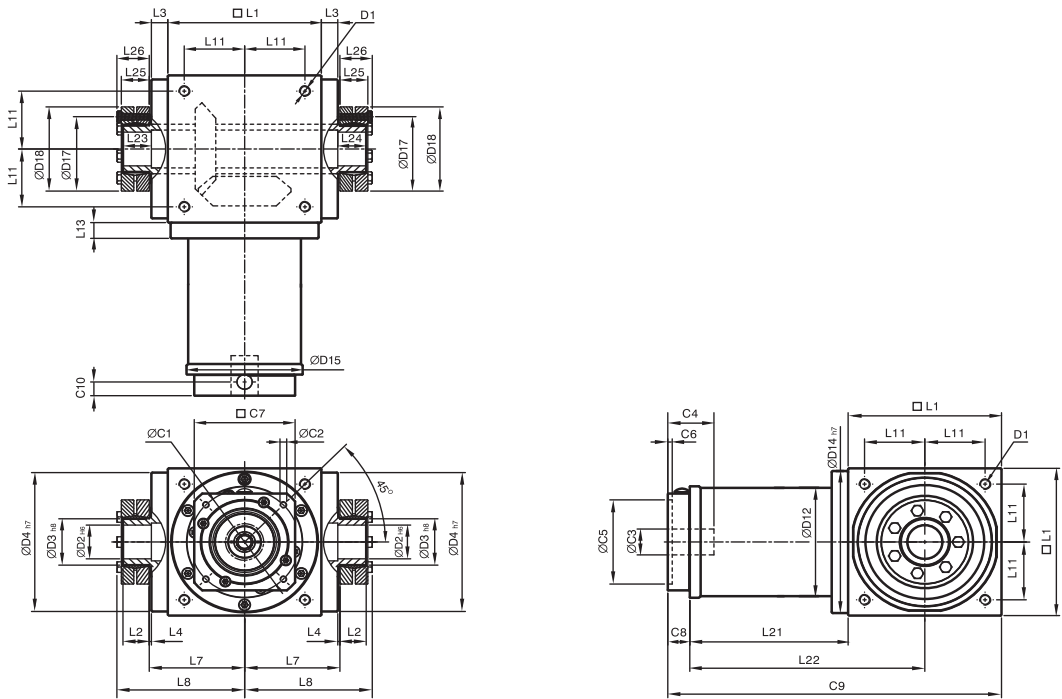
(单位 unit : mm)

尺寸 Dimension	AT065FC	AT075FC	AT090FC	AT110FC	AT140FC	AT170FC	AT210FC	AT240FC	AT280FC
D1	M4	M6	M6	M8	M10	M12	M16	M16	M16
D2 _{H6}	13	14	18	22	32	40	50	55	60
D3 _{H8}	16	16	22	25	44	50	62	68	75
D4 _{H7}	63	73	88	108	135	165	205	235	275
D12	62	72	86	106	104	128	160	180	200
D14 _{H7}	63	73	88	108	135	165	205	235	275
D15	62.9	72.9	87	107	105	130	158	178	198
D17	26	26	36	38	61	70	86	86	100
D18	41	41	50	50	80	90	110	115	138
L1	65	75	90	110	140	170	210	240	280
L2	14	14	18	18	24	26	29	29	30.5
L3	13	14.5	15	15	15	15	20	25	25
L4	2	2	2	2	2	2	2	2	2
L7	47.5	54	62	72	87	102	127	147	167
L8	66	72.5	85	95	116.5	133.5	161.5	181.5	205
L11	27	30	36	44	55	67	85	95	110
L13	13	15	15	15	15	15	20	25	25
L21	49	60.5	63	69.5	85.5	95	130	144.5	135
L22	81.5	98	108	124.5	155.5	180	235	264.5	275
L23	15	15	20	20	26	28	31	31	32.5
L24	15	15	20	20	26	28	31	31	32.5
L25	15	15	19.5	19.5	25.5	27.5	30.5	30.5	32.5
L26	18.5	18.5	23	23	29.5	31.5	34.5	34.5	38
C1 ¹³	46	70	100	100	130	165	215	215	235
C2 ¹³	M4	M5	M6	M6	M8	M10	M12	M12	M12
C3 ¹³	≤11 / ≤12 ¹⁴	≤14 / ≤15.875 / ≤16 ¹⁴	≤19	≤24	≤32	≤38	≤42	≤48	≤55
C4 ¹³	30	34	40	40	50	60	85	85	116
C5 ¹³	30	50	80	80	110	130	180	180	200
C6 ¹³	3.5	8	4	4	5	6	6	6	6
C7 ¹³	42	60	90	90	115	142	190	190	220
C8 ¹³	19.5	19	17	17	19.5	22.5	29	29	63
C9 ¹³	133.5	154.5	170	196.5	245	287.5	369	413.5	478
C10 ¹³	13.25	13.5	10.75	10.75	13	15	20.75	20.75	53.5

13.C1~C10为公制马达规范尺寸。请参考艾特技/ATG网页"减速机选用"功能, 来查看您的马达安装搭配。
13. C1~C10 is the standard size of metric motor.Please refer to the "Reducer Selection" function on the AI /ATG web page to view your motor installation.
14.AT065 FCM1提供C3≤12选择; AT075 FCM1提供C3≤16选择; AT075 FCM2提供C3≤15.875选择。
14. AT065 FCM1 offers C3≤12 option; AT075 FCM1 offers C3≤16 option; AT075 FCM2 offers C3≤15.875 option.

尺寸-AT-FC 系列 (双节, 减速比i=7~50)

Dimensions -AT-FC series (2-section, Ratio i=7~50)



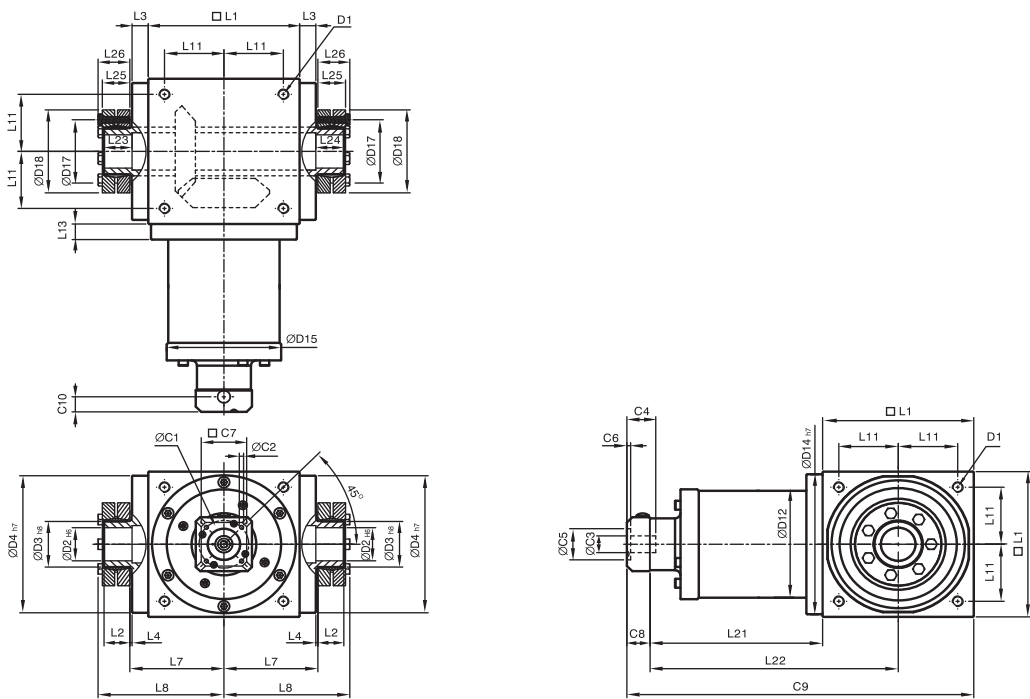
(单位 unit : mm)

尺寸 Dimension	AT065FC	AT075FC	AT090FC	AT110FC	AT140FC	AT170FC	AT210FC	AT240FC	AT280FC
D1	M4	M6	M6	M8	M10	M12	M16	M16	M16
D2 H6	13	14	18	22	32	40	50	55	60
D3 h8	16	16	22	25	44	50	62	68	75
D4 h7	63	73	88	108	135	165	205	235	275
D12	62	72	86	106	104	128	160	180	200
D14 h7	63	73	88	108	135	165	205	235	275
D15	62.9	72.9	87	107	106	130	158	178	198
D17	26	26	36	38	61	70	86	86	100
D18	41	41	50	50	80	90	110	115	138
L1	65	75	90	110	140	170	210	240	280
L2	14	14	18	18	24	26	29	29	30.5
L3	13	14.5	15	15	15	15	20	25	25
L4	2	2	2	2	2	2	2	2	2
L7	47.5	54	62	72	87	102	127	147	167
L8	66	72.5	85	95	116.5	133.5	161.5	181.5	205
L11	27	30	36	44	55	67	85	95	110
L13	13	15	15	15	15	15	20	25	25
L21	75	84.5	99	122	144.5	157.5	206.5	239	248
L22	107.5	122	144	177	214.5	242.5	311.5	359	388
L23	15	15	20	20	26	28	31	31	32.5
L24	15	15	20	20	26	28	31	31	32.5
L25	15	15	19.5	19.5	25.5	27.5	30.5	30.5	32.5
L26	18.5	18.5	23	23	29.5	31.5	34.5	34.5	38
C1 ¹⁵	46	46	70	100	100	100	130	165	165
C2 ¹⁵	M4	M4	M5	M6	M6	M6	M8	M10	M10
C3 ¹⁵	≤12	≤12	≤16	≤24	≤24	≤24	≤32	≤38	≤38
C4 ¹⁵	30	30	34	40	40	40	50	60	60
C5 ¹⁵	30	30	50	80	80	80	110	130	130
C6 ¹⁵	3.5	3.5	8	4	4	4	5	6	6
C7 ¹⁵	42	42	60	92	92	92	115	142	142
C8 ¹⁵	21.5	21.5	21.5	20	20	20	24	31	31
C9 ¹⁵	161.5	181	210.5	252	304.5	347.5	440.5	510	559
C10 ¹⁵	14.5	14.5	15.5	13	13	13	16	21	21

15.C1~C10为公制马达规范尺寸。请参考艾特技/ATG网页"减速机选用"功能, 来查看您的马达安装搭配。
15. C1~C10 is the standard size of metric motor.Please refer to the "Reducer Selection" function on the AI /ATG web page to view your motor installation.

