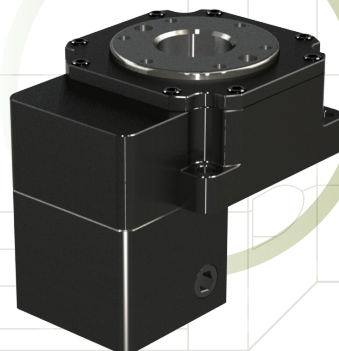
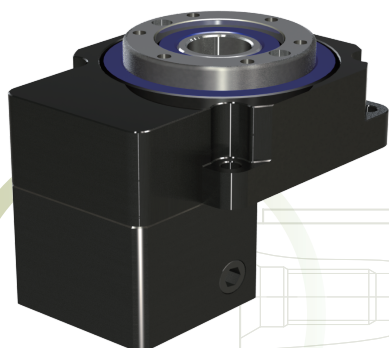
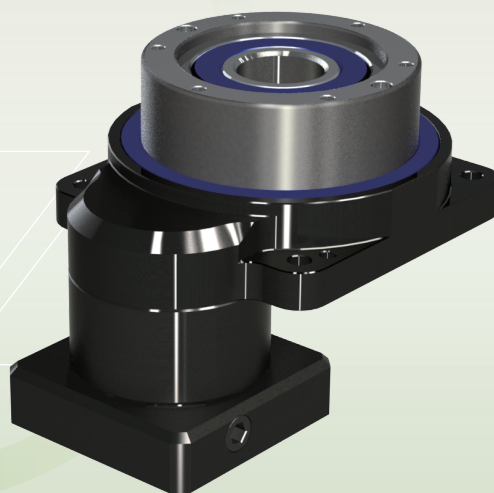
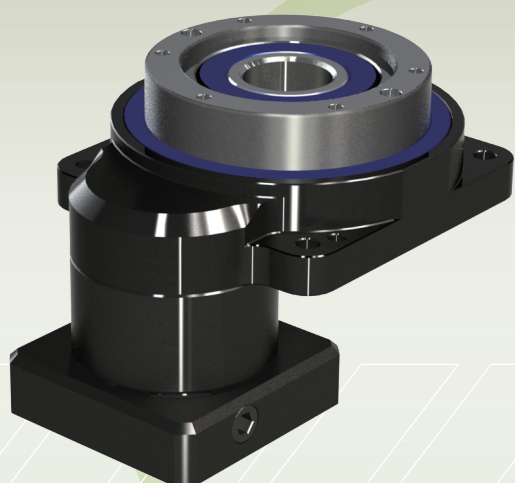




[2014]

Hollow Rotary Reducers 高精密中空旋轉平台減速機

GT Series



【 傳動裝置的解決方案 / 減速機的領導品牌 】

LI MING MACHINERY CO., LTD.

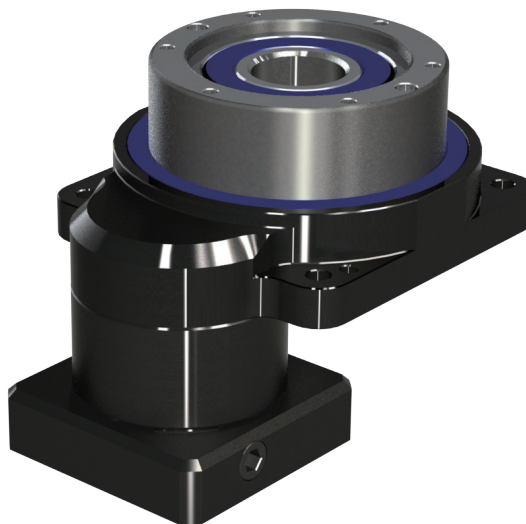


GT Series

Indication of Model Numbers

機種型號表示

GT	60	B	10	MOTOR
減速機機型 Type	型號 Model	輸出平台支撐軸承 Output Table Supporting Bearing	速比 Ratio	馬達型號 Motor Type
GT	60 85 110 135 200	B: 深溝滾珠軸承 Ball Bearing C: 交叉斜角滾柱軸承 Crossed Roller Bearing	5, 10, 18 25, 50, 100	



靜音

使用研磨等級螺旋齒輪實現順暢安靜地運轉。

Quiet operation

Grinding spiral bevel gear & Helical gears contribute to reduce vibration and noise.

高剛性、高扭矩

使用交叉斜角滾柱軸承，提高了剛性和扭矩。

High Rigidity & High Torque

High rigidity & high torque are achieved by crossed roller bearings.

高效率

效率在 95% 以上。

High Efficiency

Efficiency exceeds 95%.



Characteristic of GT Series

GT 系列產品特性

彈性電機連接

可搭配各廠牌伺服或步進電機。

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。

Flexible Motor Connection

The modular design of motor connection plate is suitable for any brand servomotor and stepmotor.

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 high speed.

軸承

採用高精度交叉斜角滾柱軸承，體積小、結構緊湊，可同時承載徑向及軸向負荷。在軸向負荷較小的應用場合，亦可選用滾珠軸承。

直接連結

轉盤面可與承載物直接鎖固。

Direct Mounting of Workpiece

The rotating table allows for direct mounting of workpiece for added convenience in workpiece loading.

螺旋齒輪設計

減速機構採用螺旋齒輪設計，齒形嚙合率為一般正齒輪的二倍以上，具有運轉平順、低噪音、高輸出扭矩和低背隙的特性。

Helical Gear Design

The speed reduction mechanism employs helical gears, which provides two times meshing rate of teeth when comparing with regular spur gears. In addition, it also Specification extremely smooth running, low noise, high torque output and low backlash.

高精度定位

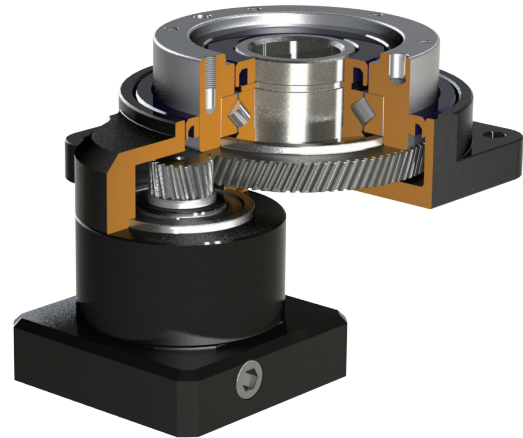
重覆定位精度 $\pm 5 \text{ sec}$

定位精度 $< 1 \text{ Arc/min}$

High Accuracy

Positioning accuracy is less than 1 Arc/min .

Repeatability may reach $\pm 5 \text{ sec}$



中空結構

配管、配線便利

Hollow Structure Design

Make it convenient for electric wiring or piping work.



高精度加工

旋轉盤本體使用鋁合金材料，經高精度 CNC 加工，及檢測設備，確保各部之精密度。

齒輪經滲碳熱處理及齒輪研磨，精密度達 DIN6 級以內，齒面硬度達 HRC58~60 度。

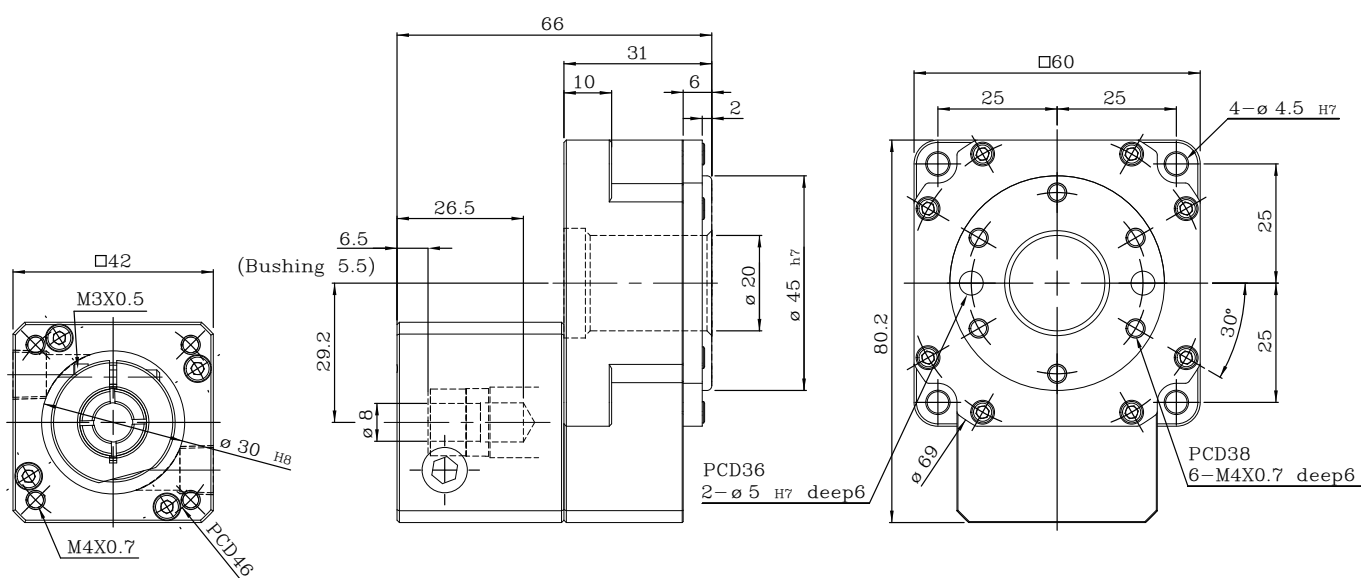
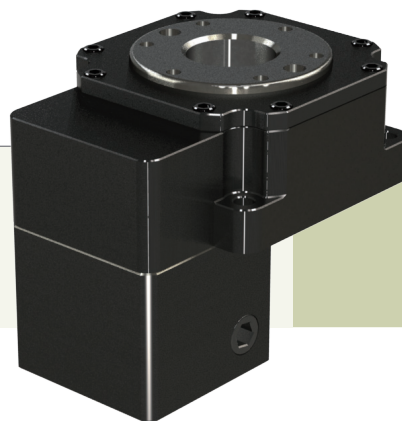
High Precision Gear Machining

The housing of reducer is made by aluminum alloy, and precision machining by CNC machine.

Precision teeth grinding assures gear accuracy reaches DIN6 class and carburized to hardness 58-60 HRC.

