

GT series

GT



Indication of Model Numbers

機種型號表示

GT	-	60	B	-	10	-	MOTOR
<p>減速機機型 Type</p> <p style="text-align: center;">GT</p>	<p>型號 Model</p> <p>60 85 110 135 170 200 250</p>	<p>輸出平台支撐軸承 Output Table Supporting Bearing</p> <p>B: 深溝滾珠軸承 (60#~200#) Ball Bearing</p> <p>C: 交叉斜角滾柱軸承 (60#~200#) Crossed Roller Bearing</p> <p>H: 深溝滾珠軸承大中空 (60#) Ball Bearing</p> <p>交叉斜角滾柱軸承大中空 Crossed Roller Bearing (85#~250#)</p>	<p>速比 Ratio</p> <p>Type B、C: 單段 1-Stage : 5, 10, 18 雙段 2-Stage : 25, 50, 100</p> <p>-----</p> <p>Type H: 單段 1-Stage : 10, 18 雙段 2-Stage : 50, 100</p>	<p>馬達型號 Motor Type</p>			

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 98% 以上。

High Efficiency

Efficiency exceeds 98%.

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

採用高精密交叉斜角滾柱軸承，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。

Bearing

Utilizing high-precision cross-roller bearings with a small size and compact structure, capable of simultaneously handling radial and axial loads.

In applications with lower axial loads, ball bearings can also be chosen.

中空結構

配管、配線便利

Hollow Structure Design

Make it convenient for electric wiring or piping work.

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 $\pm 10 \text{ sec}$
回程間隙 $\leq 1 \text{ arcmin}$
動態齒隙差 2 arcmin

High Accuracy

Repetitive Positioning Accuracy $\pm 10 \text{ sec}$
Torsional Backlash $\leq 1 \text{ arcmin}$
Lost Motion 2 arcmin



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.



高精度加工

旋轉盤本體使用鋁合金材料，經高精密 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。

High Precision Gear Machining

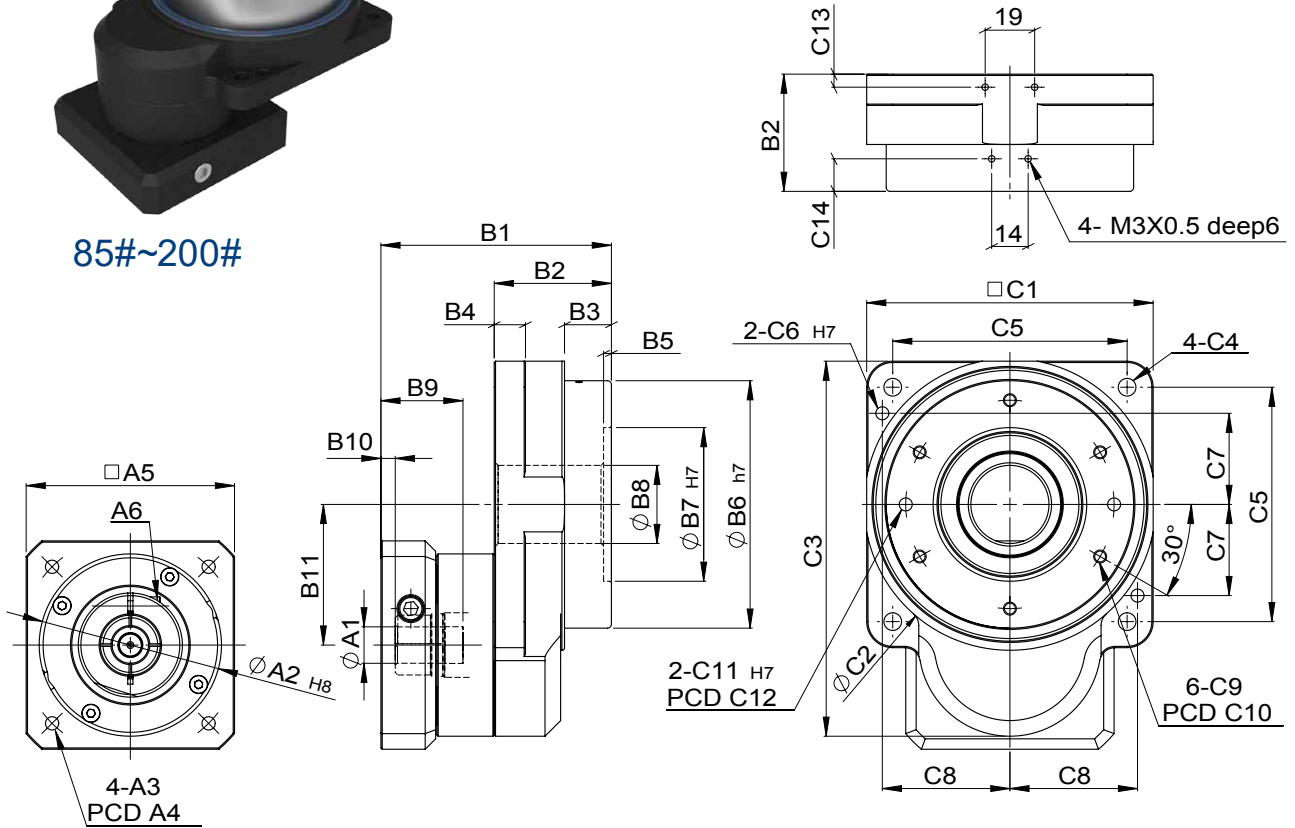
The housing of reducer is made by aluminum alloy, and precision machining by CNC machine. Precision teeth grinding assures gear accuracy reaches DIN6 class.