尺寸-AT-FC 系列 (三节, 减速比i=75~500)

Dimensions -AT-FC series (1-section, Ratio i =75~500)

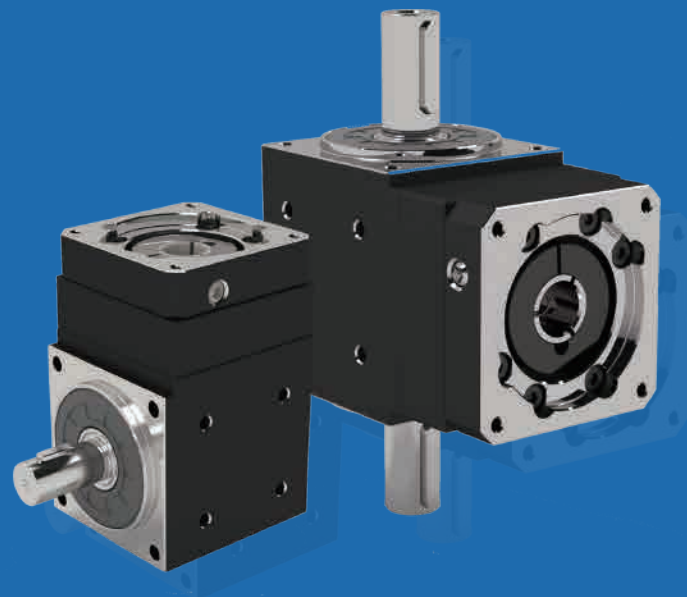


(单位 unit : mm)

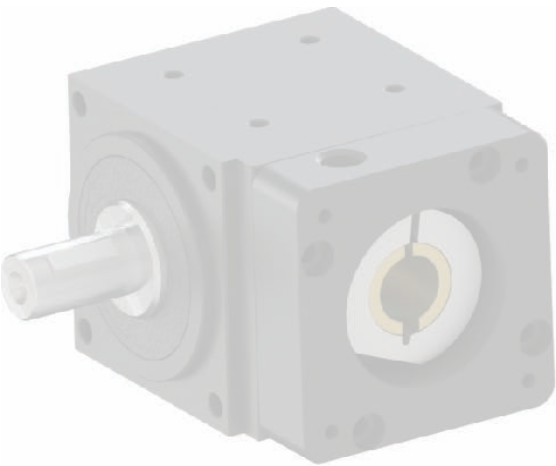
尺寸 Dimension	AT110FC	AT140FC	AT170FC	AT210FC	AT240FC	AT280FC
D1	M8	M10	M12	M16	M16	M16
D2 H6	22	32	40	50	55	60
D3 h8	25	44	50	62	68	75
D4 h7	108	135	165	205	235	275
D12	106	104	128	160	180	200
D14 h7	108	135	165	205	235	275
D15	107	106	130	158	178	198
D17	38	61	70	86	86	100
D18	50	80	90	110	115	138
L1	110	140	170	210	240	280
L2	18	24	26	29	29	30.5
L3	15	15	15	20	25	25
L4	2	2	2	2	2	2
L7	72	87	102	127	147	167
L8	95	116.5	133.5	161.5	181.5	205
L11	44	55	67	85	95	110
L13	15	15	15	20	25	25
L21	136.5	159.5	183.5	226	269	278
L22	191.5	229.5	268.5	331	389	418
L23	20	26	28	31	31	32.5
L24	20	26	28	31	31	32.5
L25	19.5	25.5	27.5	30.5	30.5	32.5
L26	23	29.5	31.5	34.5	34.5	38
C1 ¹⁶	46	46	70	70	100	100
C2 ¹⁶	M4	M4	M5	M5	M6	M6
C3 ¹⁶	≤12	≤12	≤16	≤16	≤24	≤24
C4 ¹⁶	30	30	34	34	40	40
C5 ¹⁶	30	30	50	50	80	80
C6 ¹⁶	3.5	3.5	8	8	4	4
C7 ¹⁶	42	42	60	60	92	92
C8 ¹⁶	21.5	21.5	21.5	21.5	20	20
C9 ¹⁶	268	321	375	457.5	529	578
C10 ¹⁶	14.5	14.5	15.5	15.5	13	13

16.C1~C10为公制马达规范尺寸。请参考艾特技/ATG网页"减速机选用"功能, 来查看您的马达安装搭配。
16. C1~C10 is the standard size of metric motor.Please refer to the "Reducer Selection" function on the AI /ATG web page to view your motor installation.

减速机系列-RA
Reducer series-RA



产品特性
PRODUCT FEATURES



- △ 精美的外观设计
Exquisite exterior design
- △ 各种输出轴选择
A variety of output shaft options
- △ 高扭力
High torque
- △ 高效率
High efficiency
- △ 使用寿命长
Long service life
- △ 灵活的安装尺寸
Flexible installation dimensions

- 订购代码 Order code 31
- RA直角型减速机 RA RIGHT-ANGLE REDUCERS 32
- RAD/PGH一体机系列 RAD/PGH all-in-one machine series 35
- RAS/PGH一体机系列 RAS/PGH all-in-one machine series 37
- 减速机的选用 Selection of reducer 41
- 减速机输出轴的容许径向力及轴向力 42
- The allowable radial and axial forces of the output shaft of the reducer

RA系列直角型减速机

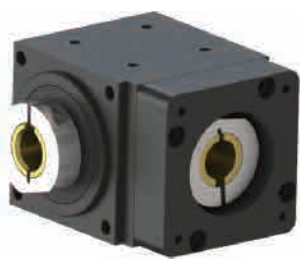
RA RIGHT-ANGLE REDUCERS

Ra系列採用傘型齒輪設計,背隙可以調整,精巧的外型可以搭配任何方向定位,安裝容易能配合多種馬達或加裝減速機。

RA series bevel gear can adjust backlash, compact housing design can be used with any orientation, Easy to install or retrofit can meet a variety of motor reducer.



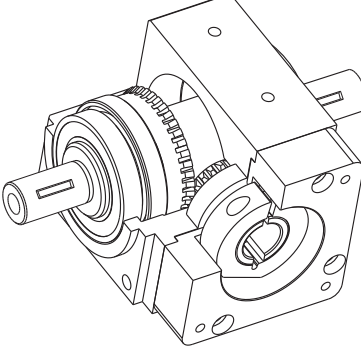
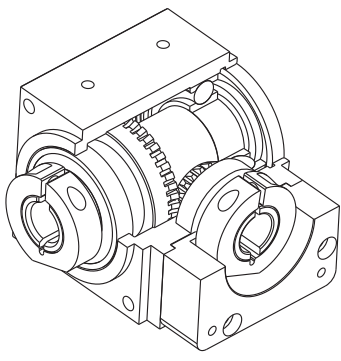
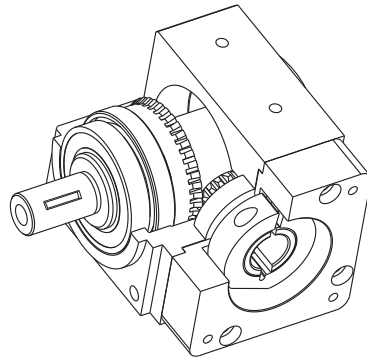
RAS(實心軸)



RAH(空心軸)



RAD(雙出力軸)



尺寸 modle	單位 UNIT	RA-42	RA-60	RA-90	RA-120
外框尺寸 Size	mm	Ø42	Ø60	Ø90	Ø120
額定出力軸轉矩 Rated Output torque	Nm	15	20	45	90
最大出力軸轉矩 Max.Output tor que	Nm	額定出力軸轉矩2倍 Rated Output torque×2			
額定人力端馬達轉速 Rated Input Spssd	rpm	1500	1000	1000	800
人力軸轉動慣量 Rotational inertia	Kg-cm ²	0.02	0.06	0.4	0.8
容許最大徑向負載 Max.Radial Force	N	300	500	1200	1600
容許最大軸向負載 Max.Axial Force	N	150	200	500	1000
扭轉剛性 Torsional stiffness	Nm/弧分	1.2	1.5	5	12
可選用減速比 Ratio		2:1 , 5:1	2:1 , 5:1	2:1 , 5:1	2:1
重量 W	Kg	0.7	1.3	4.1	8.5