MODEL : GT-60B

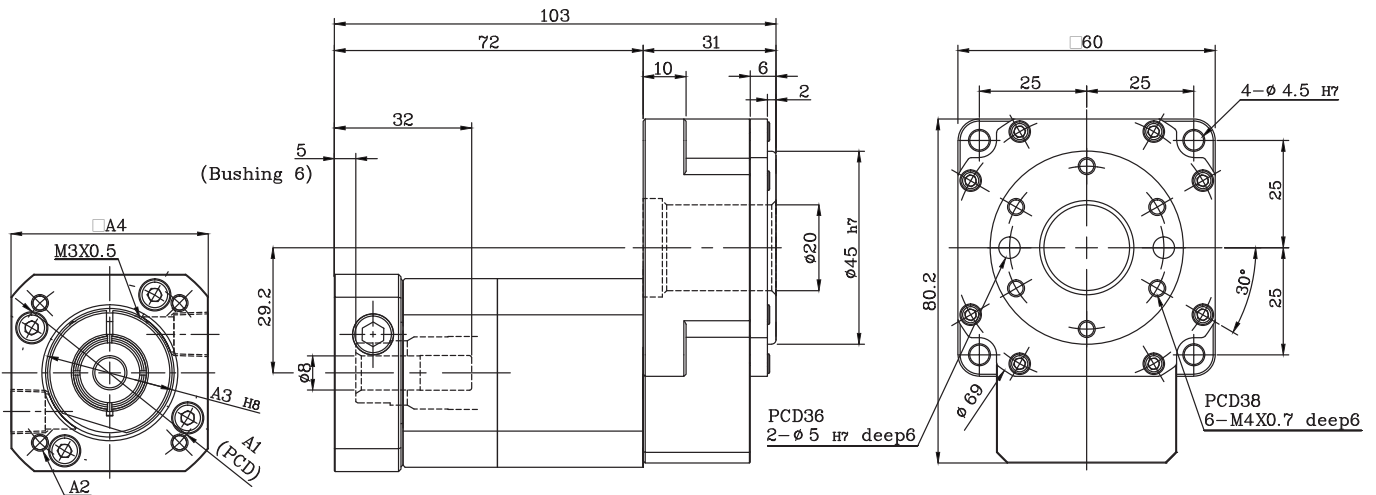
RATIO : 5.10.18 (單段 1-Stage)



特性 Characteristic	代號	單位 Unit	GT-60B
輸出平台支撐軸承 / Output Table Supporting Bearing			深溝滾珠軸承 Ball Bearing
額定輸出扭矩 / Rated Output Torque		N.m	5
最大輸出扭矩 / Max. Output Torque 急停扭矩 / Emergency Stop Torque	T_{2NOT}	N.m	3 倍額定輸出扭矩 3 Time of Rated Output Torque
出力容許轉速 / Output Permissible Speed		rpm	300
背隙 / Backlash		arcmin	≤ 1
容許載重 / Permissible Thrust Load		N	350
工作台面偏擺 / Runout of Output Table Surface		mm	0.01
工作台同心度 / Runout of Output Table Inner / Outer Diameter		mm	0.01
重量 / Weight		Kg	0.54

MODEL : GT-60B

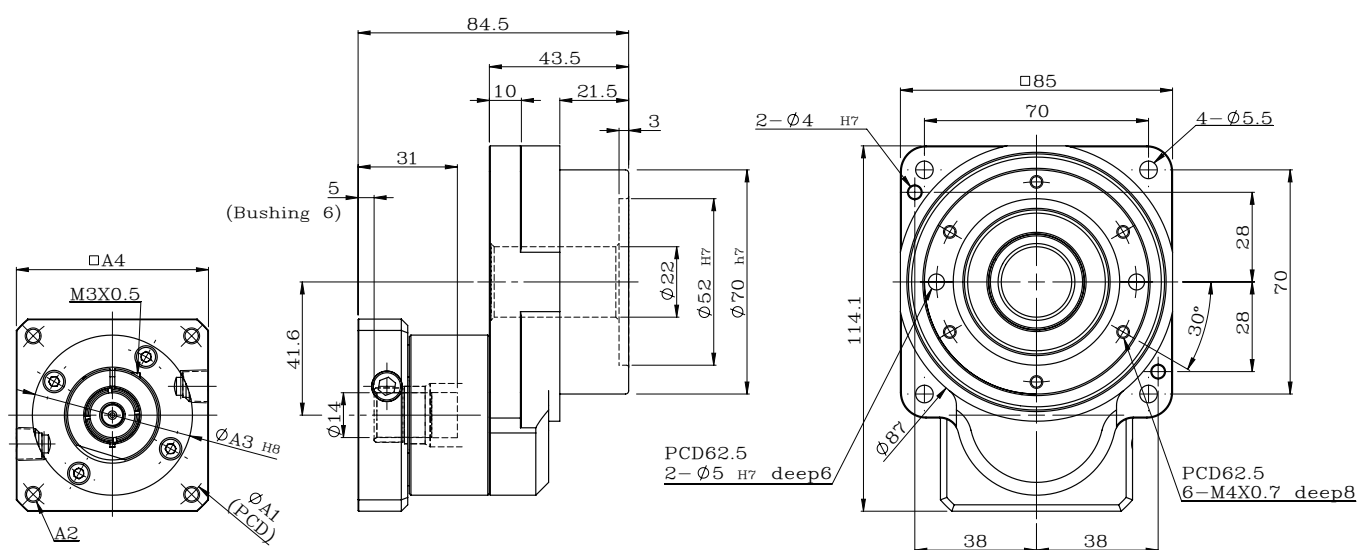
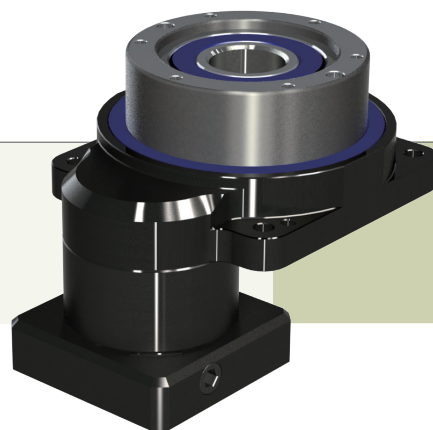
RATIO : 25.50.100 (雙段 2-Stage)



特性 Characteristic	代號	單位 Unit	GT-60B
輸出平台支撐軸承 / Output Table Supporting Bearing			深溝滾珠軸承 Ball Bearing
額定輸出扭矩 / Rated Output Torque		N.m	5
最大輸出扭矩 / Max. Output Torque 急停扭矩 / Emergency Stop Torque	T_{2NOT}	N.m	3 倍額定輸出扭矩 3 Time of Rated Output Torque
出力容許轉速 / Output Permissible Speed		rpm	300
背隙 / Backlash		arcmin	≤ 1
容許載重 / Permissible Thrust Load		N	350
工作台面偏擺 / Runout of Output Table Surface		mm	0.01
工作台同心度 / Runout of Output Table Inner / Outer Diameter		mm	0.01
重量 / Weight		Kg	

MODEL : GT-85B

RATIO : 5.10.18 (單段 1-Stage)



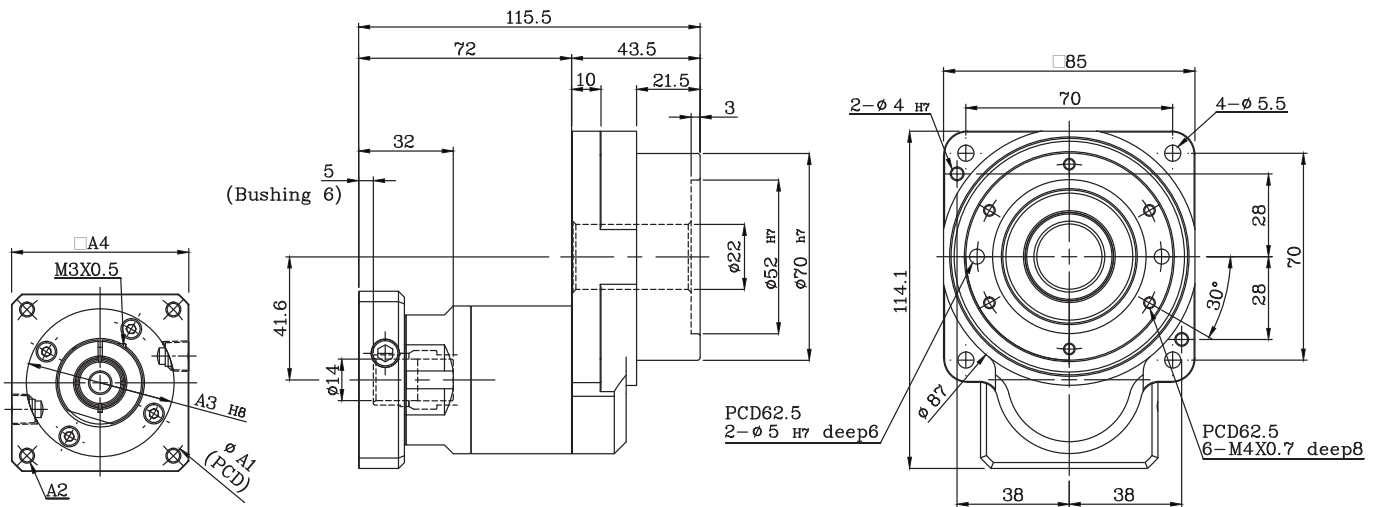
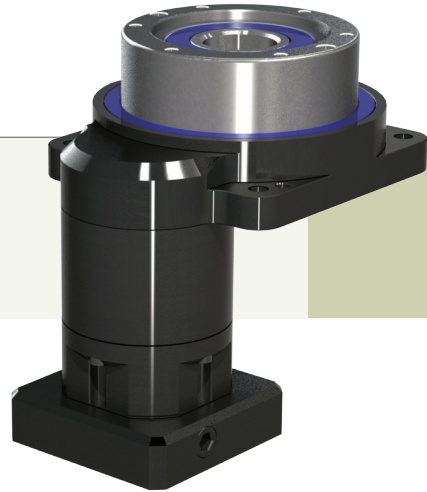
Unit: mm