MODEL : GT-B

RATIO : 5.10.18 (單段 1-Stage)



85#~200#



unit: mm

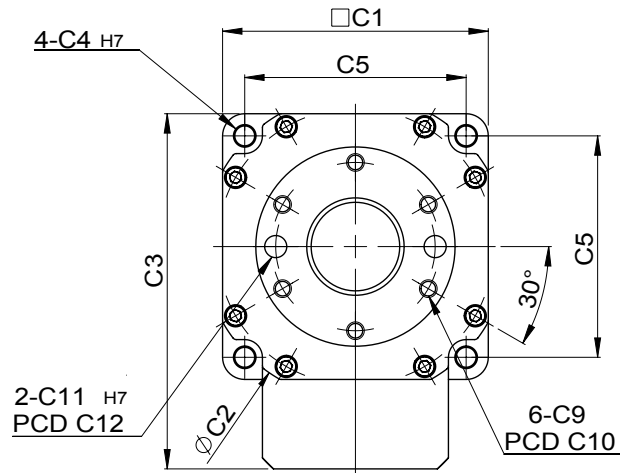
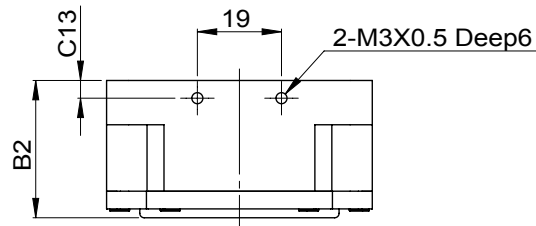
Model Code	60	85	110	135	200	
A	A1	8	8·14	14	14·19	19·24
	A2	30·40·50	30·40·50	50·60·70	50·60·70	70·80·95·110
	A3	M3·M4·M5	M3·M4·M5	M4·M5·M6	M4·M5·M6	M5·M6·M8
	A4	46·63·60	46·63·60	70·75·90	70·75·90	90·100·115·145
	A5	46·55	46·55	64·70·80	64·70·80	92·110·130
	A6	M4 x 0.7	M4 x 0.7	M5 x 0.8	M5 x 0.8	M6 x 1.0
B	B1	66	86.5	90.5	111	125.5·139.5
	B2	31	44.5	45	55	70
	B3	6	21.5	18	22	30
	B4	10	10	12	15	20
	B5	2	3	3	3	4
	B6	45	70	95	115	170
	B7	-	52	59	92	120
	B8	20	22	30	50	75
	B9	26.5	31	31.5	41	44.5·57.5
	B10	6.5	5	5.5	6	8.5·7.5
	B11	29.2	41.6	54	66.6	92.5
C	C1	60	85	110	135	200
	C2	69	87	112	138	202
	C3	80.2	110.1	144	169.1	242.5
	C4	4.5	5.5	6.8	9	11
	C5	50	70	90	110	170
	C6	-	4	5	5	8
	C7	-	28	35	45	68
	C8	-	38	49	60	85
	C9	M4 x 0.7	M4 x 0.7	M5 x 0.8	M5 x 0.8	M6 x 1.0
	C10	38	62.5	80	104	155
	C11	5 deep6	5 deep6	5 deep6	5 deep5	8 deep8
	C12	36	62.5	80	104	155
	C13	4	4	5	5.5	9
	C14	-	7.5	12.5	17	24

Characteristic of GT-B 1-Stage Series

GT-B 單段系列產品特性



60#



GT-B 單段減速機 1-Stage

特性 Parameter	Code	Unit	Ratio	60B	85B	110B	135B	200B
輸出平台支撐軸 / Output Table Supporting Bearing			5~18	深溝滾珠軸承 / Ball Bearing				
額定輸出扭矩 / Rated Output Torque (Nominal output torque)	T_{2N}	Nm	5	5	18	33	43	142
			10	4	14	26	34	112
			18	3	10	19	25	85
最大加速扭矩 / Max. Acceleration Torque	T_{2B}	Nm	5~18	1.5 倍額定輸出扭矩 1.5 Times of Rated Output Torque				
最大輸出扭矩 / Max. Output Torque 急停扭矩 / Emergency Stop Torque	T_{2NOT}	Nm	5~18	2 倍額定輸出扭矩 2 Times of Rated Output Torque				
慣性慣量 / Inertia Moment		kg.m ²	5~18	777 x 10 ⁻⁷	1268 x 10 ⁻⁶	1562 x 10 ⁻⁶	2918 x 10 ⁻⁶	29072 x 10 ⁻⁶
出力容許轉速 / Output Permissible Speed		rpm	5~18	300	300	300	300	300
回程間隙 / Torsional Backlash		arcmin	5~18	≤ 1	≤ 1	≤ 1	≤ 1	≤ 1
動態齒輪差 / Lost Motion		arcmin	5~18	2(0.033°)				
重覆定位精度 / Repetitive Positioning Accuracy		arcsec	5~18	±10(0.0028°)				
容許載重 / Permissible Thrust Load		N	5~18	350	600	800	1450	2500
容許彎矩負載 / Permissible Moment Load		Nm	5~18	7	12	16	30	50
工作台面偏擺 / Runout of Output Table Surface		mm	5~18	0.01	0.01	0.015	0.015	0.02
工作同心度 / Runout of Output Table Inner / Outer Diameter		mm	5~18	0.01	0.01	0.015	0.015	0.02
工作台面平行度 / Parallelism of Output Table		mm	5~18	0.02	0.02	0.025	0.025	0.03
重量 / Weight		kg	5~18	0.54	1.17	2.54	3.83	10.09