RAS

60

02

S1

馬達

減速機型號 Gearbox Size :
RAS,RAH,RAD

比數 Ratio:
1 Stage: 2,5

馬達類型
Motor Designation :
馬達製造商及型號
Manufacturer Type
And Model

減速機 Gearbox :
42,60,90,120
42 60 90 120

輸出軸型式選擇
S1:平滑直軸
S2:附鍵直軸

Shaft Option :
S1: Smooth Output Shaft
S2: Output Shaft with Key

選用範例 : RAS60-2-S1 /I SMH1-20B30CB
Ordering Example: RAS60-2-S1 /I SMH1-20B30CB

RAS

60A

20

S1

馬達

減速機型號 Gearbox Size :
RAS,RAH,RAD

比數 Ratio:
1 Stage: 6,9,10,14,15,20
21,25,35,50

馬達類型
Motor Designation :
馬達製造商及型號
Manufacturer Type
And Model

減速機 Gearbox :
42A,60A,90A,120A

輸出軸型式選擇
S1:平滑直軸
S2:附鍵直軸

Shaft Option :
S1: Smooth Output Shaft
S2: Output Shaft with Key

選用範例 : RAS60A-20-S1 /ISMH1-20B30CB
Ordering Example: RAS60A-20-S1 /ISMH1-20B30CB

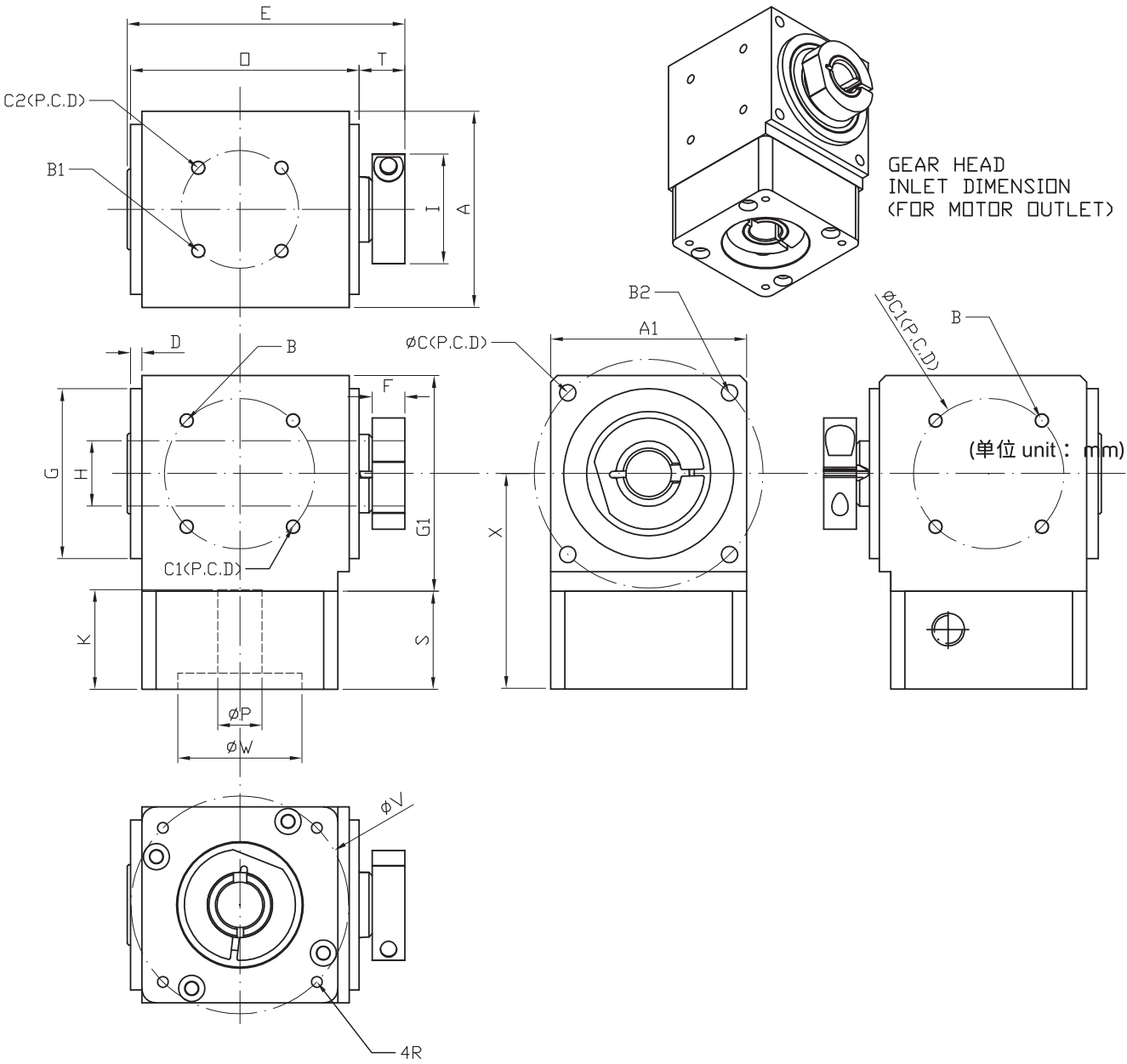
RA系列直角型减速机

RA RIGHT-ANGLE REDUCERS

高度螺旋伞齿轮减速机 RA系列

HIGH PRECISION SPIRAL BEVEL GEARBOXES RA SERIES

RAH



P, R, V, W 為馬達配合尺寸
P, R, V, W Size may vary according to the motor flange chosen

(単位 unit : mm)

型号/尺寸 Model/size	A	A1	B	B1	B2	C	C1	C2	D	E	F	G	G1	H	I	K	O	S	T	X
RAH42-02	42.5	42.5	M3	M3	M3	46	42	35	3	66.8	10	36	62.3	12	28	27	47	15.5	12.5	41
RAH42-05	42.5	42.5	M3	M3	M3	46	42	35	3	66.5	10	36	74.8	12	28	27	47	28	12.5	53.5
RAH60-02	60	60	M4	M4	M5	70	46	36	3	84.2	10.5	52	83.2	14	15.5	32	63.5	17.2	13.2	53.5
RAH60-05	60	60	M4	M4	M5	70	46	36	3	85	10.5	52	93.7	14	15.5	30	63.5	27.7	14	63.8
RAH90-02	90	90	M5	M5	M6	100	70	60	5	122.7	14	80	128.7	20	48	52	92	31.7	20	83.7
RAH90-05	90	90	M5	M5	M6	100	70	60	5	124.5	14	80	138.5	20	48	46	92	41.5	22	93.5
RAH120-02	116	116	M8	M8	M8	145	113.14	113.14	4	150	20	110	162	25	63	60	116	45	24	104

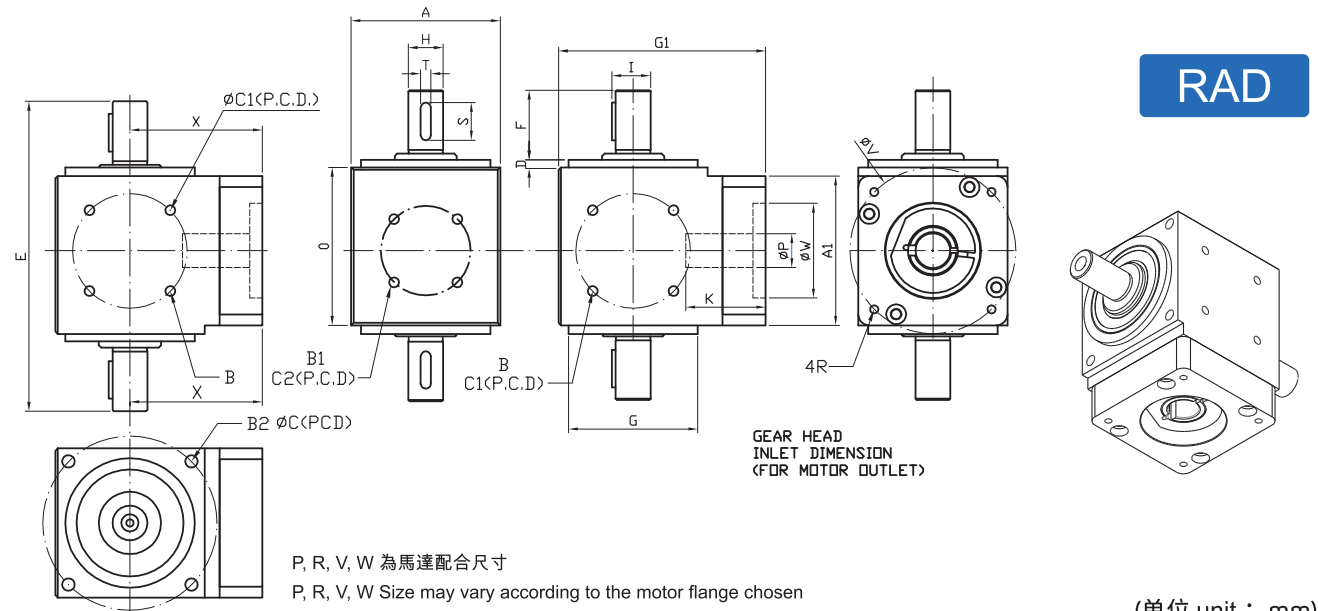
RA系列直角型减速机

RA RIGHT-ANGLE REDUCERS

高度螺旋伞齿轮减速机 RA系列

HIGH PRECISION SPIRAL BEVEL GEARBOXES RA SERIES

RAD

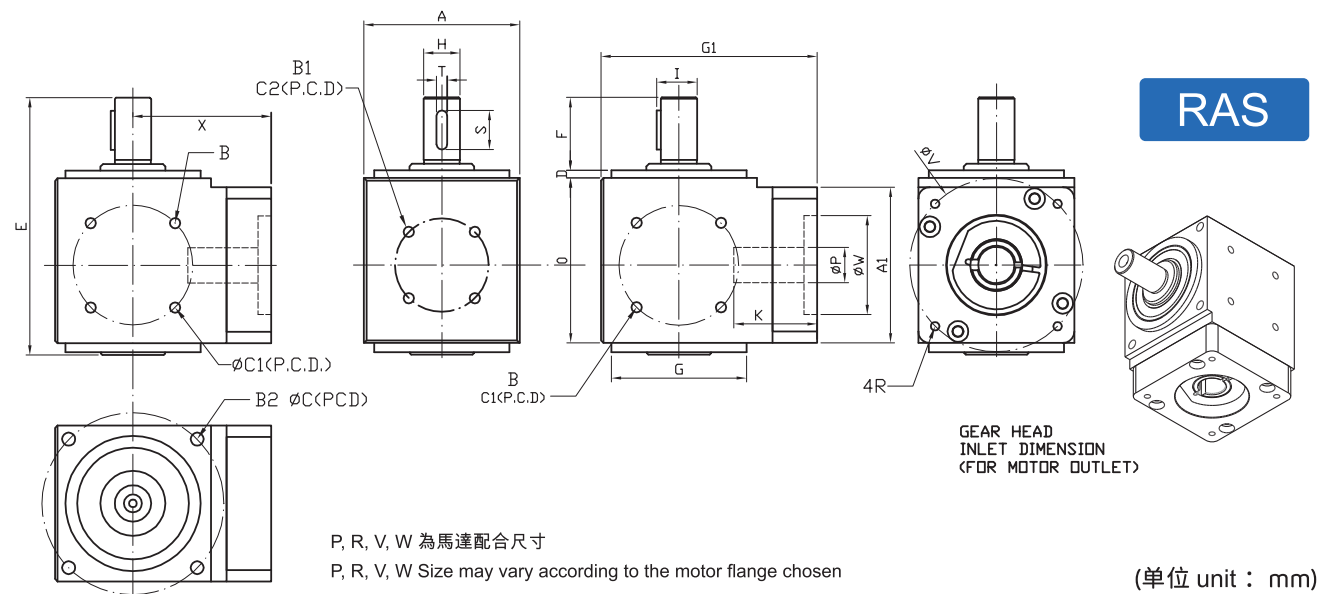


P, R, V, W 為馬達配合尺寸
P, R, V, W Size may vary according to the motor flange chosen

(単位 unit : mm)

型号/尺寸 Model/size	A	A1	B	B1	B2	C	C1	C2	D	E	F	G	G1	H	I	K	O	S	T	X
RAD42-02	42.5	42.5	M3	M3	M3	48	42	35	3	97	10	36	62.3	12	28	27	47	15.5	4	41
RAD42-05	42.5	42.5	M3	M3	M3	48	42	35	3	97	10	36	74.8	12	28	27	47	28	4	53.5
RAD60-02	60	60	M4	M4	M4	70	46	36	3	125	27	52	83.2	14	15.5	32	63.5	15	4	53.5
RAD60-05	60	60	M4	M4	M4	70	46	36	3	125	27	52	93.7	14	15.5	32	63.5	15	4	63.8
RAD90-02	90	90	M5	M5	M6	100	70	60	5	189	46	80	128.7	20	22.5	52	92	25	6	83.7
RAD90-05	90	90	M5	M5	M6	100	70	60	5	189	46	80	138.5	20	22.5	46	92	25	6	93.5
RAD120-02	116	116	M8	M8	M8	145	113.14	113.14	4	218	46	110	162	25	28	60	116	30	8	104

RAS



P, R, V, W 為馬達配合尺寸
P, R, V, W Size may vary according to the motor flange chosen

(単位 unit : mm)