Model Code	85
A1	46、63、60
A2	M3、M4、M5
A3	30、40、50
A4	46、55

特性 Characteristic	代號	單位 Unit	GT-85B
輸出平台支撐軸承 / Output Table Supporting Bearing			深溝滾珠軸承 Ball Bearing
額定輸出扭矩 / Rated Output Torque		N.m	18
最大輸出扭矩 / Max. Output Torque 急停扭矩 / Emergency Stop Torque	T_{2NOT}	N.m	3 倍額定輸出扭矩 3 Time of Rated Output Torque
出力容許轉速 / Output Permissible Speed		rpm	300
背隙 / Backlash		arcmin	≤ 1
容許載重 / Permissible Thrust Load		N	600
工作台面偏擺 / Runout of Output Table Surface		mm	0.01
工作台同心度 / Runout of Output Table Inner / Outer Diameter		mm	0.01
重量 / Weight		Kg	1.17

MODEL : GT-85B

RATIO : 25.50.100 (雙段 2-Stage)



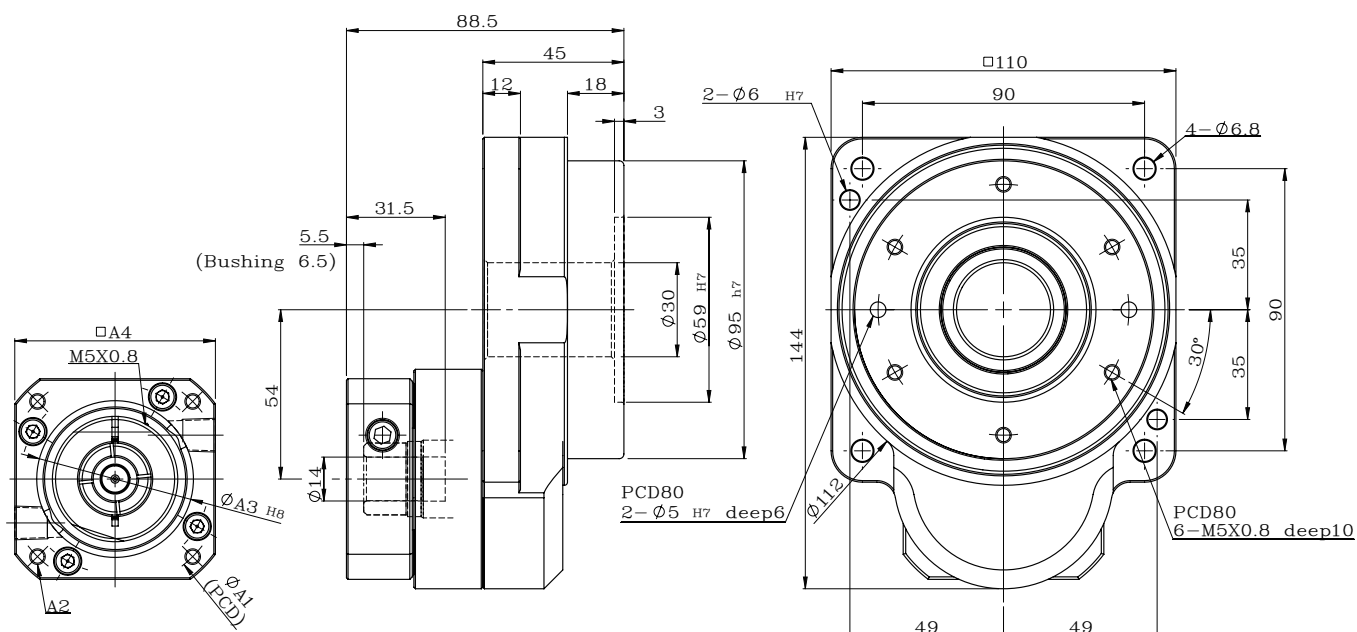
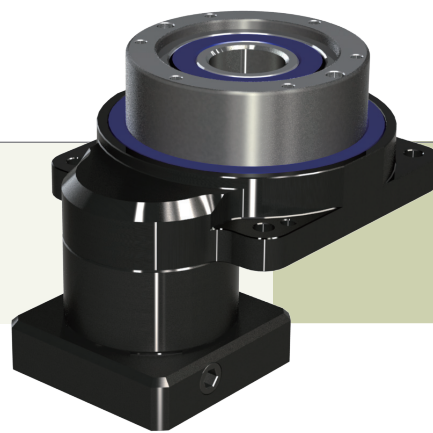
Unit: mm

Model Code	85
A1	46、63、60
A2	M3、M4、M5
A3	30、40、50
A4	46、55

特性 Characteristic	代號	單位 Unit	GT-85B
輸出平台支撐軸承 / Output Table Supporting Bearing			深溝滾珠軸承 Ball Bearing
額定輸出扭矩 / Rated Output Torque		N.m	18
最大輸出扭矩 / Max. Output Torque 急停扭矩 / Emergency Stop Torque	T_{2NOT}	N.m	3 倍額定輸出扭矩 3 Time of Rated Output Torque
出力容許轉速 / Output Permissible Speed		rpm	300
背隙 / Backlash		arcmin	≤ 1
容許載重 / Permissible Thrust Load		N	600
工作台面偏擺 / Runout of Output Table Surface		mm	0.01
工作台同心度 / Runout of Output Table Inner / Outer Diameter		mm	0.01
重量 / Weight		Kg	

MODEL : GT-110B

RATIO : 5.10.18 (單段 1-Stage)



Unit: mm

Model Code	110
A1	70 · 75 · 90
A2	M4 · M5 · M6
A3	50 · 60 · 70
A4	64 · 70 · 80

特性 Characteristic	代號	單位 Unit	GT-110B
輸出平台支撐軸承 / Output Table Supporting Bearing			深溝滾珠軸承 Ball Bearing
額定輸出扭矩 / Rated Output Torque		N.m	33
最大輸出扭矩 / Max. Output Torque 急停扭矩 / Emergency Stop Torque	T_{2NOT}	N.m	3 倍額定輸出扭矩 3 Time of Rated Output Torque
出力容許轉速 / Output Permissible Speed		rpm	300
背隙 / Backlash		arcmin	≤ 1
容許載重 / Permissible Thrust Load		N	800
工作台面偏擺 / Runout of Output Table Surface		mm	0.015
工作台同心度 / Runout of Output Table Inner / Outer Diameter		mm	0.015
重量 / Weight		Kg	2.54

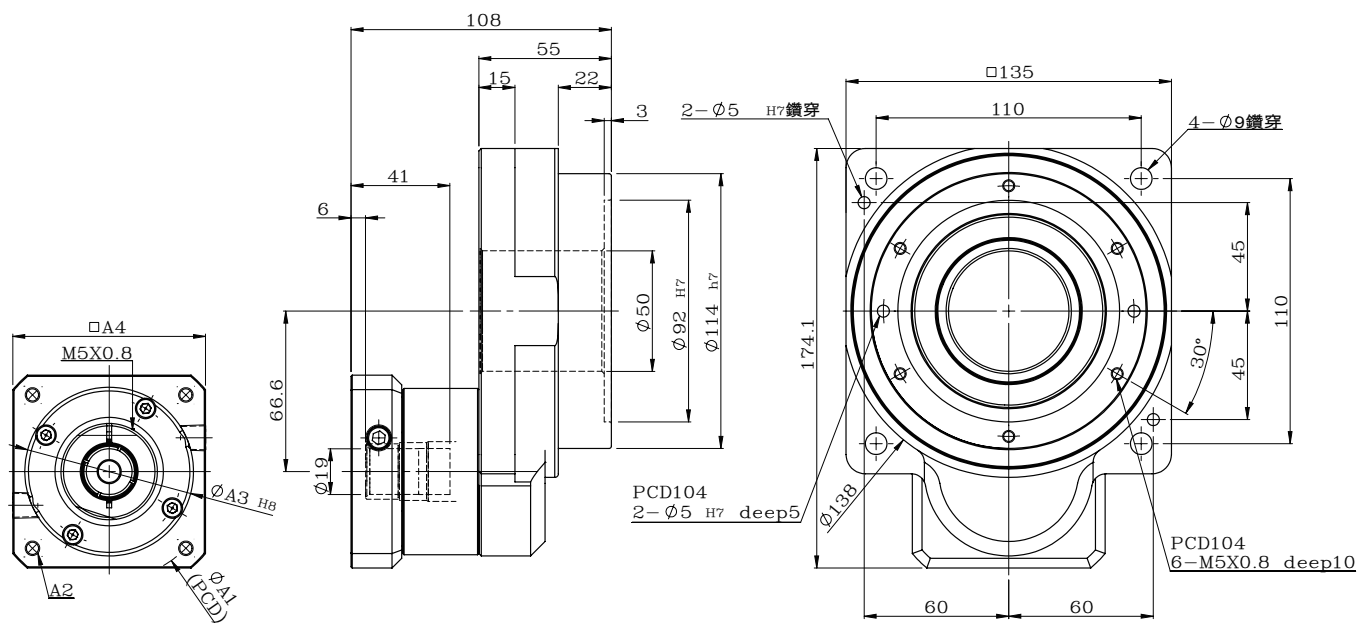
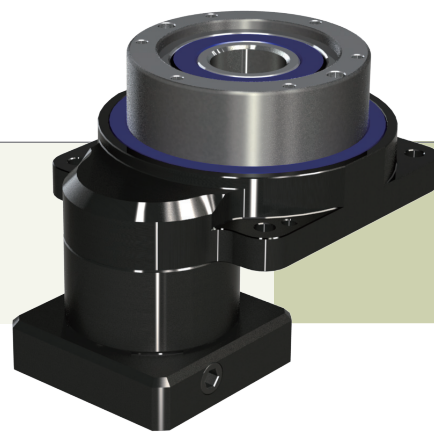
RATIO : 25.50.100 (雙段 2-Stage)



特性 Characteristic	代號	單位 Unit	GT-110B
輸出平台支撐軸承 / Output Table Supporting Bearing			深溝滾珠軸承 Ball Bearing
額定輸出扭矩 / Rated Output Torque		N.m	33
最大輸出扭矩 / Max. Output Torque 急停扭矩 / Emergency Stop Torque	T_{2NOT}	N.m	3 倍額定輸出扭矩 3 Time of Rated Output Torque
出力容許轉速 / Output Permissible Speed		rpm	300
背隙 / Backlash		arcmin	≤ 1
容許載重 / Permissible Thrust Load		N	800
工作台面偏擺 / Runout of Output Table Surface		mm	0.015
工作台同心度 / Runout of Output Table Inner / Outer Diameter		mm	0.015
重量 / Weight		Kg	

MODEL : GT-135B

RATIO : 5.10.18 (單段 1-Stage)