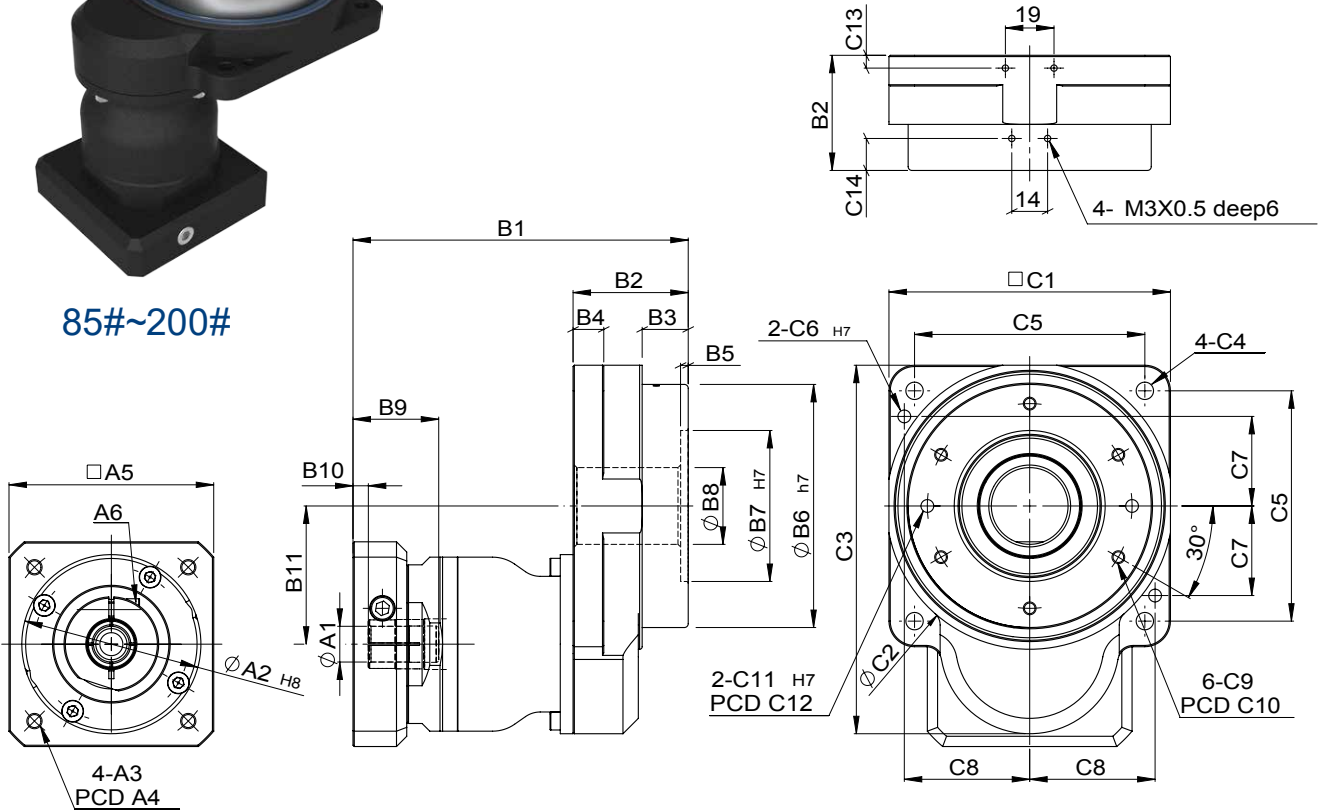
MODEL : GT-B

RATIO : 25.50.100 (雙段 2-Stage)

GT



85#~200#



unit: mm

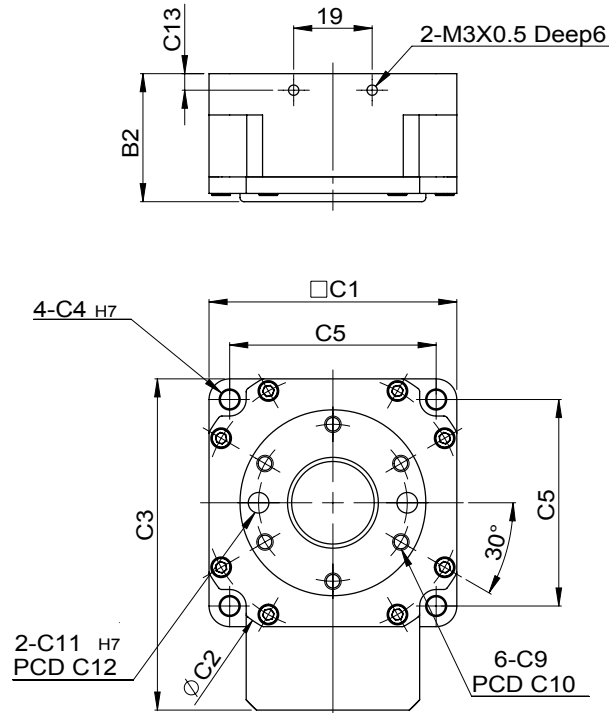
Model Code	60	85	110	135	200	
A	A1	8	14	14	19	
	A2	30 · 40 · 50	30 · 40 · 50	50 · 60 · 70	50 · 60 · 70	50 · 60 · 70
	A3	M3 · M4 · M5	M3 · M4 · M5	M4 · M5 · M6	M4 · M5 · M6	M4 · M5 · M6
	A4	46 · 63 · 60	46 · 63 · 60	70 · 75 · 90	70 · 75 · 90	70 · 75 · 90
	A5	46 · 55	46 · 55	64 · 70 · 80	64 · 70 · 80	64 · 70 · 80
	A6	M4 x 0.7	M4 x 0.7	M5 x 0.8	M5 x 0.8	M5 x 0.8
B	B1	103	116.5	131	141	166.5
	B2	31	44.5	45	55	70
	B3	6	21.5	18	22	30
	B4	10	10	12	15	20
	B5	2	3	3	3	4
	B6	45	70	95	115	170
	B7	-	52	59	92	120
	B8	20	22	30	50	75
	B9	32	32	33.5	33.5	45.5
	B10	4.5	5	6	6	10
	B11	29.2	41.6	54	66.6	92.5
C	C1	60	85	110	135	200
	C2	69	87	112	138	202
	C3	80.2	110.1	144	169.1	242.5
	C4	4.5	5.5	6.8	9	11
	C5	50	70	90	110	170
	C6	-	4	5	5	8
	C7	-	28	35	45	68
	C8	-	38	49	60	85
	C9	M4 x 0.7	M4 x 0.7	M5 x 0.8	M5 x 0.8	M6 x 1.0
	C10	38	62.5	80	104	155
	C11	5 deep6	5 deep6	5 deep6	5 deep5	8 deep8
	C12	36	62.5	80	104	155
	C13	4	4	5	5.5	9
	C14	-	7.5	12.5	17	24