型号/尺寸 Model/size	A	A1	B	B1	B2	C	C1	C2	D	E	F	G	G1	H	I	K	O	S	T	X
RAS42-02	42.5	42.5	M3	M3	M3	48	42	35	3	75.5	10	36	62.3	12	28	27	47	15.5	4	41
RAS42-05	42.5	42.5	M3	M3	M3	48	42	35	3	75.5	10	36	74.8	12	28	27	47	28	4	53.5
RAS60-02	60	60	M4	M4	M4	70	46	36	3	99	28	52	83.2	14	15.5	32	63.5	15	4	53.5
RAS60-05	60	60	M4	M4	M4	70	46	36	3	98.5	27.3	52	93.7	14	15.5	30	63.5	15	4	63.8
RAS90-02	90	90	M5	M5	M6	100	70	60	5	145	42	80	128.7	20	22.5	52	92	25	6	83.7
RAS90-05	90	90	M5	M5	M6	100	70	60	5	145	46	80	138.5	20	22.5	46	92	25	6	93.5
RAS120-02	116	116	M8	M8	M8	145	113.14	113.14	4	172	46	110	162	25	28	60	116	30	8	104

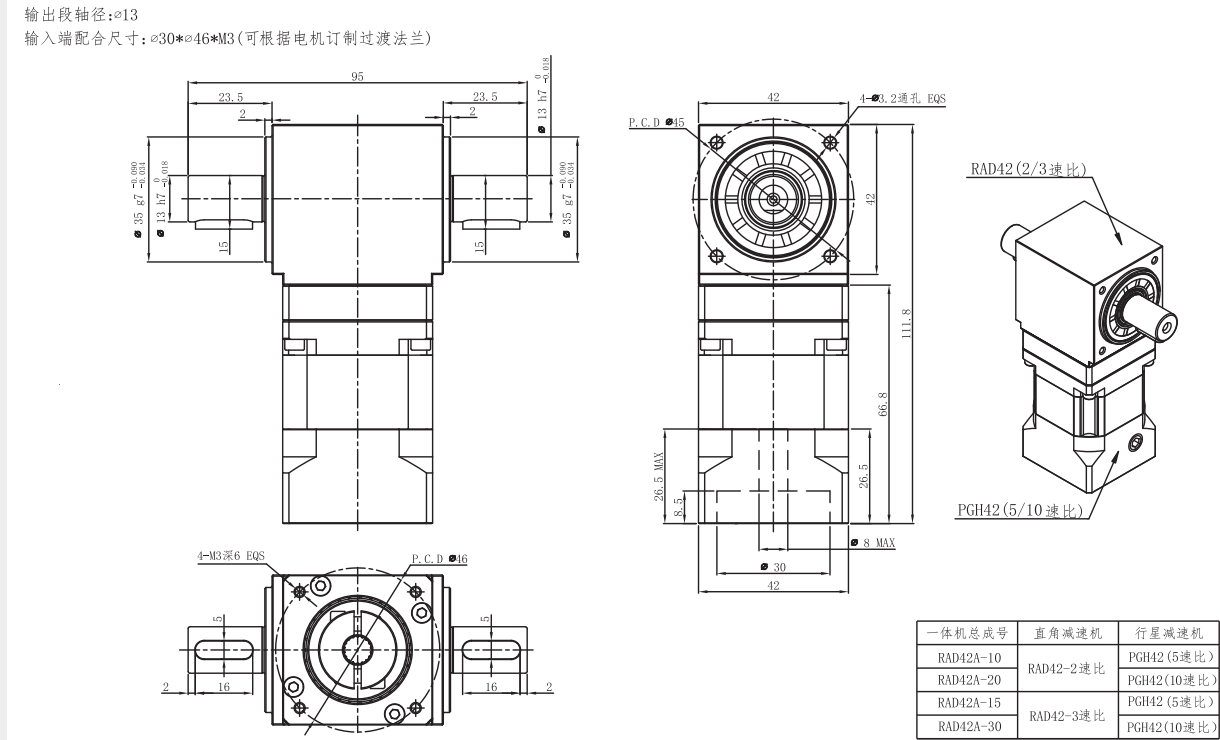
RAD/PGH 一体机系列

RAD/PGH all-in-one machine series

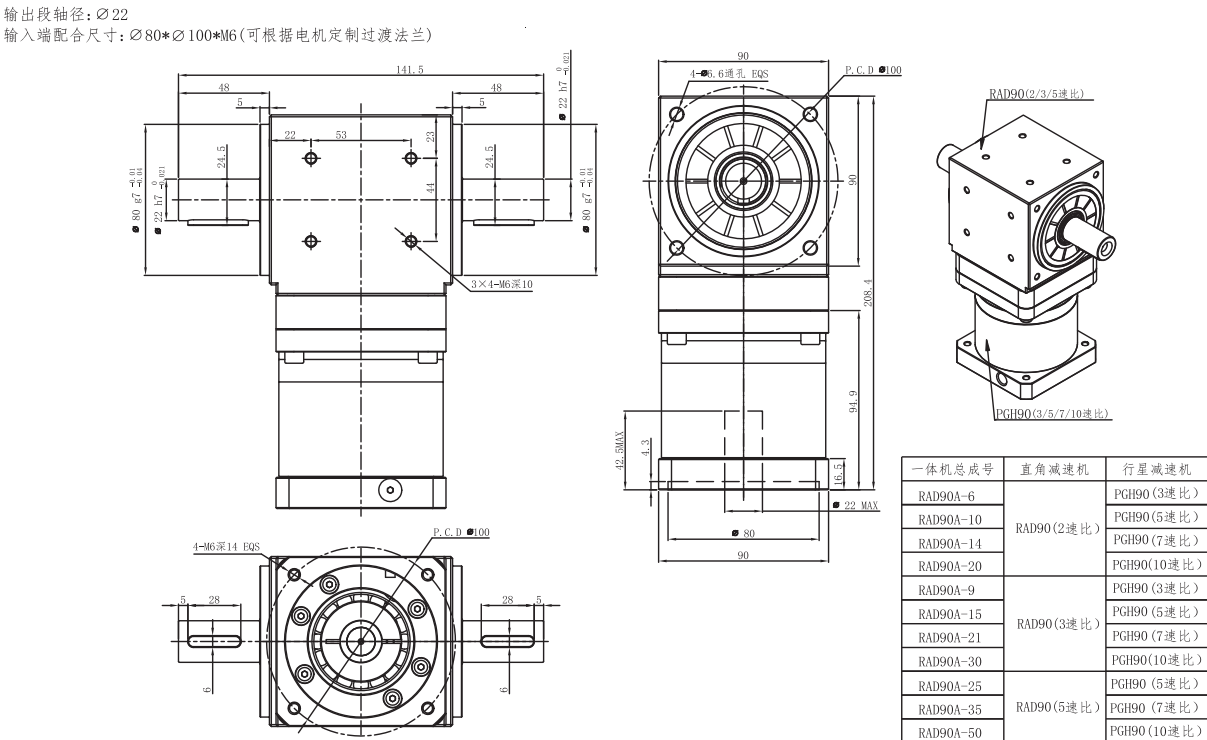
RAD/PGH 一体机系列

RAD/PGH all-in-one machine series

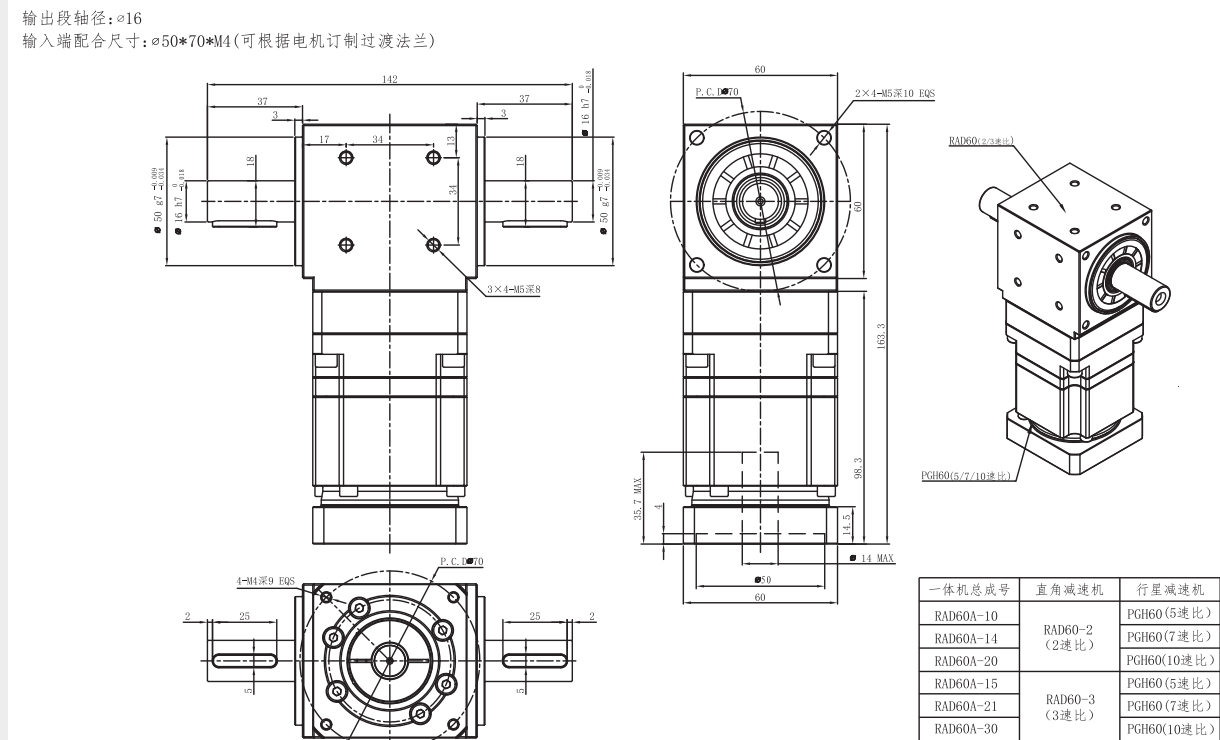
■ RAD42A外形尺寸图



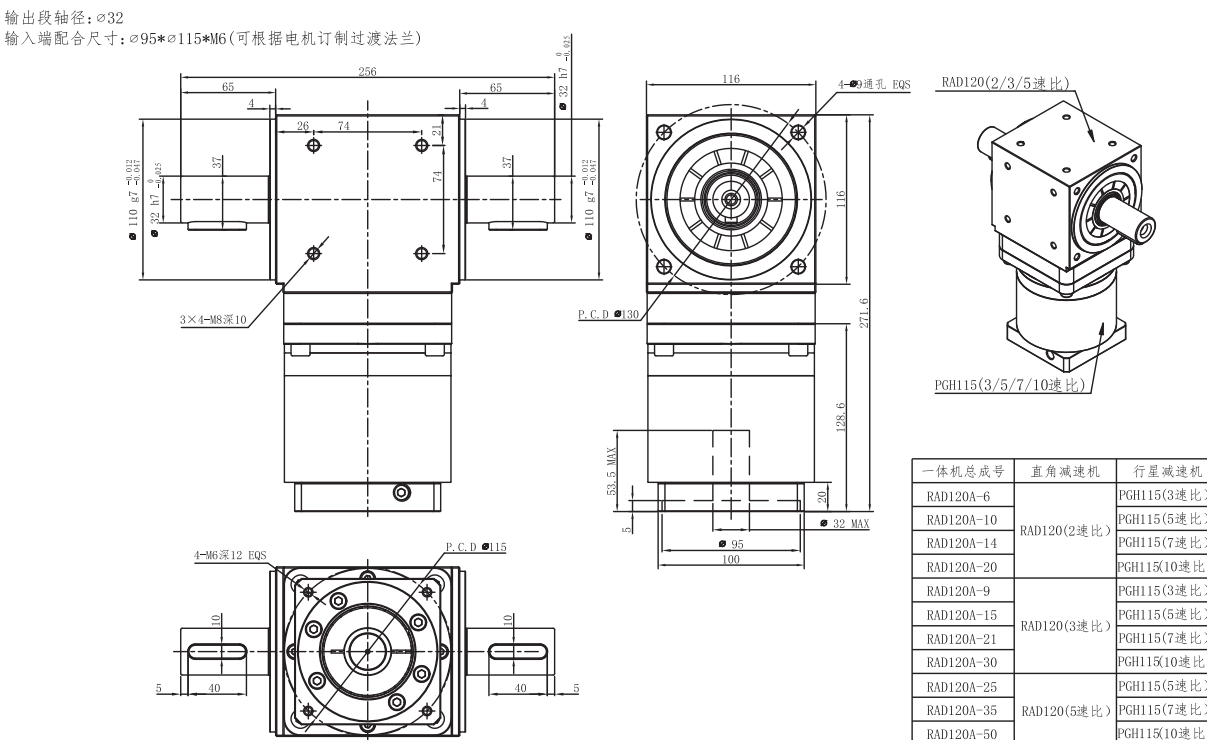
■ RAD90A外形尺寸图 (输出轴22)



■ RAD60A外形尺寸图 (输出轴16)



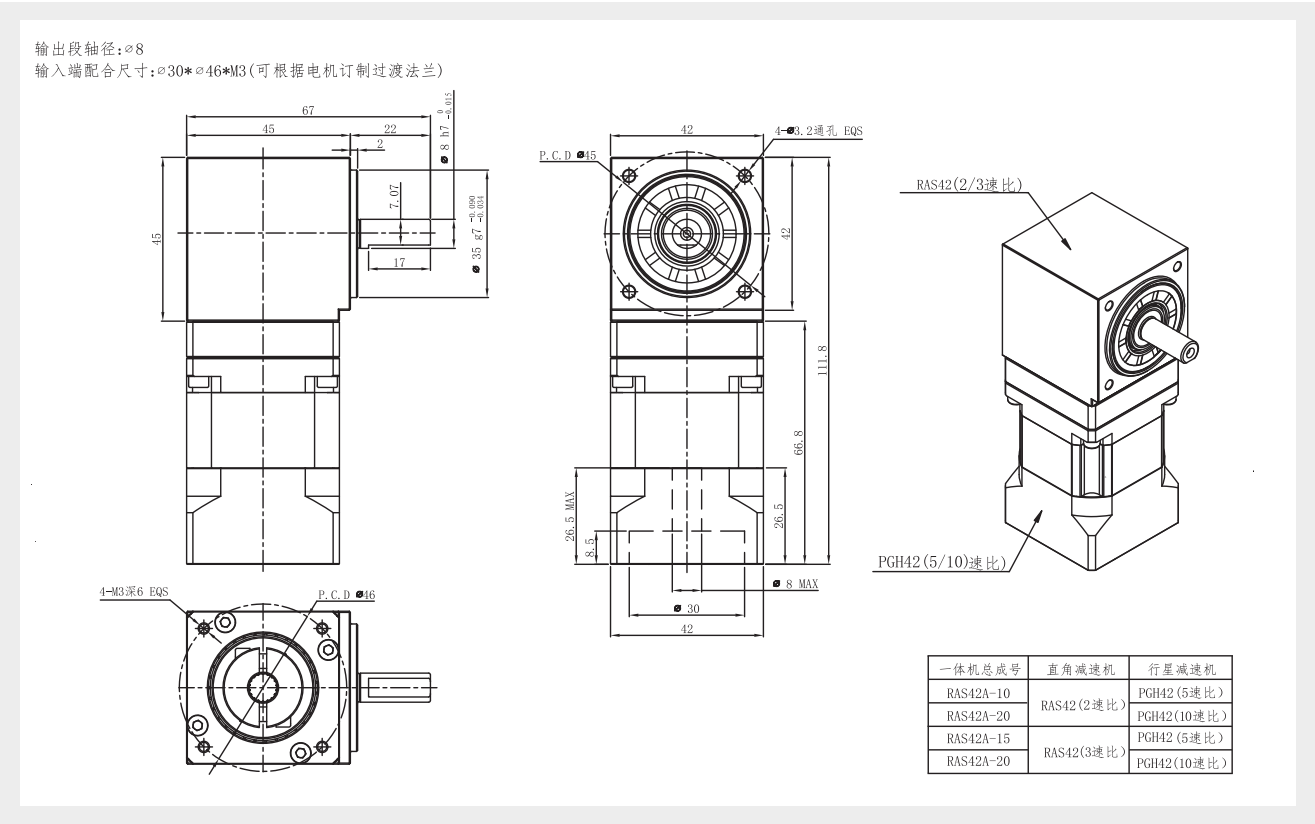
■ RAD120A外形尺寸图 (输出轴32)