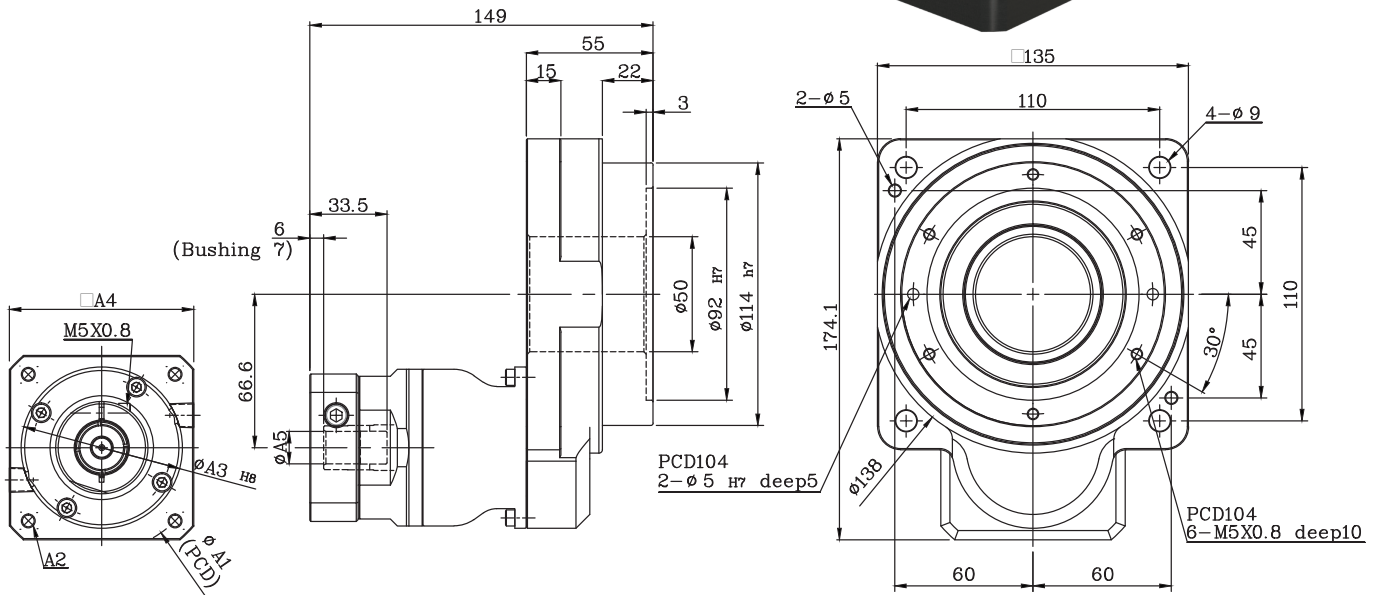
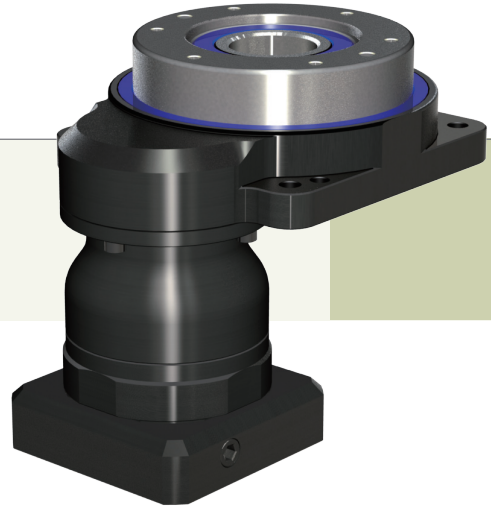
Unit: mm

Model Code	135
A1	70 · 75 · 90
A2	M4 · M5 · M6
A3	50 · 60 · 70
A4	64 · 70 · 80

特性 Characteristic	代號	單位 Unit	GT-135B
輸出平台支撐軸承 / Output Table Supporting Bearing			深溝滾珠軸承 Ball Bearing
額定輸出扭矩 / Rated Output Torque		N.m	43
最大輸出扭矩 / Max. Output Torque 急停扭矩 / Emergency Stop Torque	T_{2NOT}	N.m	3 倍額定輸出扭矩 3 Time of Rated Output Torque
出力容許轉速 / Output Permissible Speed		rpm	300
背隙 / Backlash		arcmin	≤ 1
容許載重 / Permissible Thrust Load		N	1,450
工作台面偏擺 / Runout of Output Table Surface		mm	0.015
工作台同心度 / Runout of Output Table Inner / Outer Diameter		mm	0.015
重量 / Weight		Kg	3.83

MODEL : GT-135B

RATIO : 25.50.100 (雙段 2-Stage)

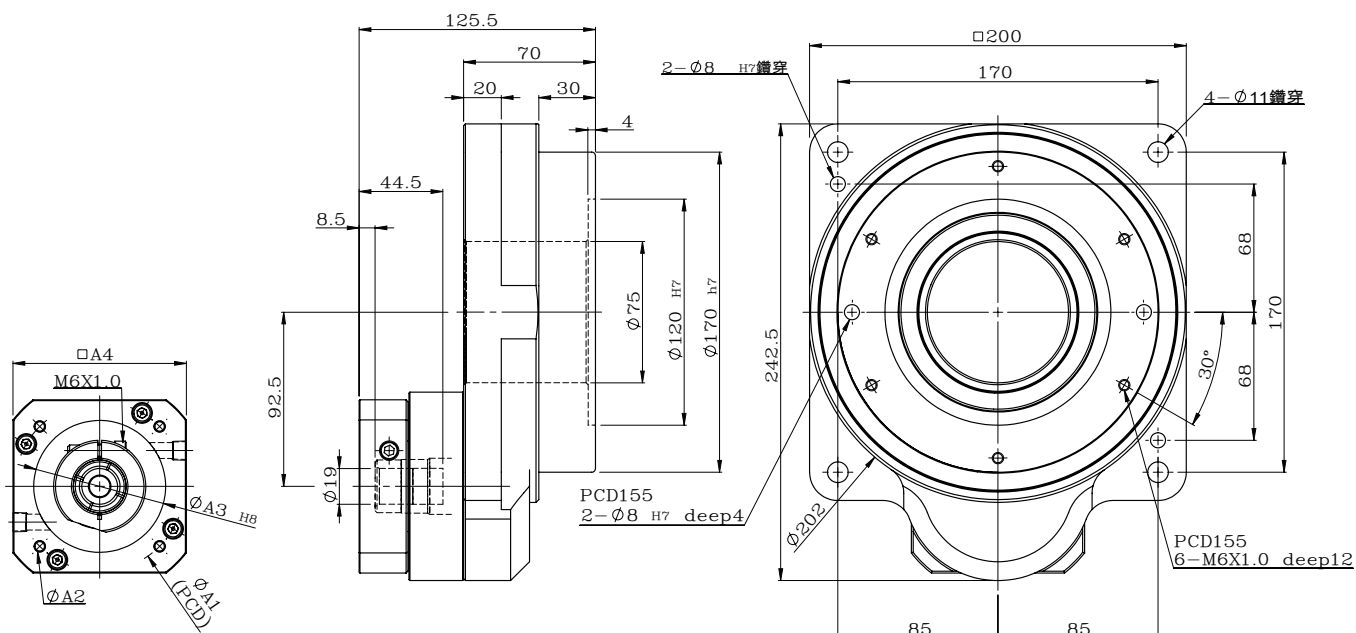
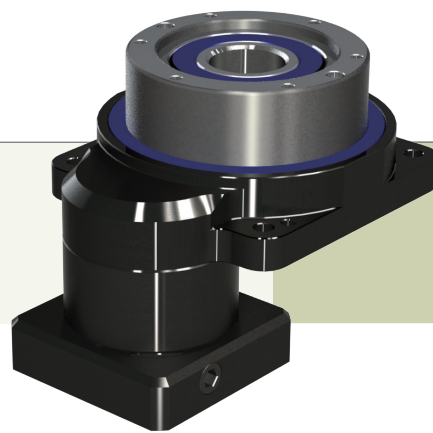


Unit: mm

Model Code	135
A1	70 · 75 · 90
A2	M4 · M5 · M6
A3	50 · 60 · 70
A4	64 · 70 · 80
A5	14 · 19

特性 Characteristic	代號	單位 Unit	GT-135B
輸出平台支撐軸承 / Output Table Supporting Bearing			深溝滾珠軸承 Ball Bearing
額定輸出扭矩 / Rated Output Torque		N.m	43
最大輸出扭矩 / Max. Output Torque 急停扭矩 / Emergency Stop Torque	T_{2NOT}	N.m	3 倍額定輸出扭矩 3 Time of Rated Output Torque
出力容許轉速 / Output Permissible Speed		rpm	300
背隙 / Backlash		arcmin	≤ 1
容許載重 / Permissible Thrust Load		N	1,450
工作台面偏擺 / Runout of Output Table Surface		mm	0.015
工作台同心度 / Runout of Output Table Inner / Outer Diameter		mm	0.015
重量 / Weight		Kg	

RATIO : 5.10.18 (單段 1-Stage)