Characteristic of GT-B 2-Stage Series

GT-B 雙段系列產品特性



60#



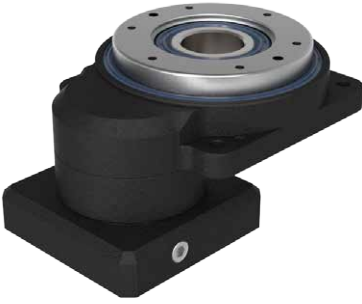
GT-B 雙段減速機 2-Stage

特性 Parameter	Code	Unit	Ratio	60B	85B	110B	135B	200B
輸出平台支撐軸 / Output Table Supporting Bearing			25~100	深溝滾珠軸承 / Ball Bearing				
額定輸出扭矩 / Rated Output Torque (Nominal output torque)	T_{2N}	Nm	25	5	18	33	43	142
			50	4	14	26	34	112
			100	4	14	26	34	112
最大加速扭矩 / Max. Acceleration Torque	T_{2B}	Nm	25~100	1.5 倍額定輸出扭矩 1.5 Times of Rated Output Torque				
最大輸出扭矩 / Max. Output Torque 急停扭矩 / Emergency Stop Torque	T_{2NOT}	Nm	25~100	2 倍額定輸出扭矩 2 Times of Rated Output Torque				
慣性慣量 / Inertia Moment		kg.m ²	25~100	777×10^{-7}	1268×10^{-6}	1562×10^{-6}	2918×10^{-6}	29072×10^{-6}
出力容許轉速 / Output Permissible Speed		rpm	25~100	300	300	300	300	300
回程間隙 / Torsional Backlash		arcmin	25~100	≤ 2	≤ 2	≤ 2	≤ 2	≤ 2
動態齒輪差 / Lost Motion		arcmin	25~100	3(0.05°)				
重覆定位精度 / Repetitive Positioning Accuracy		arcsec	25~100	±15(0.0042°)				
容許載重 / Permissible Thrust Load		N	25~100	350	600	800	1450	2500
容許彎矩負載 / Permissible Moment Load		Nm	25~100	7	12	16	30	50
工作台面偏擺 / Runout of Output Table Surface		mm	25~100	0.01	0.01	0.015	0.015	0.02
工作台面同心度 / Runout of Output Table Inner / Outer Diameter		mm	25~100	0.01	0.01	0.015	0.015	0.02
工作台面平行度 / Parallelism of Output Table		mm	25~100	0.02	0.02	0.025	0.025	0.03
重量 / Weight		kg	25~100	1.1	1.95	3.76	4.92	11.8

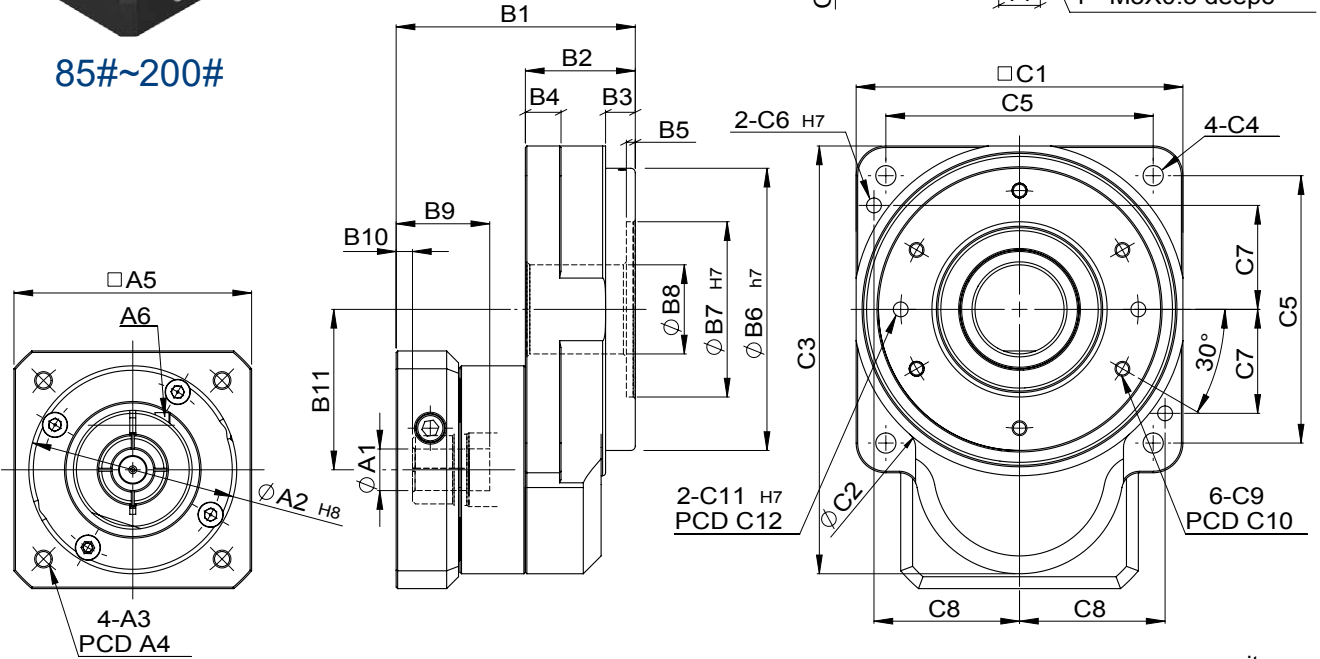
MODEL : GT-C

RATIO : 5.10.18 (單段 1-Stage)

GT



85#~200#



unit: mm

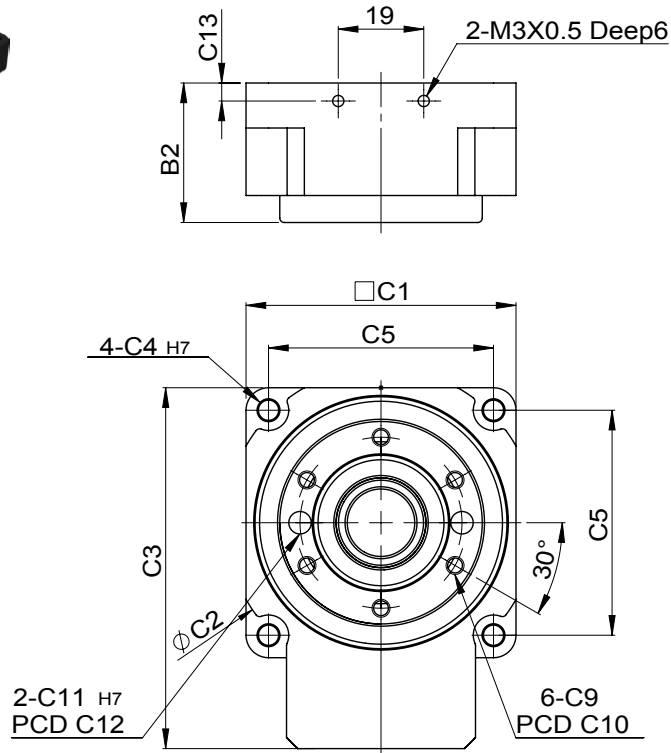
Model Code	60	85	110	135	170	200	
A	A1	8	8 · 14	14	14 · 19	19 · 24	
	A2	30 · 40 · 50	30 · 40 · 50	50 · 60 · 70	50 · 60 · 70	70 · 80 · 95 · 110	70 · 80 · 95 · 110
	A3	M3 · M4 · M5	M3 · M4 · M5	M4 · M5 · M6	M4 · M5 · M6	M5 · M6 · M8	M5 · M6 · M8
	A4	46 · 63 · 60	46 · 63 · 60	70 · 75 · 90	70 · 75 · 90	90 · 100 · 115 · 145	90 · 100 · 115 · 145
	A5	46 · 55	46 · 55	64 · 70 · 80	64 · 70 · 80	92 · 110 · 130	92 · 110 · 130
	A6	M4 x 0.7	M4 x 0.7	M5 x 0.8	M5 x 0.8	M6 x 1.0	M6 x 1.0
B	B1	66	78.5	82.5	98	115.5 · 128.5	113.5 · 127.5
	B2	31	36.5	37	42	60	58
	B3	6	13.5	10	9	6	18
	B4	10	10	12	15	36	20
	B5	2	3	3	3	6	4
	B6	45	70	95	115	135	170
	B7	30	52	59	92	104	120
	B8	15	22	30	50	85	75
	B9	26.5	31	31.5	41	44.5 · 57.5	44.5 · 57.5
	B10	6.5	5	5.5	6	8.5 · 7.5	8.5 · 7.5
	B11	29.2	41.6	54	66.6	92.5	92.5
C	C1	60	85	110	135	170	200
	C2	69	87	112	138	176	202
	C3	80.2	110.1	144	169.1	227.5	242.5
	C4	4.5	5.5	6.8	9	11	11
	C5	50	70	90	110	145	170
	C6	-	4	5	5	6	8
	C7	-	28	35	45	60	68
	C8	-	38	49	60	72.5	85
	C9	M4 x 0.7	M4 x 0.7	M5 x 0.8	M5 x 0.8	M8 x 1.25	M6 x 1.0
	C10	38	62.5	80	104	120	155
	C11	5 deep6	5 deep6	5 deep6	5 deep5	6 deep8	8 deep8
	C12	36	62.5	80	104	120	155
	C13	4	4	5	5.5	-	9
	C14	-	5	4.5	4	-	12