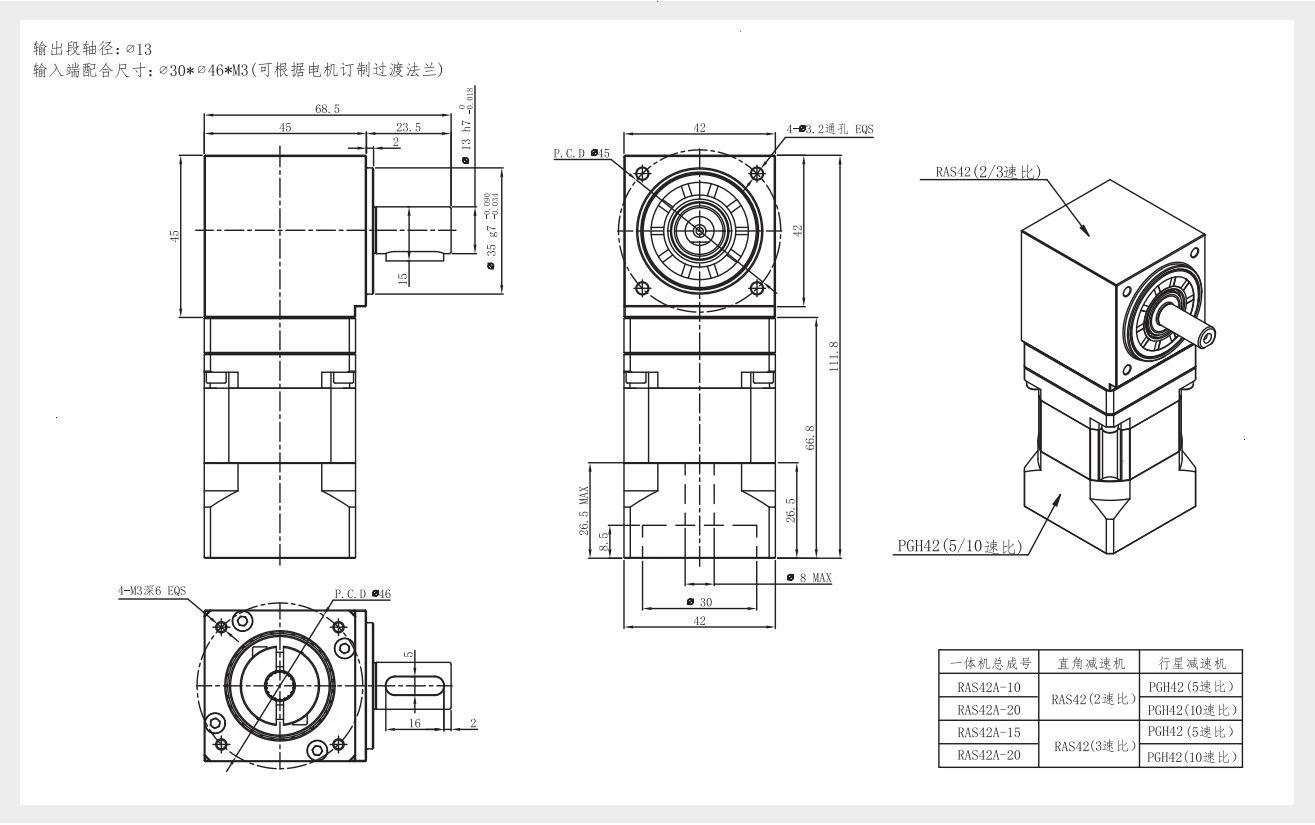
RAS/PGH 一体机系列

RAS/PGH all-in-one machine series

■ RAS42A外形尺寸图（输出轴8）



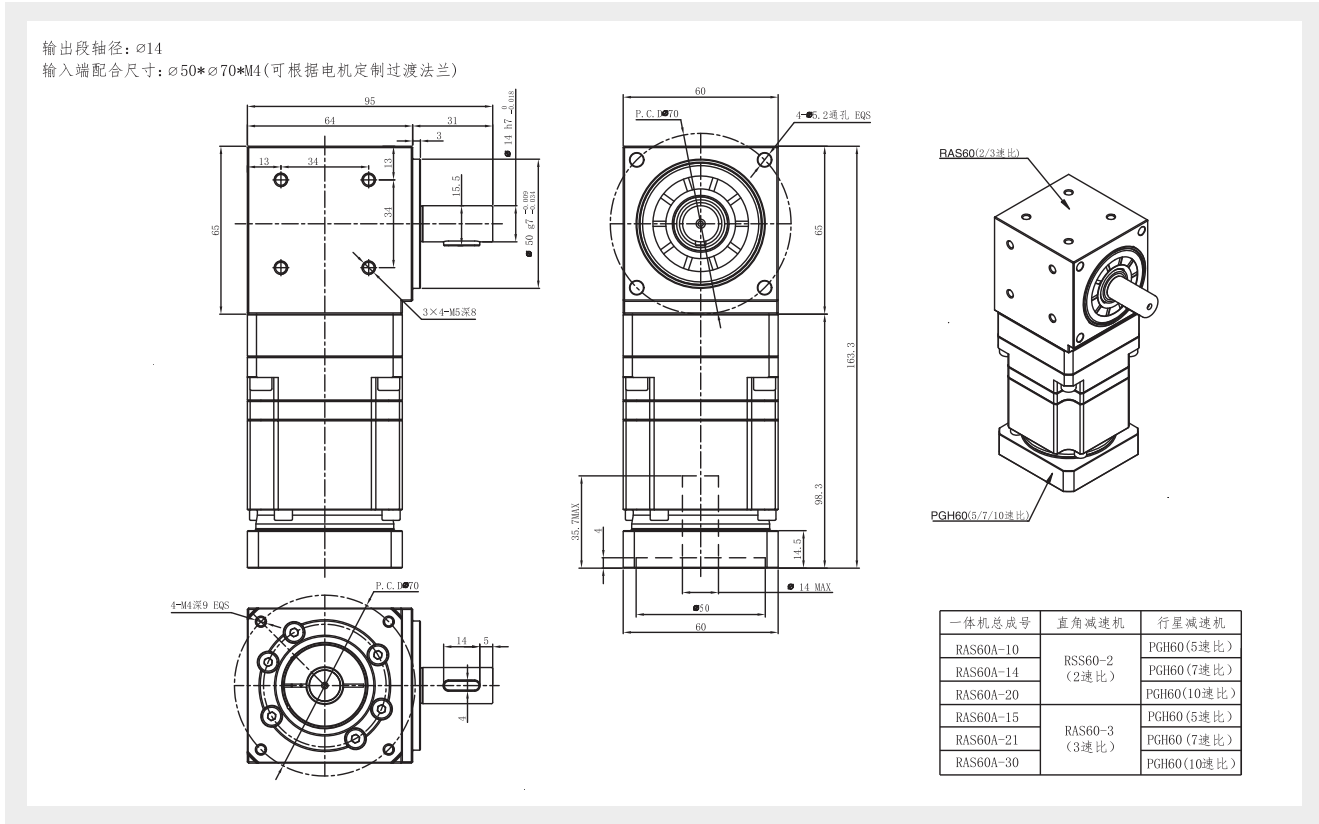
■ RAS42A外形尺寸图（输出轴13）



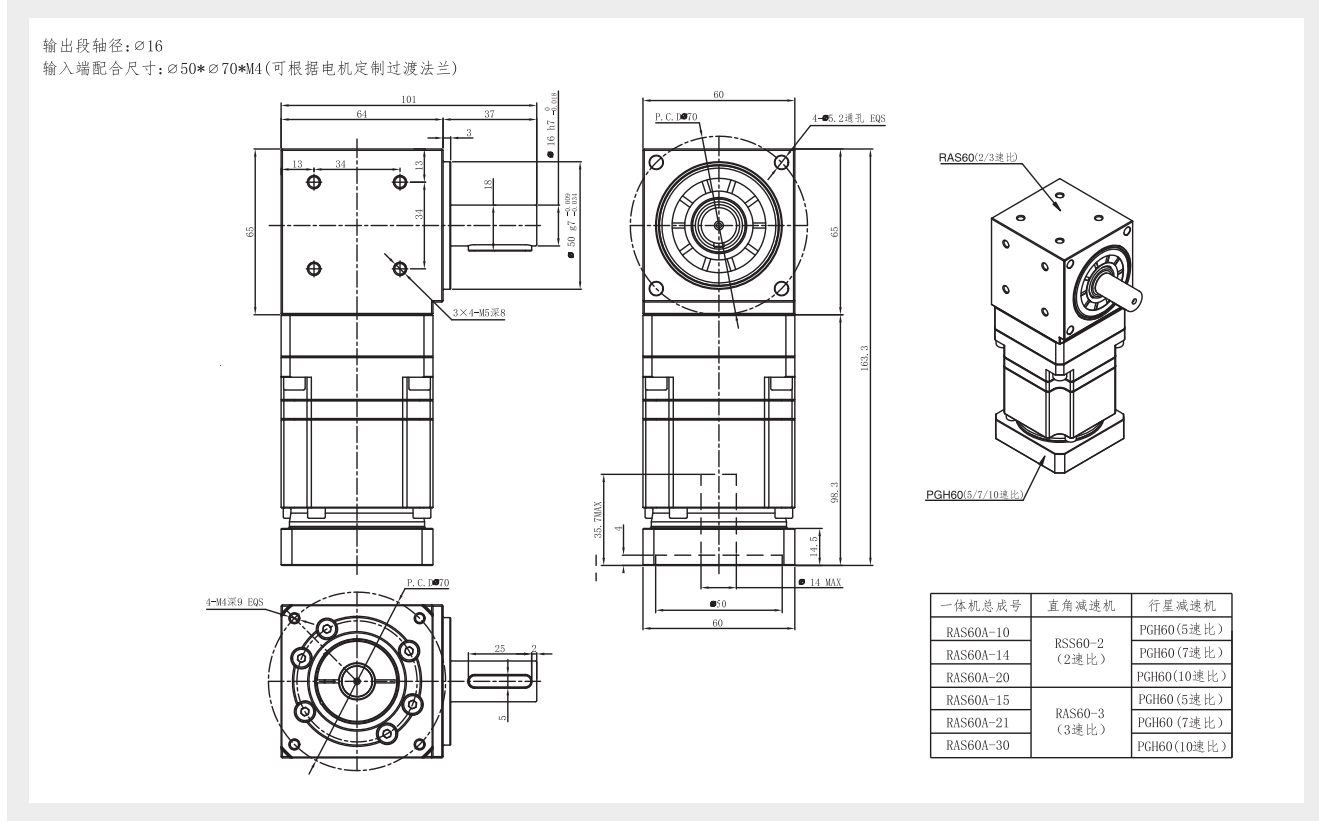
RAS/PGH 一体机系列

RAS/PGH all-in-one machine series

■ RAS60A外形尺寸图（输出轴14）



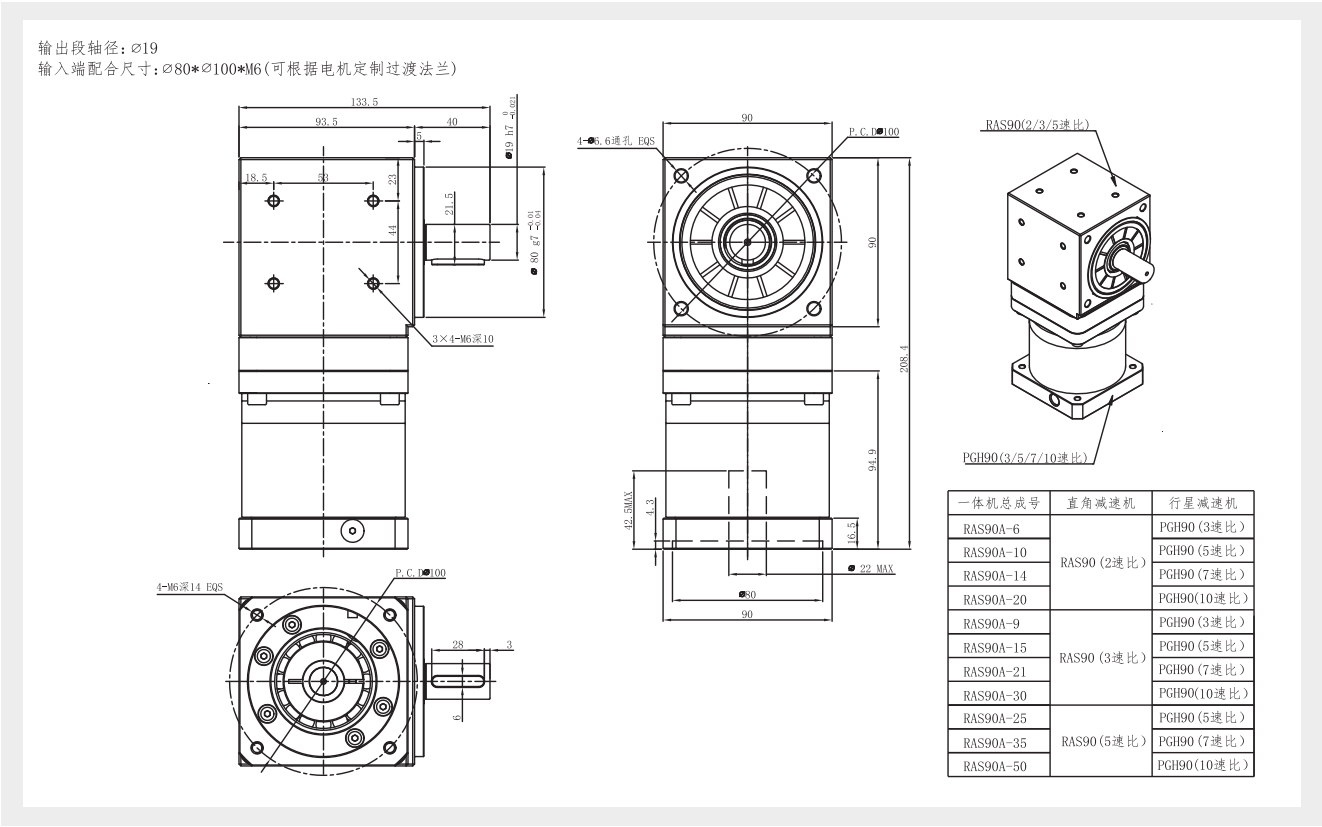
■ RAS60A外形尺寸图（输出轴16）



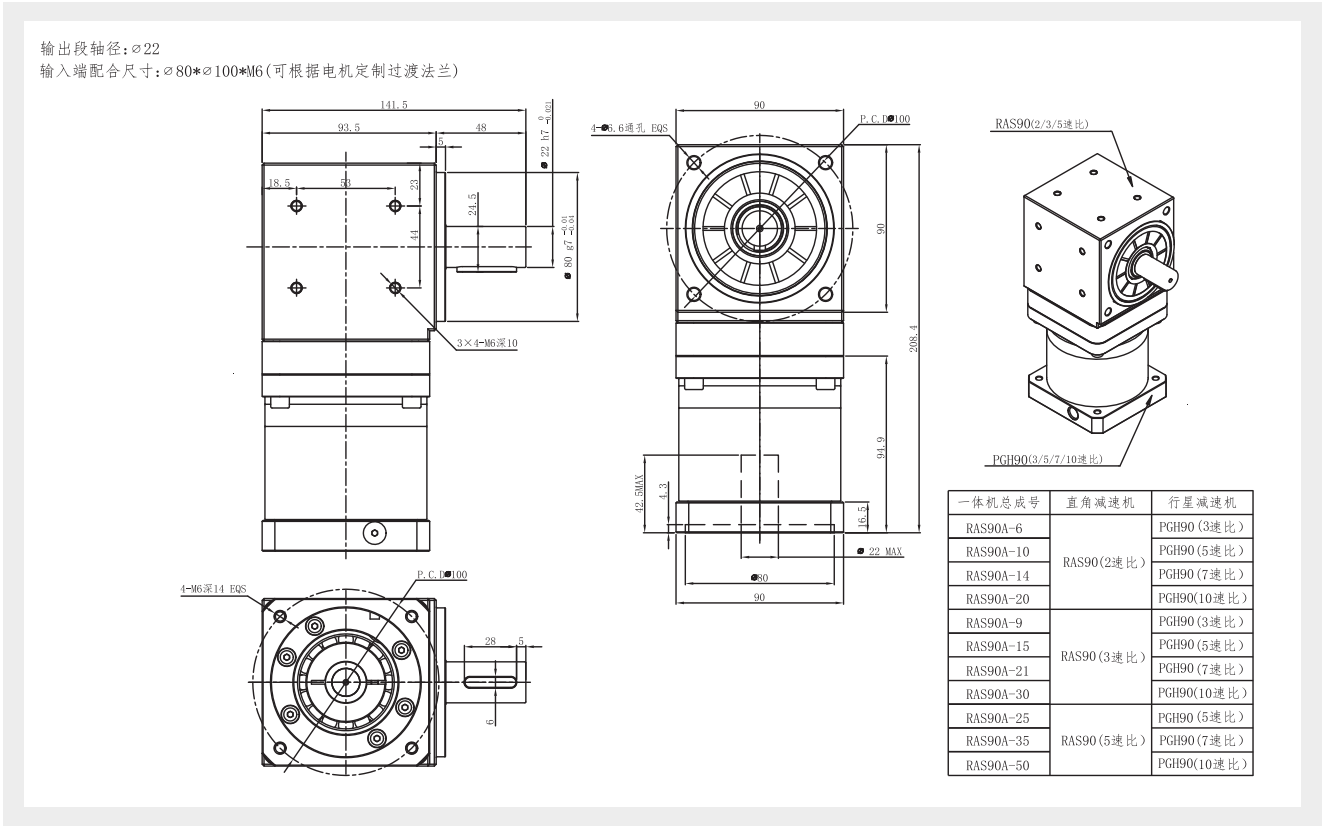
RAS/PGH 一体机系列

RAS/PGH all-in-one machine series

■ RAS90A外形尺寸图（输出轴19）



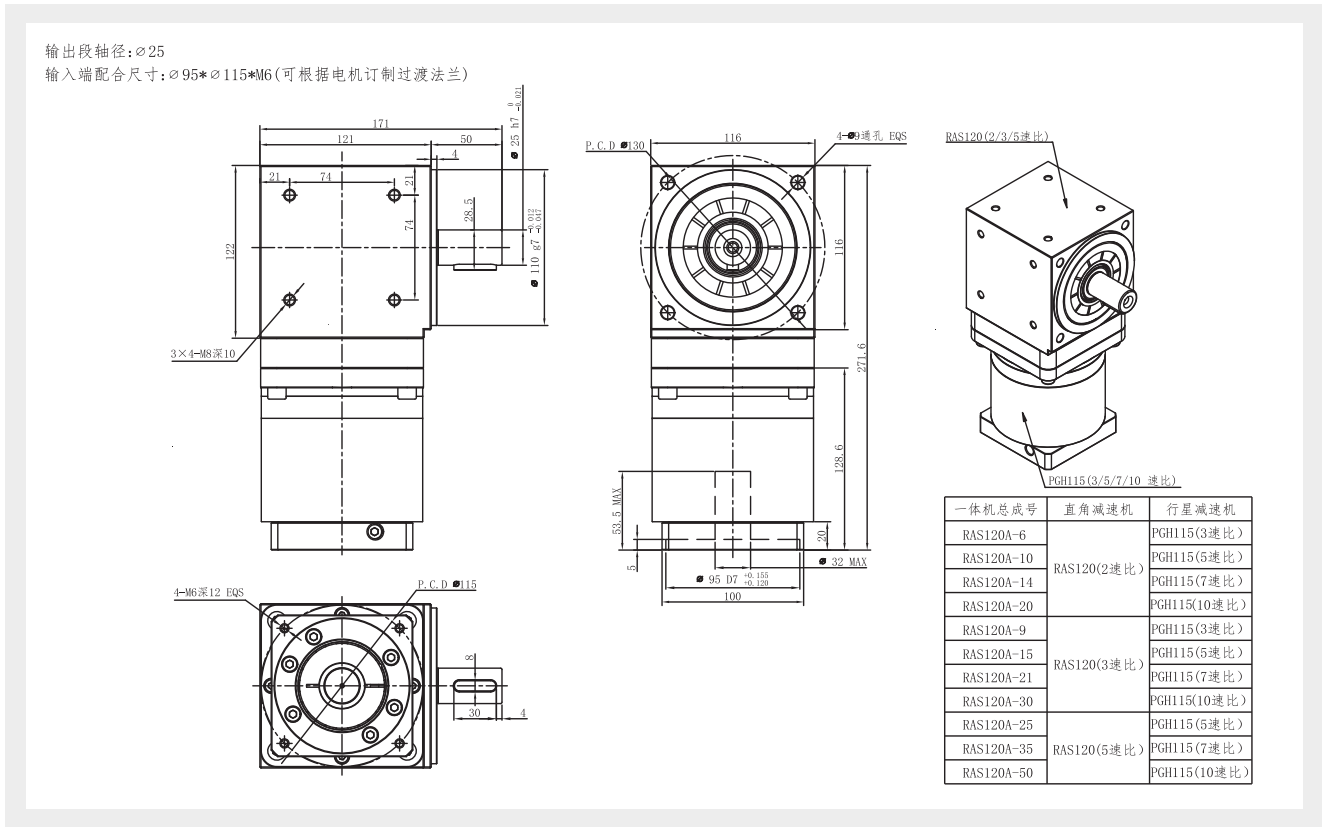
■ RAS90A外形尺寸图（输出轴22）



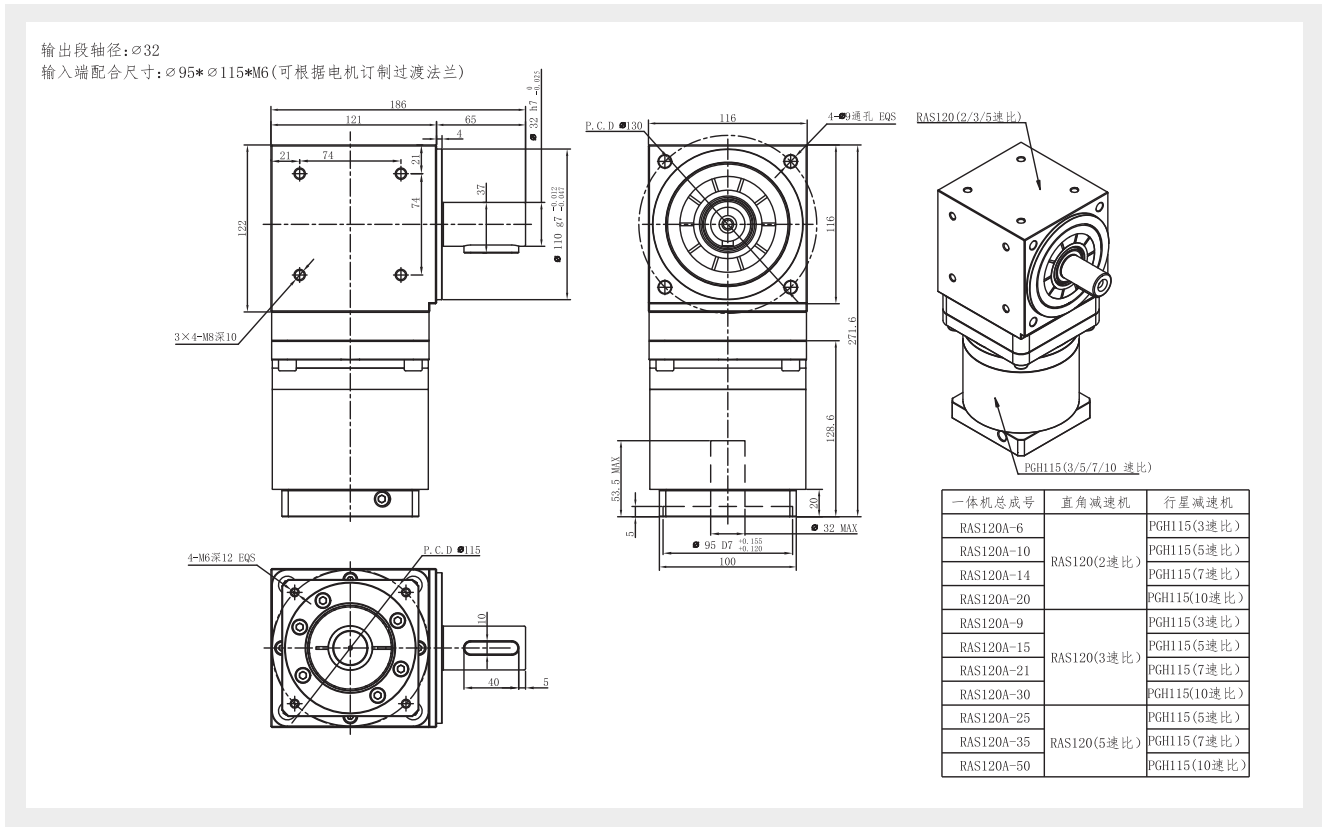
RAS/PGH 一体机系列

RAS/PGH all-in-one machine series

■ RAS120A外形尺寸图（输出轴25）

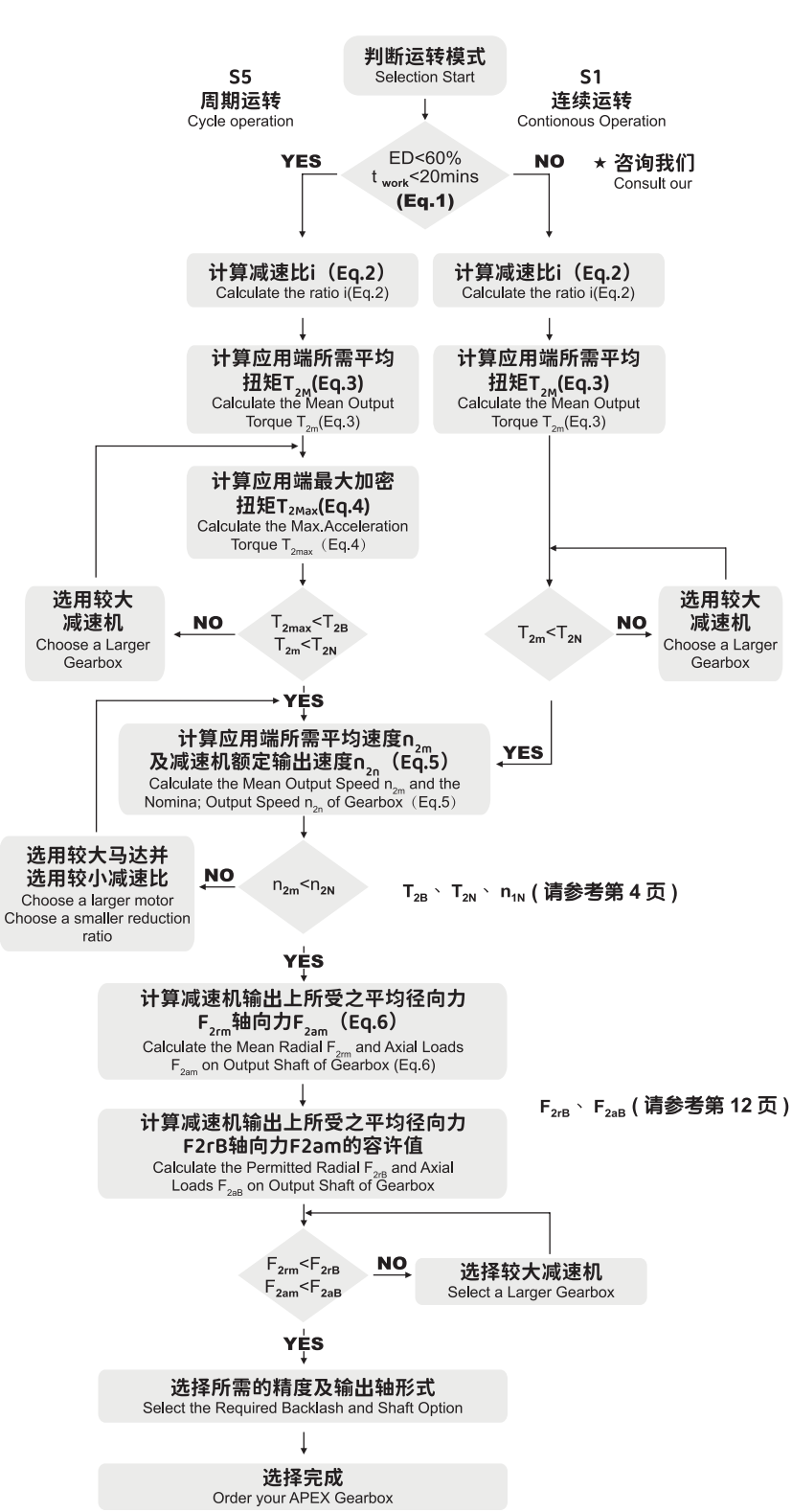


■ RAS120A外形尺寸图（输出轴32）



减速机的选用

Selection of reducer



S5 周期运转之建议事项
Recommended (for S5 Cycle Operation)

S5 周期运转之建议事项
The general design is given for

$\frac{J_L}{i^2} \leq 4 \times J_m$

J_L 负载惯量 Load Inertia

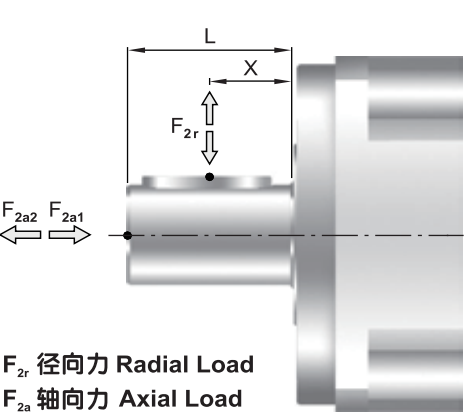
J_m 马达惯量 Motor Inertia

最适当的应用惯量须符合以下公式:
The optimal design is given for

$\frac{J_L}{i^2} \cong J_m$

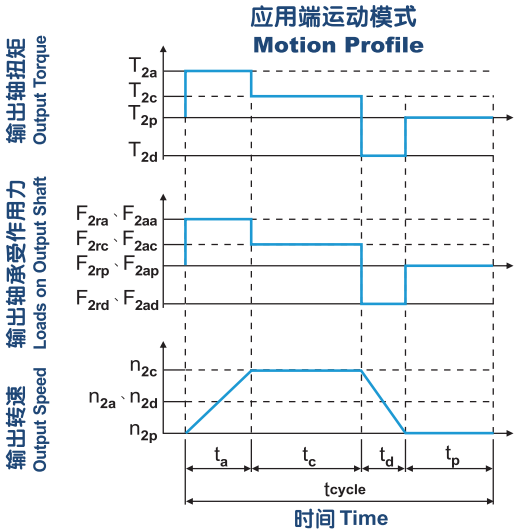
减速机输出轴的容许径向力及轴向力

The allowable radial and axial forces of the output shaft of the reducer



减速机输出轴所能承受之最大径向力及轴向力，端视内部支撑轴承之设计。ATG 减速机采用大尺寸的轴承及较大跨距的设计，其能承受更大的径向及轴向负荷。