Model Code	200
A1	90、100、115、145
A2	M5、M6、M8
A3	70、80、95、110
A4	67.5、82

12

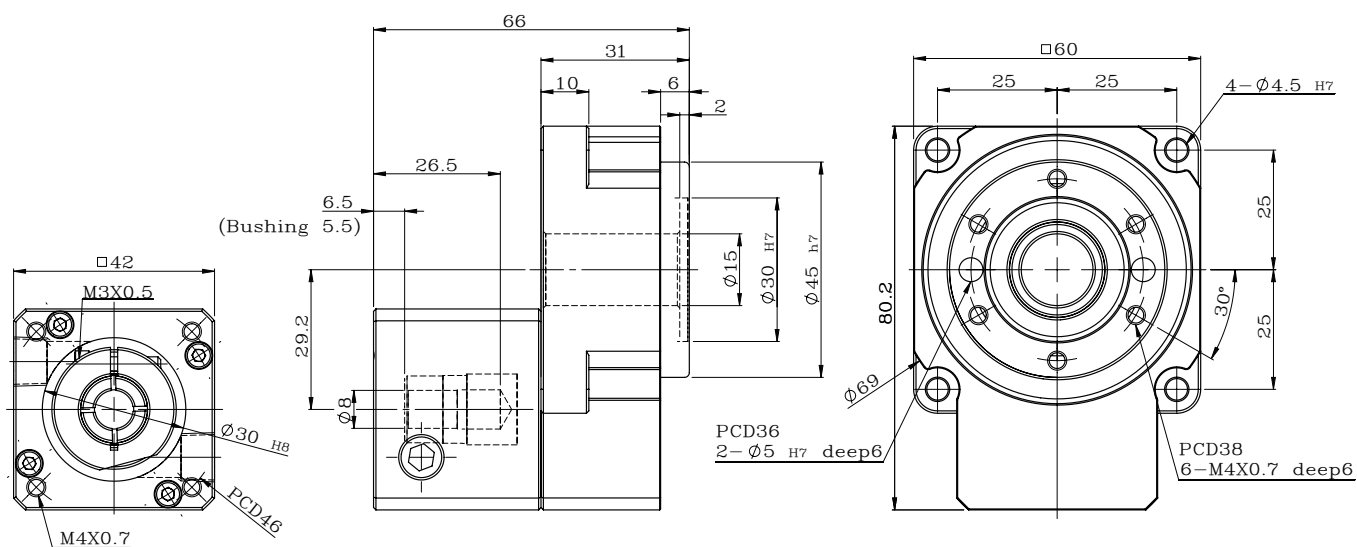
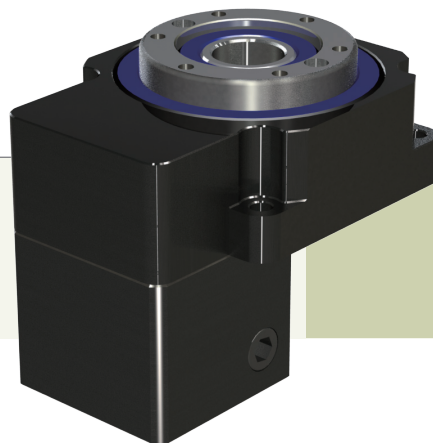
RATIO : 25.50.100 (雙段 2-Stage)



特性 Characteristic	代號	單位 Unit	GT-200B
輸出平台支撐軸承 / Output Table Supporting Bearing			深溝滾珠軸承 Ball Bearing
額定輸出扭矩 / Rated Output Torque		N.m	142
最大輸出扭矩 / Max. Output Torque 急停扭矩 / Emergency Stop Torque	T_{2NOT}	N.m	3 倍額定輸出扭矩 3 Time of Rated Output Torque
出力容許轉速 / Output Permissible Speed		rpm	300
背隙 / Backlash		arcmin	≤ 1
容許載重 / Permissible Thrust Load		N	2,500
工作台面偏擺 / Runout of Output Table Surface		mm	0.02
工作台同心度 / Runout of Output Table Inner / Outer Diameter		mm	0.02
重量 / Weight		Kg	

MODEL : GT-60C

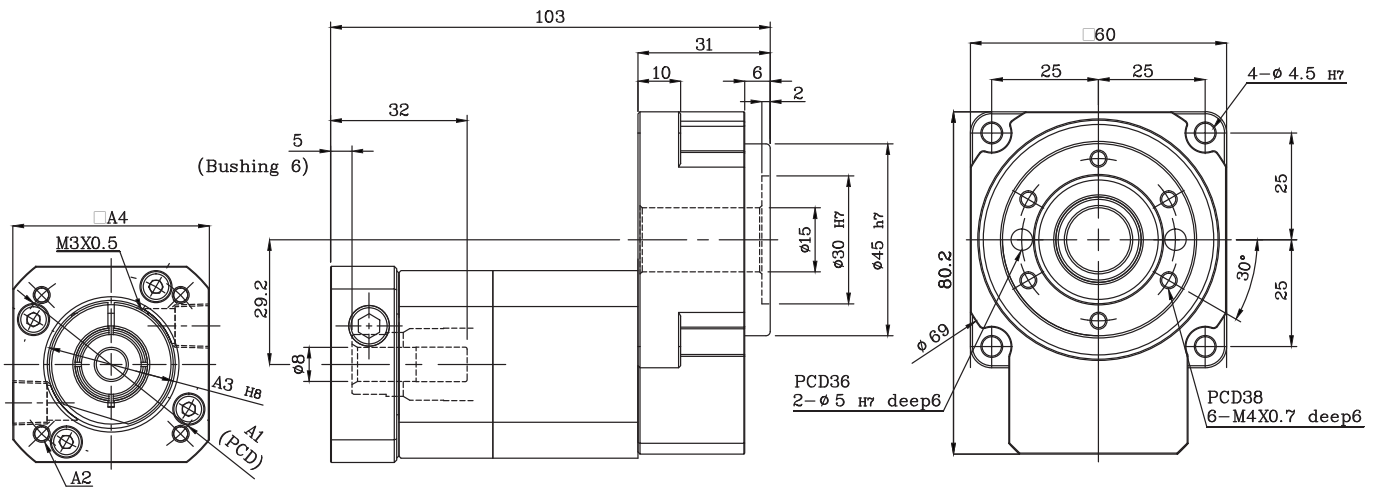
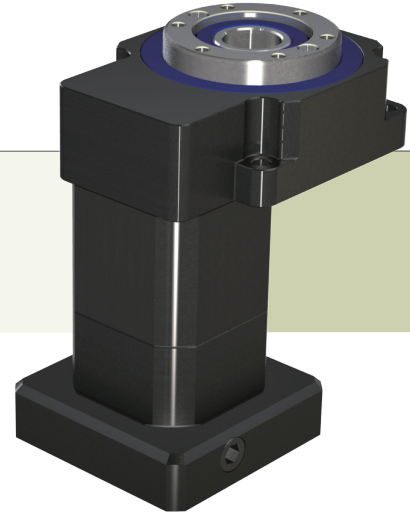
RATIO : 5.10.18 (單段 1-Stage)



特性 Characteristic	代號	單位 Unit	GT-60C
輸出平台支撐軸承 / Output Table Supporting Bearing			交叉斜角滾柱軸承 Crossed Roller Bearing
額定輸出扭矩 / Rated Output Torque		N.m	5
最大輸出扭矩 / Max. Output Torque 急停扭矩 / Emergency Stop Torque	T_{2NOT}	N.m	3 倍額定輸出扭矩 3 Time of Rated Output Torque
出力容許轉速 / Output Permissible Speed		rpm	200
背隙 / Backlash		arcmin	≤ 1
容許載重 / Permissible Thrust Load		N	500
工作台面偏擺 / Runout of Output Table Surface		mm	0.01
工作台同心度 / Runout of Output Table Inner / Outer Diameter		mm	0.01
重量 / Weight		Kg	0.62

MODEL : GT-60C

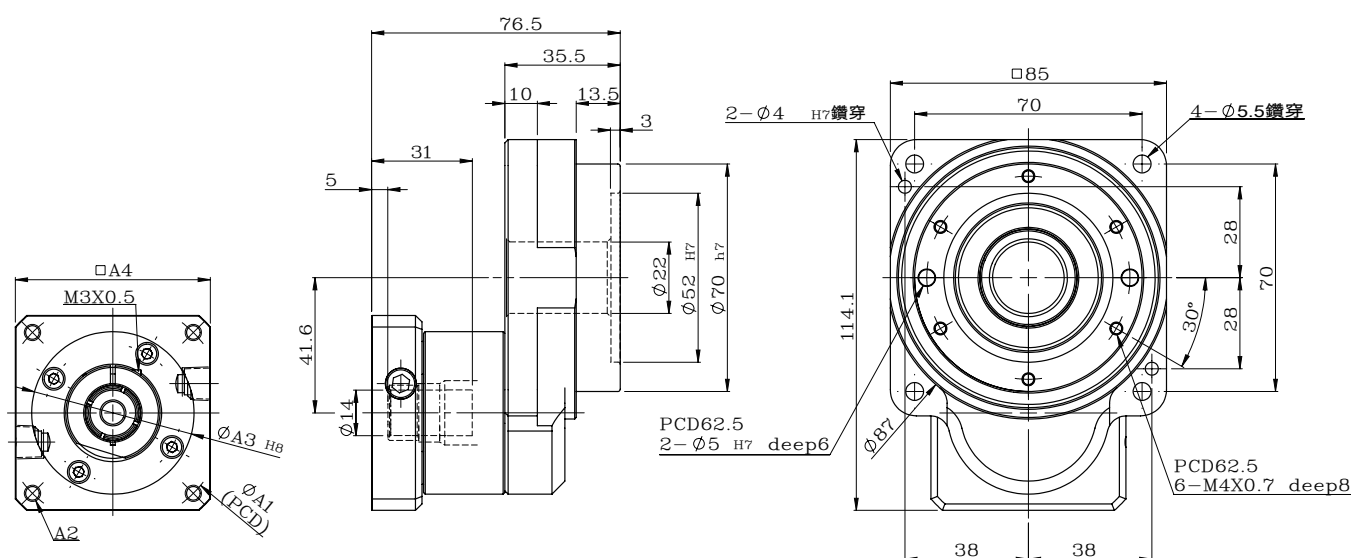
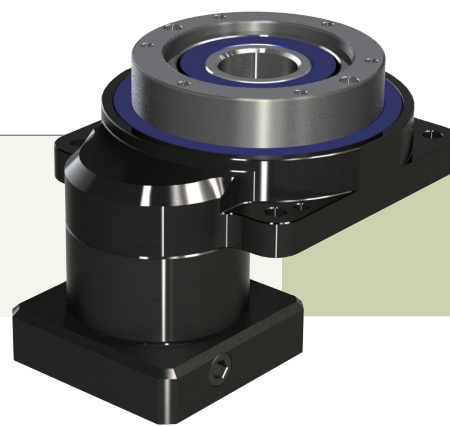
RATIO : 25.50.100 (雙段 2-Stage)



特性 Characteristic	代號	單位 Unit	GT-60C
輸出平台支撐軸承 / Output Table Supporting Bearing			交叉斜角滾柱軸承 Crossed Roller Bearing
額定輸出扭矩 / Rated Output Torque		N.m	5
最大輸出扭矩 / Max. Output Torque 急停扭矩 / Emergency Stop Torque	T_{2NOT}	N.m	3 倍額定輸出扭矩 3 Time of Rated Output Torque
出力容許轉速 / Output Permissible Speed		rpm	200
背隙 / Backlash		arcmin	≤ 1
容許載重 / Permissible Thrust Load		N	500
工作台面偏擺 / Runout of Output Table Surface		mm	0.01
工作台同心度 / Runout of Output Table Inner / Outer Diameter		mm	0.01
重量 / Weight		Kg	