Characteristic of GT-C 1-Stage Series

GT-C 單段系列產品特性



60#



GT-C 單段減速機 1-Stage

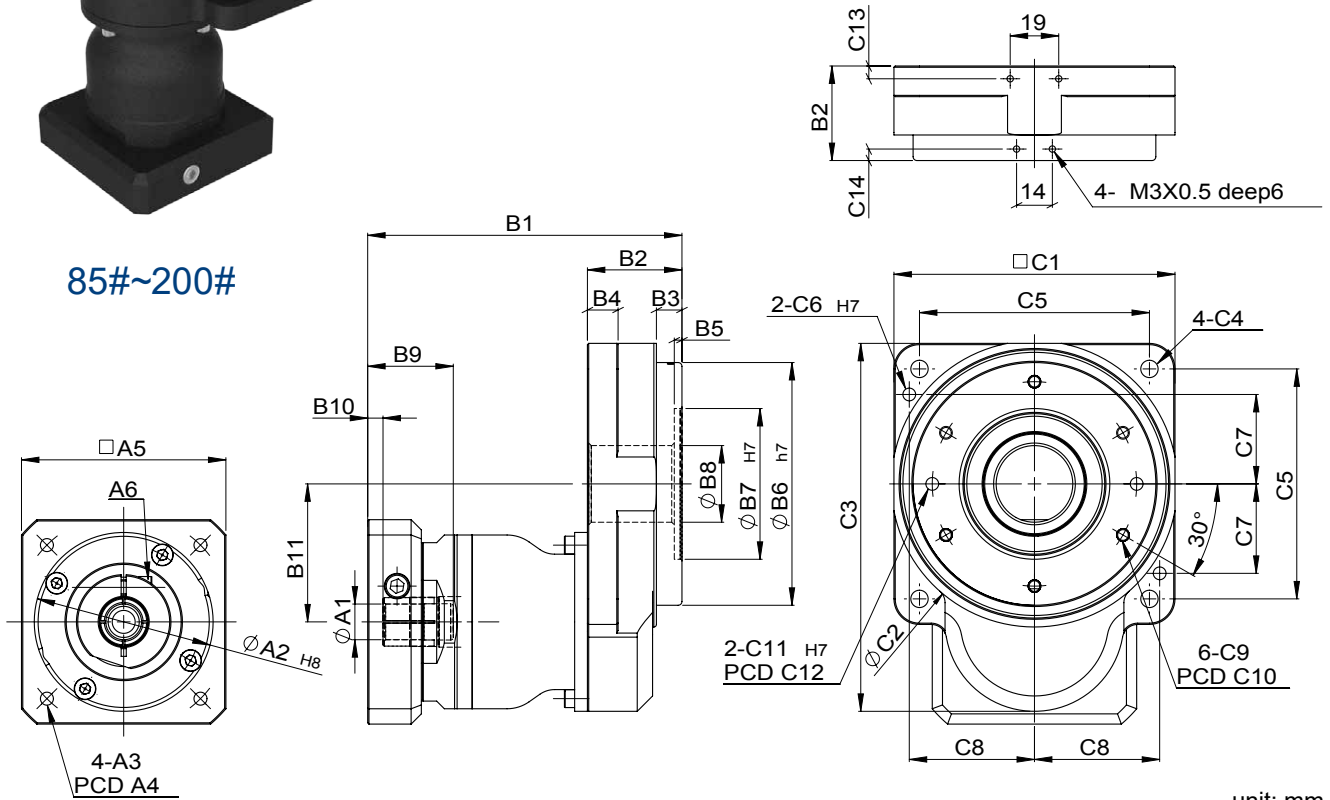
特性 Parameter	Code	Unit	Ratio	60C	85C	110C	135C	170C	200C
輸出平台支撐軸 / Output Table Supporting Bearing			5~18	交叉斜角滾柱軸承 / Crossed Roller Bearing					
額定輸出扭矩 / Rated Output Torque (Nominal output torque)	T_{2N}	Nm	5	5	18	33	43	100	142
			10	4	14	26	34	-	112
			18	3	10	19	25	-	85
最大加速扭矩 / Max. Acceleration Torque	T_{2B}	Nm	5~18	1.5 倍額定輸出扭矩 1.5 Times of Rated Output Torque					
最大輸出扭矩 / Max. Output Torque 急停扭矩 / Emergency Stop Torque	T_{2NOT}	Nm	5~18	2 倍額定輸出扭矩 2 Times of Rated Output Torque					
慣性慣量 / Inertia Moment		kg.m ²	5~18	735×10^{-7}	1203×10^{-6}	1483×10^{-6}	2772×10^{-6}	27619×10^{-6}	27619×10^{-6}
出力容許轉速 / Output Permissible Speed		rpm	5~18	200	200	200	200	200	200
回程間隙 / Torsional Backlash		arcmin	5~18	≤ 1	≤ 1	≤ 1	≤ 1	≤ 1	≤ 1
動態齒輪差 / Lost Motion		arcmin	5~18	2(0.033°)					
重覆定位精度 / Repetitive Positioning Accuracy		arcsec	5~18	±10(0.0028°)					
容許載重 / Permissible Thrust Load		N	5~18	500	900	1200	2200	4000	4000
容許彎矩負載 / Permissible Moment Load		Nm	5~18	10	18	24	45	65	80
工作台面偏擺 / Runout of Output Table Surface		mm	5~18	0.01	0.01	0.015	0.015	0.02	0.02
工作台同心度 / Runout of Output Table Inner / Outer Diameter		mm	5~18	0.01	0.01	0.015	0.015	0.02	0.02
工作台面平行度 / Parallelism of Output Table		mm	5~18	0.02	0.02	0.025	0.025	0.03	0.03
重量 / Weight		kg	5~18	0.62	1.1	2.04	3.13		8.66