The maximum radial and axial force that the output shaft of the reducer can bear depends on the design of the internal support bearing. ATG reducer adopts large size bearing and large span design, which can withstand larger radial and Axial load.



1. $ED = \frac{t_a + t_c + t_d}{t_{cycle}} \times 100\%$, $t_{work} = t_a + t_c + t_d$
下表说明: a. 加速, c. 等速, d. 减速, p. 停止
Index: a. Acceleration, c. Constant, d. Deceleration, p. Pause
(Eq.1)

2. $i \cong \frac{n_m}{n_{work}}$
 n_m 马达输出速度 Output Speed of the Motor
 n_{work} 实际应用速度 Working Speed
(Eq.2)

3. $T_{2m} = \sqrt[3]{\frac{n_{2a} \times t_a \times T_{2a}^3 + n_{2c} \times t_c \times T_{2c}^3 + n_{2d} \times t_d \times T_{2d}^3}{n_{2a} \times t_a + n_{2c} \times t_c + n_{2d} \times t_d}}$
(Eq.3)

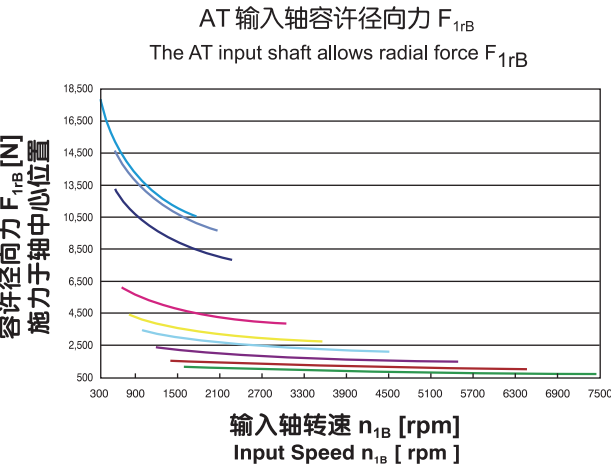
4. $T_{2max} = T_{mB} \times i \times K_s \times \eta$
 K_s 负载系数 where K_s is

K_s	周期次数 / 小时
1.0	0~1,000
1.1	1,000 ~ 1,500
1.3	1,500 ~ 2,000
1.6	2,000 ~ 3,000
1.8	3,000 ~ 5,000
2.0	5,000 ~ 9,000
2.05	9,000 ~ 10,000
not recommended	above 10,000

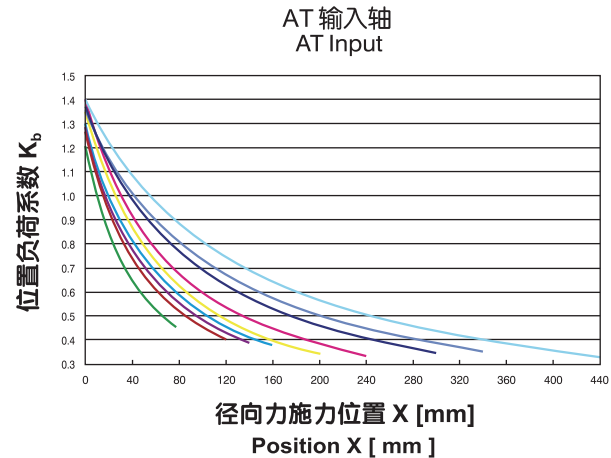
T_{mB} 马达最大输出扭矩 Max. Output Torque of the Motor
 η 减速机运转效率 Efficiency of the Gearbox
(Eq.4)

5. $n_{2a} = n_{2d} \times \frac{1}{2} \times n_{2c}$