MODEL : GT-85C

RATIO : 5.10.18 (單段 1-Stage)

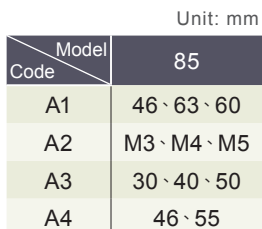


Unit: mm

Model Code	85
A1	46・63・60
A2	M3・M4・M5
A3	30・40・50
A4	46・55

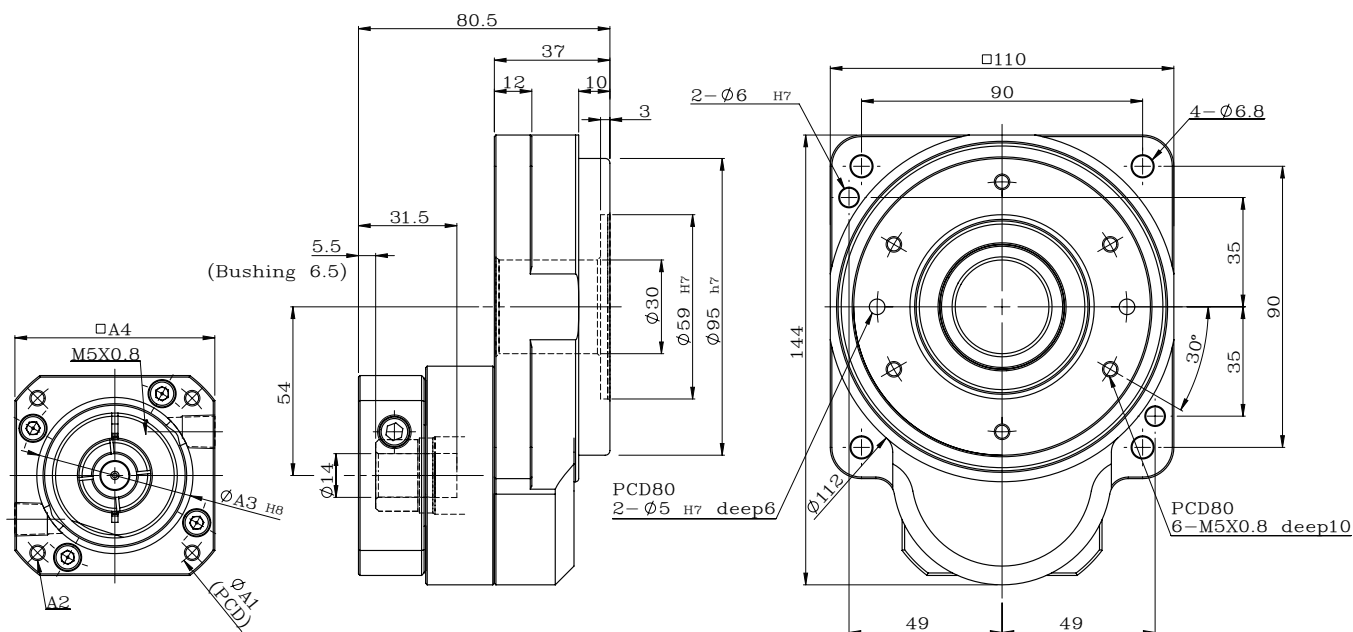
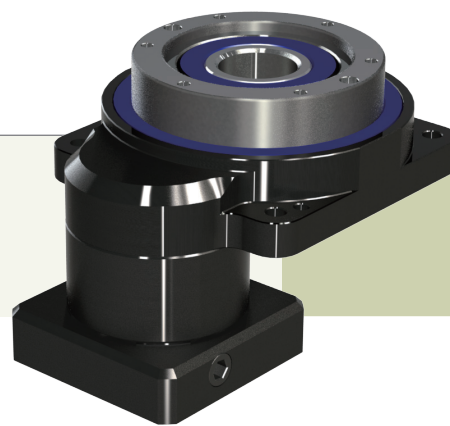
特性 Characteristic	代號	單位 Unit	GT-85C
輸出平台支撐軸承 / Output Table Supporting Bearing			交叉斜角滾柱軸承 Crossed Roller Bearing
額定輸出扭矩 / Rated Output Torque		N.m	18
最大輸出扭矩 / Max. Output Torque 急停扭矩 / Emergency Stop Torque	T_{2NOT}	N.m	3 倍額定輸出扭矩 3 Time of Rated Output Torque
出力容許轉速 / Output Permissible Speed		rpm	200
背隙 / Backlash		arcmin	≤ 1
容許載重 / Permissible Thrust Load		N	900
工作台面偏擺 / Runout of Output Table Surface		mm	0.01
工作台同心度 / Runout of Output Table Inner / Outer Diameter		mm	0.01
重量 / Weight		Kg	1.1

RATIO : 25.50.100 (雙段 2-Stage)


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MODEL : GT-110C

RATIO : 5.10.18 (單段 1-Stage)



Unit: mm

Model Code	110
A1	70 · 75 · 90
A2	M4 · M5 · M6
A3	50 · 60 · 70
A4	64 · 70 · 80

特性 Characteristic	代號	單位 Unit	GT-110C
輸出平台支撐軸承 / Output Table Supporting Bearing			交叉斜角滾柱軸承 Crossed Roller Bearing
額定輸出扭矩 / Rated Output Torque		N.m	33
最大輸出扭矩 / Max. Output Torque 急停扭矩 / Emergency Stop Torque	T_{2NOT}	N.m	3 倍額定輸出扭矩 3 Time of Rated Output Torque
出力容許轉速 / Output Permissible Speed		rpm	200
背隙 / Backlash		arcmin	≤ 1
容許載重 / Permissible Thrust Load		N	1,200
工作台面偏擺 / Runout of Output Table Surface		mm	0.015
工作台同心度 / Runout of Output Table Inner / Outer Diameter		mm	0.015
重量 / Weight		Kg	2.04

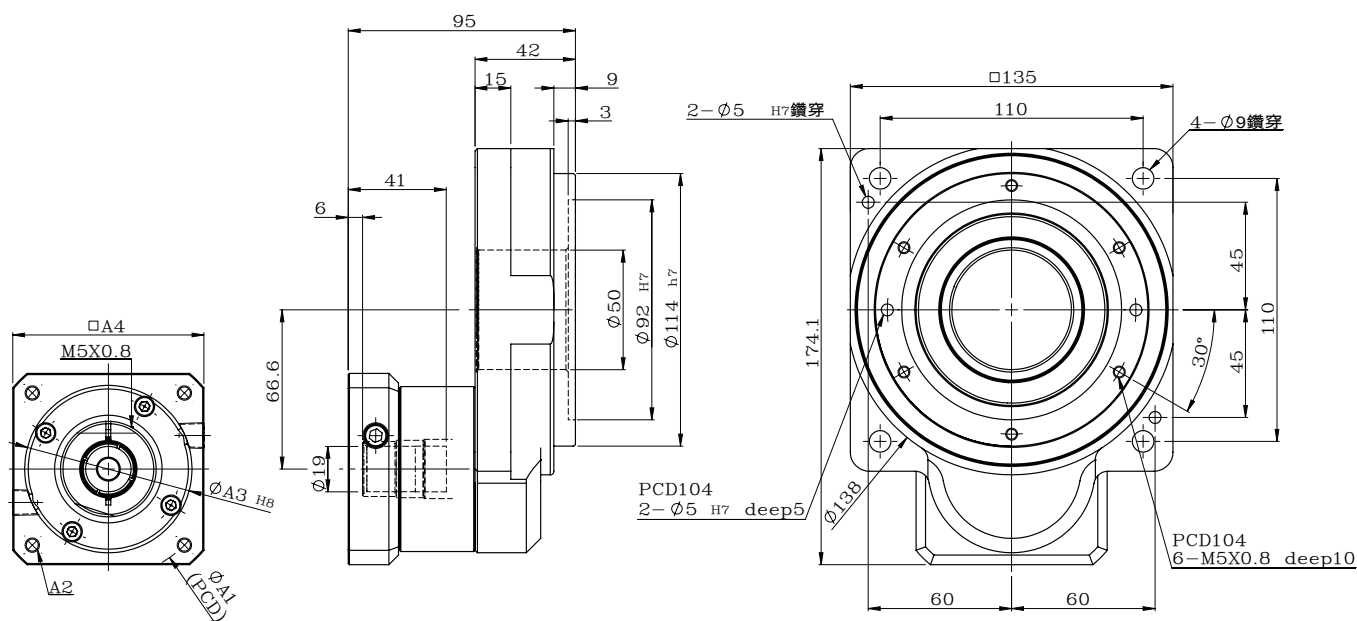
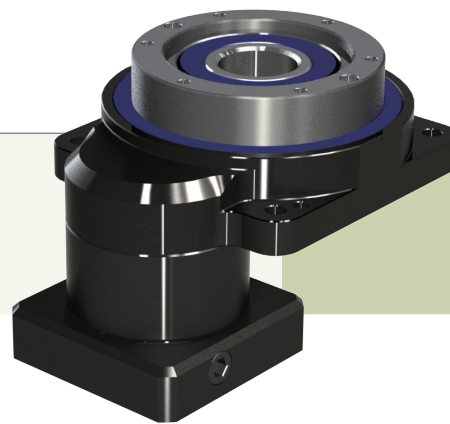
RATIO : 25.50.100 (雙段 2-Stage)



特性 Characteristic	代號	單位 Unit	GT-110C
輸出平台支撐軸承 / Output Table Supporting Bearing			交叉斜角滾柱軸承 Crossed Roller Bearing
額定輸出扭矩 / Rated Output Torque		N.m	33
最大輸出扭矩 / Max. Output Torque 急停扭矩 / Emergency Stop Torque	T_{2NOT}	N.m	3 倍額定輸出扭矩 3 Time of Rated Output Torque
出力容許轉速 / Output Permissible Speed		rpm	200
背隙 / Backlash		arcmin	≤ 1
容許載重 / Permissible Thrust Load		N	1,200
工作台面偏擺 / Runout of Output Table Surface		mm	0.015
工作台同心度 / Runout of Output Table Inner / Outer Diameter		mm	0.015
重量 / Weight		Kg	