MODEL : GT-C

RATIO : 25.50.100 (雙段 2-Stage)



85#~200#



unit: mm

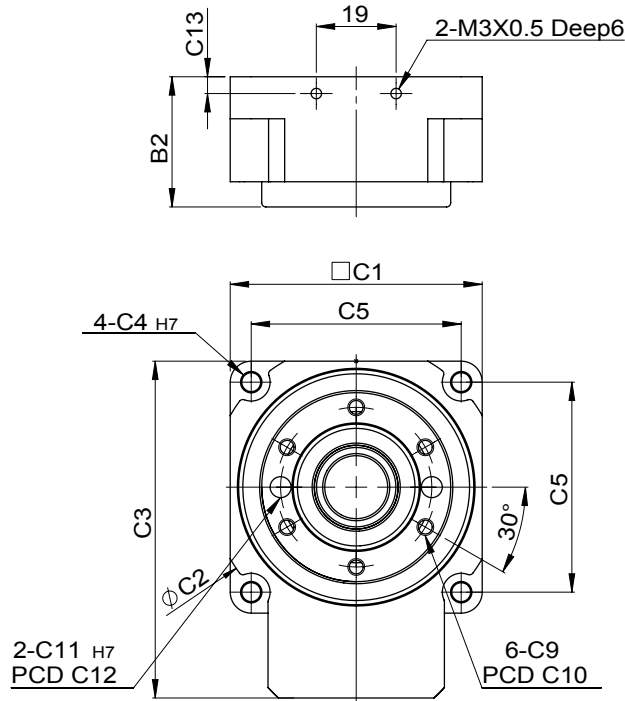
Model Code	60	85	110	135	170	200	
A	A1	8	14	14	14	19	
	A2	30·40·50	30·40·50	50·60·70	50·60·70	50·60·70	50·60·70
	A3	M3·M4·M5	M3·M4·M5	M4·M5·M6	M4·M5·M6	M4·M5·M6	M4·M5·M6
	A4	46·63·60	46·63·60	70·75·90	70·75·90	70·75·90	70·75·90
	A5	46·55	46·55	64·70·80	64·70·80	64·70·80	64·70·80
	A6	M4 x 0.7	M4 x 0.7	M5 x 0.8	M5 x 0.8	M5 x 0.8	M5 x 0.8
B	B1	103	108.5	123	128	156.5	154.5
	B2	31	36.5	37	42	60	58
	B3	6	13.5	10	9	6	18
	B4	10	10	12	15	36	20
	B5	2	3	3	3	6	4
	B6	45	70	95	115	135	170
	B7	30	52	59	92	104	120
	B8	15	22	30	50	85	75
	B9	32	32	33.5	33.5	45.5	45.5
	B10	4.5	5	6	6	10	10
	B11	29.2	41.6	54	66.6	92.5	92.5
C	C1	60	85	110	135	170	200
	C2	69	87	112	138	176	202
	C3	80.2	110.1	144	169.1	227.5	242.5
	C4	4.5	5.5	6.8	9	11	11
	C5	50	70	90	110	145	170
	C6	-	4	5	5	6	8
	C7	-	28	35	45	60	68
	C8	-	38	49	60	72.5	85
	C9	M4 x 0.7	M4 x 0.7	M5 x 0.8	M5 x 0.8	M8 x 1.25	M6 x 1.0
	C10	38	62.5	80	104	120	155
	C11	5 deep6	5 deep6	5 deep6	5 deep5	6 deep8	8 deep8
	C12	36	62.5	80	104	120	155
	C13	4	4	5	5.5	-	9
	C14	-	5	4.5	4	-	12