 $n_{2m} = \frac{n_{2a} \times t_a + n_{2c} \times t_c + n_{2d} \times t_d}{\frac{1}{2} t_a + t_c + t_d}$
 $n_{2N} = \frac{n_{1N}}{i}$
(Eq.5)

6. $F_{2rm} = \sqrt[3]{\frac{n_{2a} \times t_a \times F_{2ra}^3 + n_{2c} \times t_c \times F_{2rc}^3 + n_{2d} \times t_d \times F_{2rd}^3}{n_{2a} \times t_a + n_{2c} \times t_c + n_{2d} \times t_d}}$
 $F_{2am} = \sqrt[3]{\frac{n_{2a} \times t_a \times F_{2aa}^3 + n_{2c} \times t_c \times F_{2ac}^3 + n_{2d} \times t_d \times F_{2ad}^3}{n_{2a} \times t_a + n_{2c} \times t_c + n_{2d} \times t_d}}$
(Eq.6)



当径向力 F_{2r} 施力于轴中心位置即 $X=1/2 \times L$ 时。If radial force F is exert on the center of the output shaft $X=1/2 \times L$. 不同规格之减速机在不同输出转速运用下，使用寿命为 20,000hr 时。Under various operating condition the lifetime is over 20,000 hours. 所能承受之容许径向力 F_{2rB} ，请参照左图。 The permitted radial load is given on left diagram.



当径向力 F_{2r} 施力不在轴中心位置时，越靠近减速机即 $X < 1/2 \times L$ 时，所能承受之容许径向力变大，越远离减速机即 $X > 1/2 \times L$ 时，所能承受之容许径向力则变小，借由左图，依减速机规格及径向力施力位置 X ，查出位置负荷系数 K_b 。
If radial force F_{2r} is not exert on the center of the output shaft $X < 1/2 \times L$ or $X > 1/2 \times L$. The permitted radial and axial loads can be calculated by the position load factor K_b on the left diagram.