MODEL : GT-135C

RATIO : 5.10.18 (單段 1-Stage)



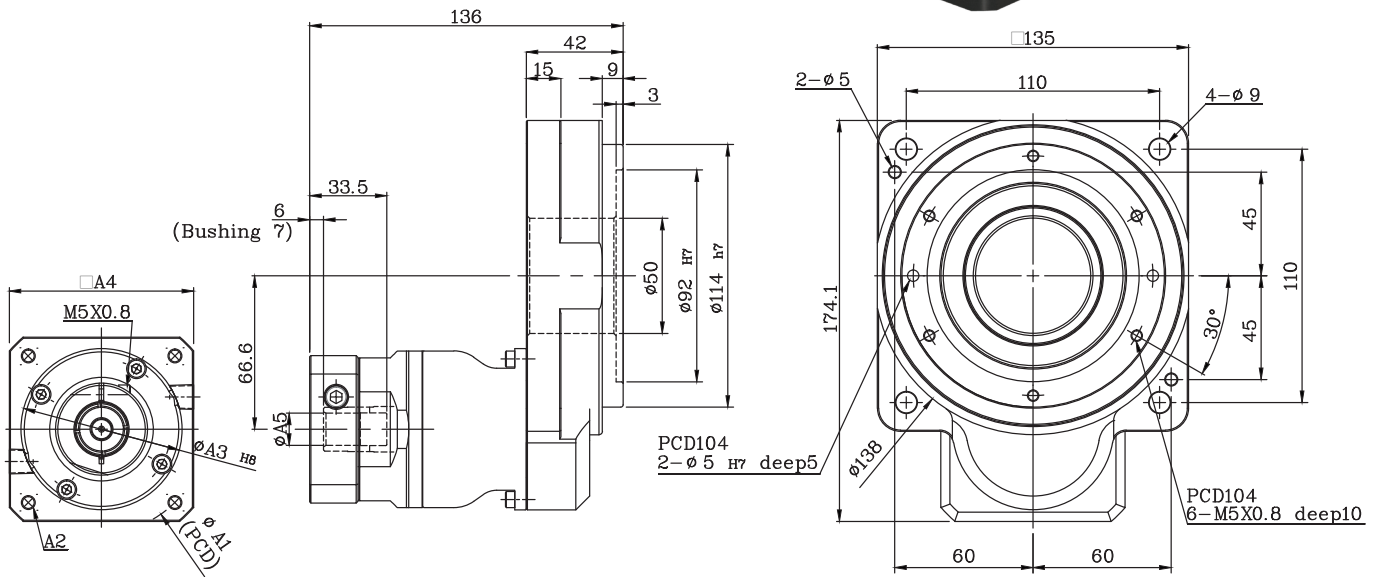
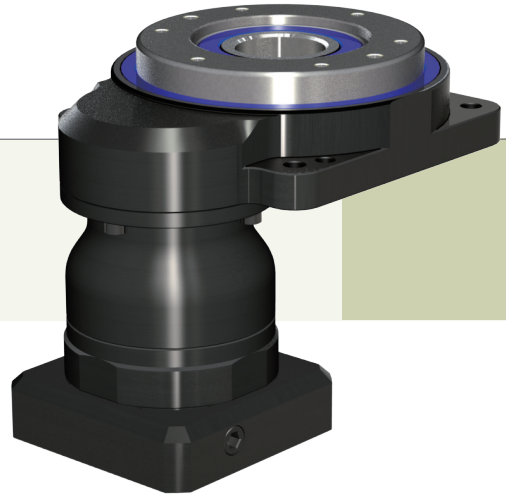
Unit: mm

Model Code	135
A1	70 · 75 · 90
A2	M4 · M5 · M6
A3	50 · 60 · 70
A4	64 · 70 · 80

特性 Characteristic	代號	單位 Unit	GT-135C
輸出平台支撐軸承 / Output Table Supporting Bearing			交叉斜角滾柱軸承 Crossed Roller Bearing
額定輸出扭矩 / Rated Output Torque		N.m	43
最大輸出扭矩 / Max. Output Torque 急停扭矩 / Emergency Stop Torque	T_{2NOT}	N.m	3 倍額定輸出扭矩 3 Time of Rated Output Torque
出力容許轉速 / Output Permissible Speed		rpm	200
背隙 / Backlash		arcmin	≤ 1
容許載重 / Permissible Thrust Load		N	2,200
工作台面偏擺 / Runout of Output Table Surface		mm	0.015
工作台同心度 / Runout of Output Table Inner / Outer Diameter		mm	0.015
重量 / Weight		Kg	3.13

MODEL : GT-135C

RATIO : 25.50.100 (雙段 2-Stage)



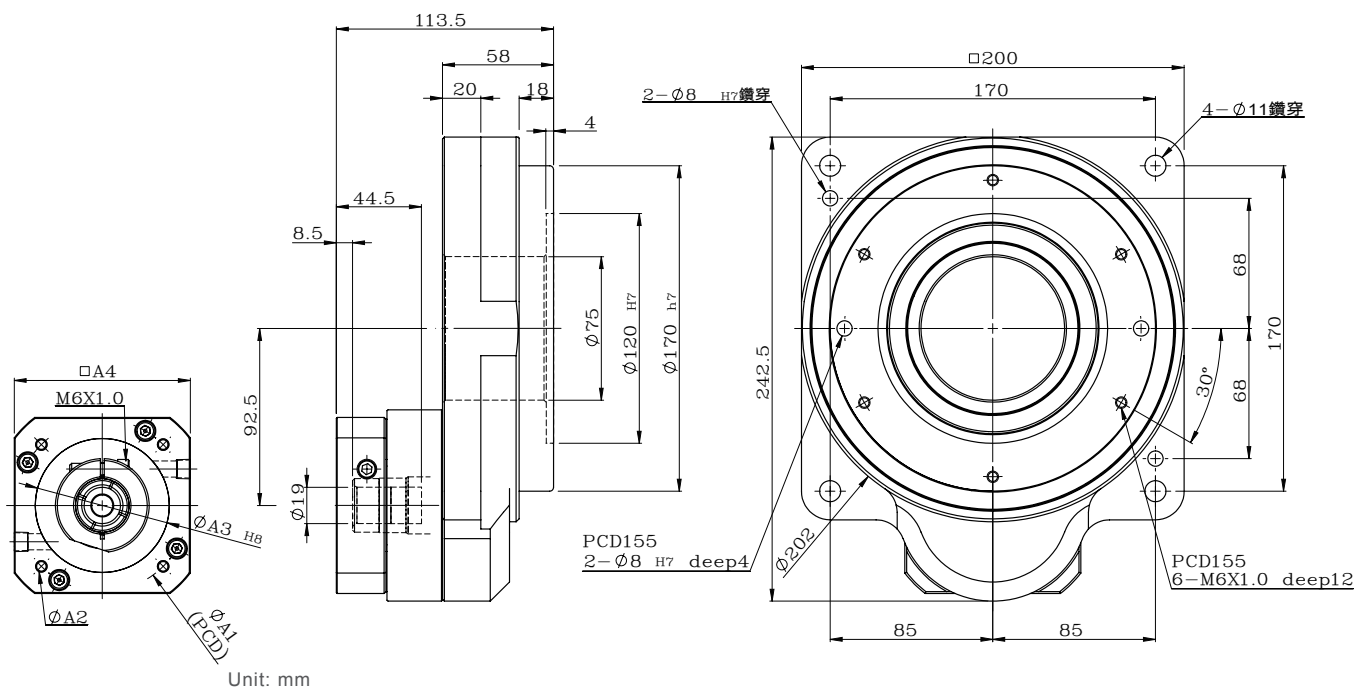
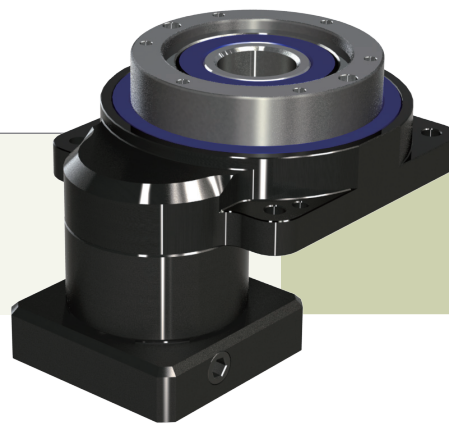
Unit: mm

Model Code	135
A1	70・75・90
A2	M4・M5・M6
A3	50・60・70
A4	64・70・80
A5	14・19

特性 Characteristic	代號	單位 Unit	GT-135C
輸出平台支撐軸承 / Output Table Supporting Bearing			交叉斜角滾柱軸承 Crossed Roller Bearing
額定輸出扭矩 / Rated Output Torque		N.m	43
最大輸出扭矩 / Max. Output Torque 急停扭矩 / Emergency Stop Torque	T_{2NOT}	N.m	3 倍額定輸出扭矩 3 Time of Rated Output Torque
出力容許轉速 / Output Permissible Speed		rpm	200
背隙 / Backlash		arcmin	≤ 1
容許載重 / Permissible Thrust Load		N	2,200
工作台面偏擺 / Runout of Output Table Surface		mm	0.015
工作台同心度 / Runout of Output Table Inner / Outer Diameter		mm	0.015
重量 / Weight		Kg	

MODEL : GT-200C

RATIO : 5.10.18 (單段 1-Stage)