Characteristic of GT-C 2-Stage Series

GT-C 雙段系列產品特性



60#



GT-C 雙段減速機 2-Stage

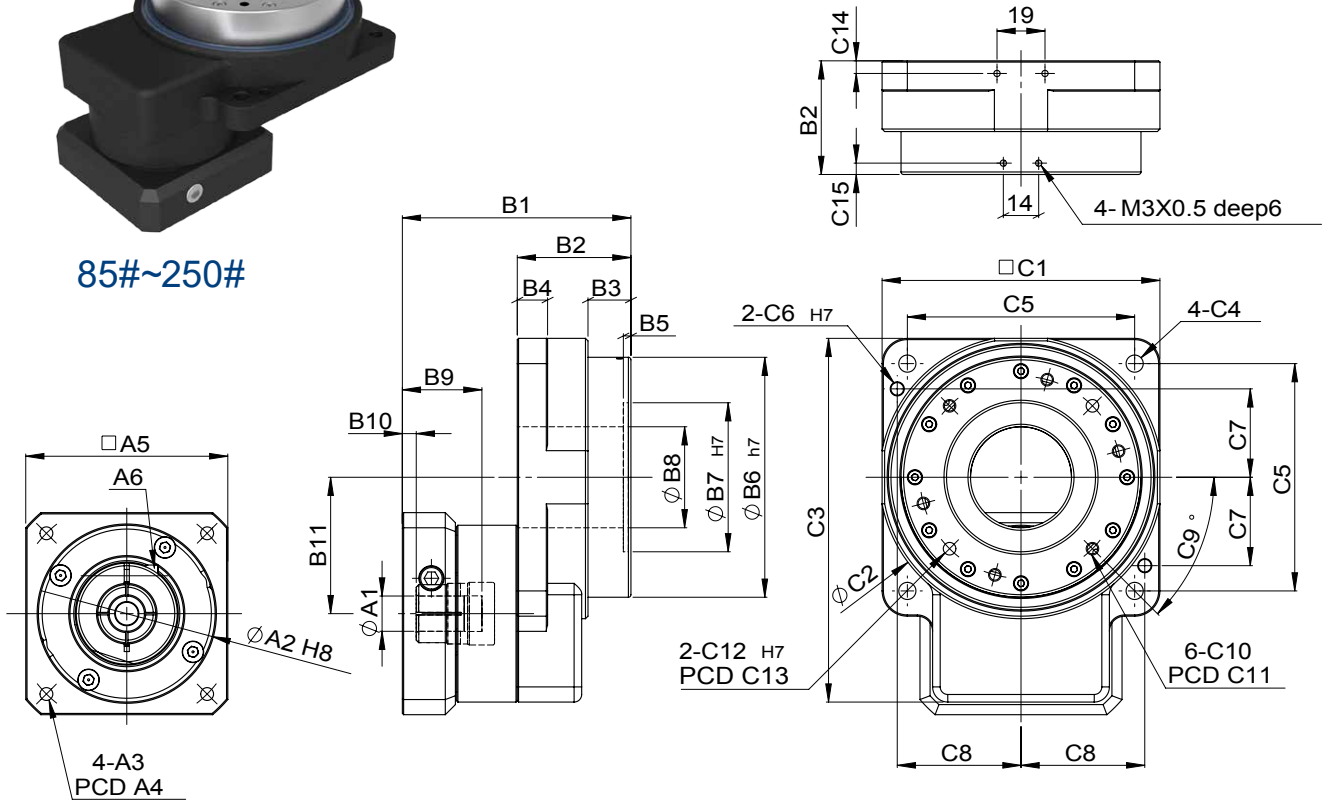
特性 Characteristic	Code	Unit	Ratio	60C	85C	110C	135C	170C	200C
輸出平台支撐軸 / Output Table Supporting Bearing			25~100	交叉斜角滾柱軸承 / Crossed Roller Bearing					
額定輸出扭矩 / Rated Output Torque (Nominal output torque)	T_{2N}	Nm	25	5	18	33	43	100	142
			50	4	14	26	34	-	112
			100	4	14	26	34	-	112
最大加速扭距 / Max. Acceleration Torque	T_{2B}	Nm	25~100	1.5 倍額定輸出扭矩 1.5 Times of Rated Output Torque					
最大輸出扭矩 / Max. Output Torque 急停扭矩 / Emergency Stop Torque	T_{2NOT}	Nm	25~100	2 倍額定輸出扭矩 2 Times of Rated Output Torque					
慣性慣量 / Inertia Moment		kg.m ²	25~100	735×10^{-7}	1203×10^{-6}	1483×10^{-6}	2772×10^{-6}	27619×10^{-6}	27619×10^{-6}
出力容許轉速 / Output Permissible Speed		rpm	25~100	200	200	200	200	200	200
回程間隙 / Torsional Backlash		arcmin	25~100	≤ 2	≤ 2	≤ 2	≤ 2	≤ 2	≤ 2
動態齒輪差 / Lost Motion		arcmin	25~100	3(0.05°)					
重覆定位精度 / Repetitive Positioning Accuracy		arcsec	25~100	±15(0.0042°)					
容許載重 / Permissible Thrust Load		N	25~100	500	900	1200	2200	4000	4000
容許彎矩負載 / Permissible Moment Load		Nm	25~100	10	18	24	45	65	80
工作台面偏擺 / Runout of Output Table Surface		mm	25~100	0.01	0.01	0.015	0.015	0.02	0.02
工作合同心度 / Runout of Output Table Inner / Outer Diameter		mm	25~100	0.01	0.01	0.015	0.015	0.02	0.02
工作平台平行度 / Parallelism of Output Table		mm	25~100	0.02	0.02	0.025	0.025	0.03	0.03
重量 / Weight		kg	25~100	1.1	1.78	3.51	4.21	10.3	10.3

MODEL : GT-H

RATIO : 10.18 (單段 1-Stage)



85#~250#



unit: mm

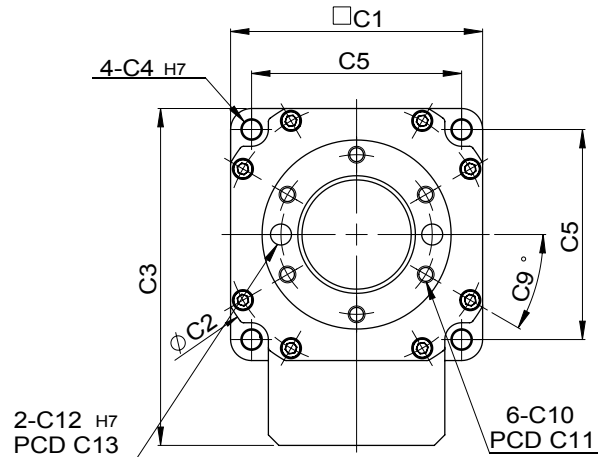
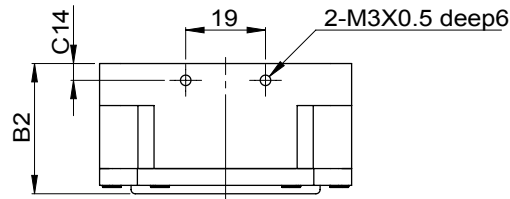
Model Code	60	85	110	135	200	250	
A	A1	8	8·14	14	14·19	19·24	35
	A2	30·40·50	30·40·50	50·60·70	50·60·70	70·80·95·110	95·110·114.3
	A3	M3·M4·M5	M3·M4·M5	M4·M5·M6	M4·M5·M6	M5·M6·M8	M6·M8·M12
	A4	46·63·60	46·63·60	70·75·90	70·75·90	90·100·115·145	115·145·200
	A5	46·55	46·55	64·70·80	64·70·80	92·110·130	122·130·180
	A6	M4 x 0.7	M4 x 0.7	M5 x 0.8	M5 x 0.8	M6 x 1.0	M10 x 1.5
B	B1	66	78.5	90.5	104	125.5·139.5	184
	B2	31	38.5	45	48	70	84
	B3	6	13	17	12	25	27.5
	B4	10	10	12	15	20	25
	B5	2	3	3	3	4	5
	B6	45	70	95	115	170	218
	B7	-	52	59	92	140	160
	B8	26	33	40	63	100	120
	B9	26.5	31	31.5	41	44.5·57.5	82
	B10	6.5	5	5.5	6	8.5·7.5	10
	B11	29.2	41.6	54	66.6	98.5	122
C	C1	60	85	110	135	200	250
	C2	69	87	112	138	202	254
	C3	80.2	110.1	144	169.1	248.5	307
	C4	4.5	5.5	6.8	9	11	13
	C5	50	70	90	110	170	220
	C6	-	4	5	5	8	10
	C7	-	28	35	45	68	90
	C8	-	38	49	60	85	110
	C9	30	30	45	30	30	30
	C10	M4 x 0.7	M4 x 0.7	M5 x 0.8	M5 x 0.8	M6 x 1.0	M8 x 1.25
	C11	38	62.5	80	104	155	200
	C12	5 deep6	5 deep6	5 deep5	5 deep5	8 deep8	8 deep14.5
	C13	36	62.5	80	104	155	200
	C14	4	4	5	5.5	9	9
	C15	-	5	4.5	6	12	8