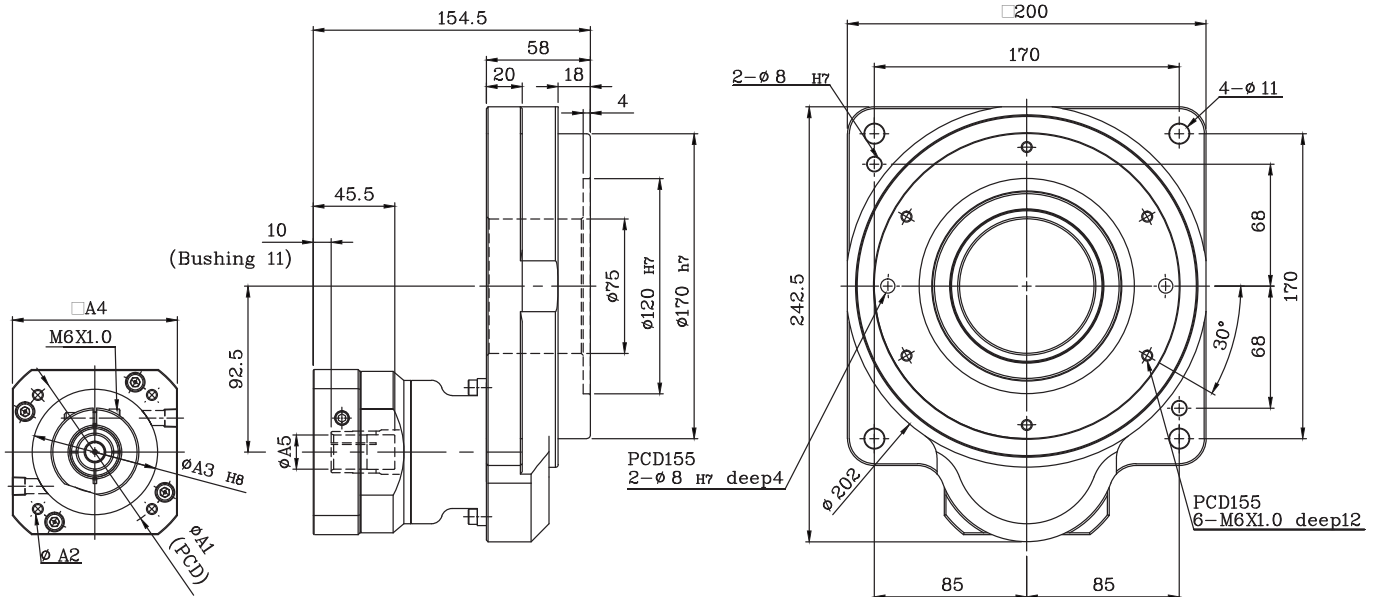
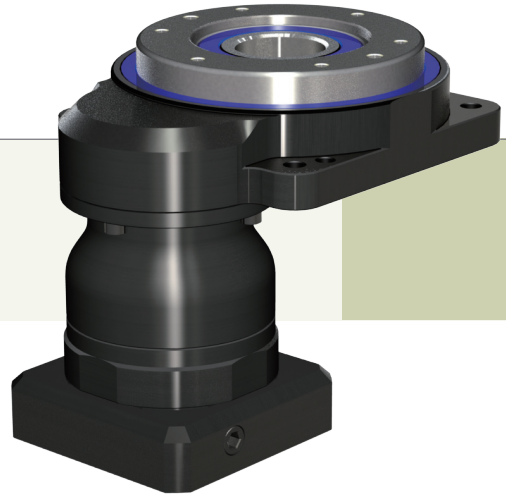


Model Code	200
A1	90、100、115、145
A2	M5、M6、M8
A3	70、80、95、110
A4	67.5、82

特性 Characteristic	代號	單位 Unit	GT-200C
輸出平台支撐軸承 / Output Table Supporting Bearing			交叉斜角滾柱軸承 Crossed Roller Bearing
額定輸出扭矩 / Rated Output Torque		N.m	142
最大輸出扭矩 / Max. Output Torque 急停扭矩 / Emergency Stop Torque	T_{2NOT}	N.m	3 倍額定輸出扭矩 3 Time of Rated Output Torque
出力容許轉速 / Output Permissible Speed		rpm	200
背隙 / Backlash		arcmin	≤ 1
容許載重 / Permissible Thrust Load		N	4,000
工作台面偏擺 / Runout of Output Table Surface		mm	0.02
工作台同心度 / Runout of Output Table Inner / Outer Diameter		mm	0.02
重量 / Weight		Kg	8.66

MODEL : GT-200C

RATIO : 25.50.100 (雙段 2-Stage)



Unit: mm

Model Code	200
A1	90、100、115、145
A2	M5、M6、M8
A3	70、80、95、110
A4	67.5、82
A5	14、19

特性 Characteristic	代號	單位 Unit	GT-200C
輸出平台支撐軸承 / Output Table Supporting Bearing			交叉斜角滾柱軸承 Crossed Roller Bearing
額定輸出扭矩 / Rated Output Torque		N.m	142
最大輸出扭矩 / Max. Output Torque 急停扭矩 / Emergency Stop Torque	T_{2NOT}	N.m	3 倍額定輸出扭矩 3 Time of Rated Output Torque
出力容許轉速 / Output Permissible Speed		rpm	200
背隙 / Backlash		arcmin	≤ 1
容許載重 / Permissible Thrust Load		N	4,000
工作台面偏擺 / Runout of Output Table Surface		mm	0.02
工作台同心度 / Runout of Output Table Inner / Outer Diameter		mm	0.02
重量 / Weight		Kg	



Selection Table of Motor for Reference

馬達選用參考表

單段 1-Stage

型號 Model	GT	60	85	110	135	200
容量 Power	入力孔徑 Input Bore	8	14	14	19	14 ~ 24
100 w		●				
200 w			●			
400 w			●	●	●	
750 w				●	●	●
1 kw						●

雙段 2-Stage

型號 Model	GT	60	85	110	135	200
容量 Power	入力孔徑 Input Bore	8	14	14 ~ 19	14 ~ 19	14 ~ 19
100 w		●				
200 w			●			
400 w			●	●	●	●
750 w				●	●	●

※ 以上表格僅供參考，選用時仍須以『額定輸出扭矩』為依據。

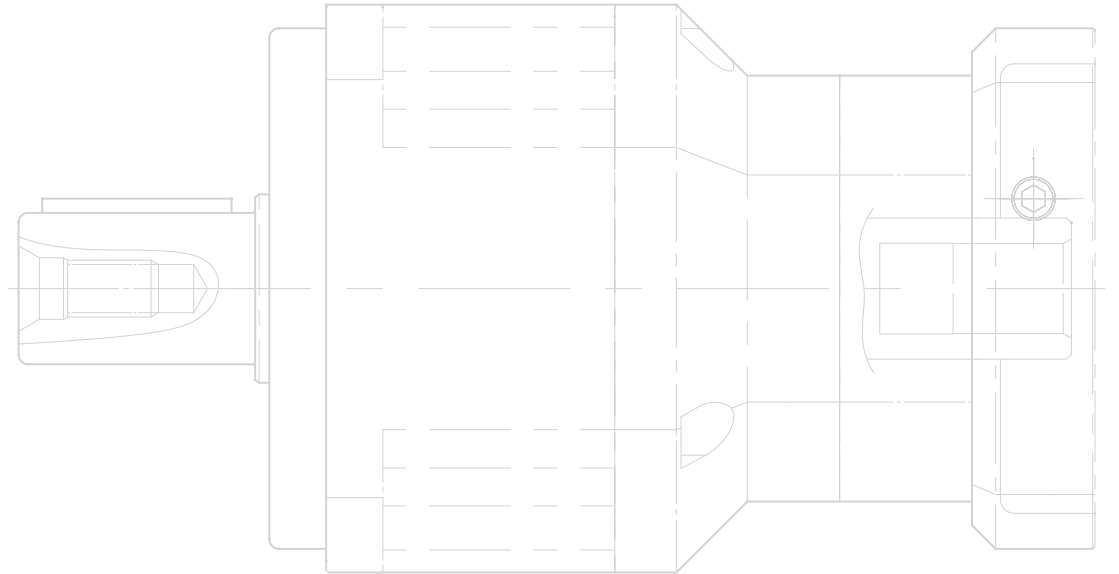
The table is for reference. The selected model shall be based on rated output torque.

Bushing

軸套

連接軸 孔徑 Shaft Bore ØA	8	14	19	24
ØB 軸套 孔徑 Bushing Bore				
6	●	●		
6.35	●	●		
8		●		
9		●		
10		●		
11		●		
12		●	●	
12.7			●	
14			●	●
16				●
19				●
22				●

軸套內徑為所使用伺服馬達的輸出軸軸徑。
下表中沒有的情況下需要插入軸套，在您所使用的輸出軸軸徑的近似值中選擇大值。

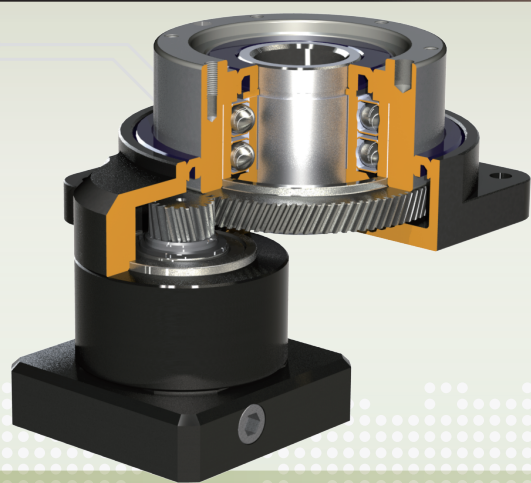
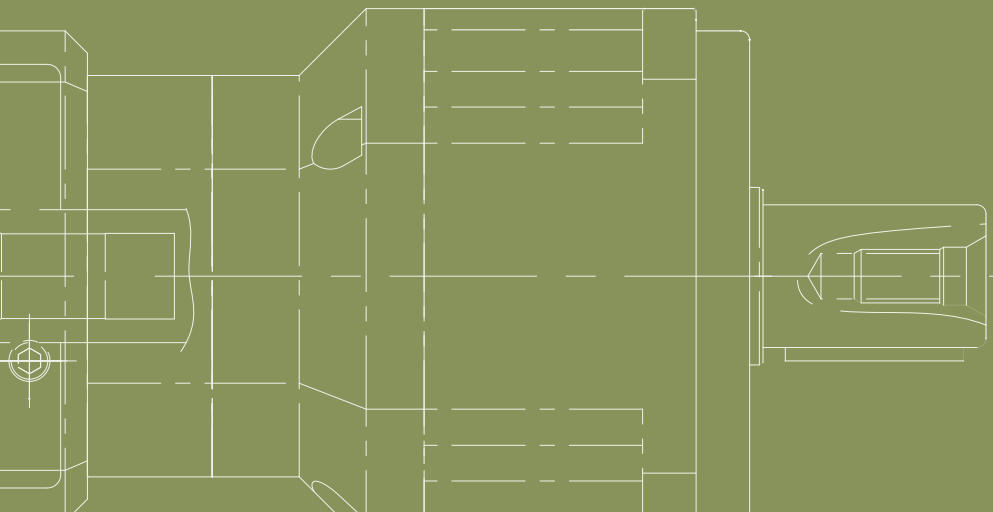


2014 年 10 月版

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October, 2014

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