Characteristic of GT-H 1-Stage Series

GT-H 單段系列產品特性



60#



GT-H 單段減速機 1-Stage

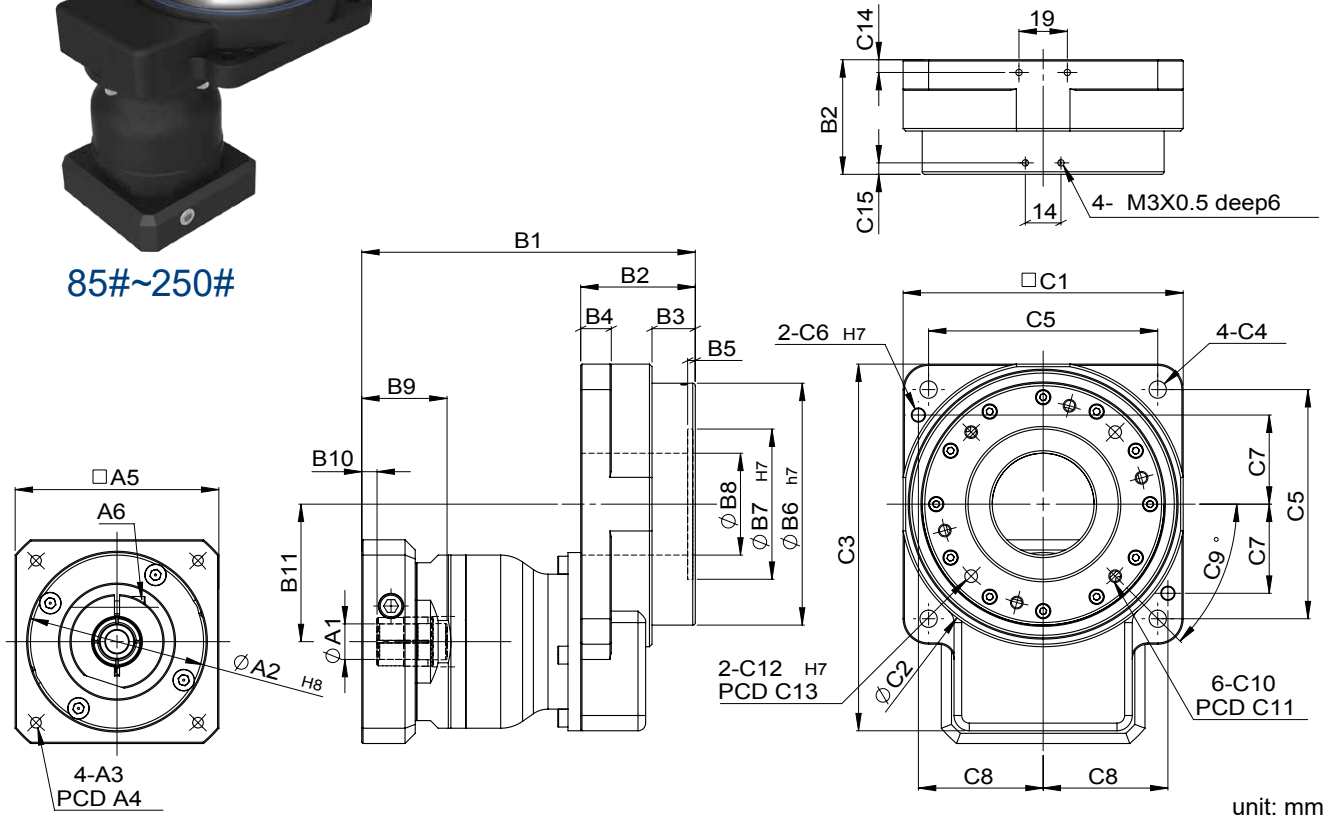
特性 Parameter	Code	Unit	Ratio	60H	85H	110H	135H	200H	250H
輸出平台支撐軸 / Output Table Supporting Bearing			10 · 18	深溝滾珠軸承 / Ball Bearing	交叉斜角滾柱軸承大中空 / Crossed Roller Bearing				
額定輸出扭矩 / Rated Output Torque (Nominal output torque)	T_{2N}	Nm	10 18	4 3	14 10	26 19	34 25	183 128	334 234
最大加速扭矩 / Max. Acceleration Torque	T_{2B}	Nm	10 · 18	1.5 倍額定輸出扭矩 1.5 Times of Rated Output Torque					
最大輸出扭矩 / Max. Output Torque 急停扭矩 / Emergency Stop Torque	T_{2NOT}	Nm	10 · 18	2 倍額定輸出扭矩 2 Times of Rated Output Torque					
慣性慣量 / Inertia Moment		kg.m ²	10 · 18	777×10^{-7}	1203×10^{-6}	1483×10^{-6}	2772×10^{-6}	27619×10^{-6}	53551×10^{-6}
出力容許轉速 / Output Permissible Speed		rpm	10 · 18	300	200	200	200	200	200
回程間隙 / Torsional Backlash		arcmin	10 · 18	≤ 1	≤ 1	≤ 1	≤ 1	≤ 1	≤ 1
動態齒輪差 / Lost Motion		arcmin	10 · 18	2(0.033°)					
重覆定位精度 / Repetitive Positioning Accuracy		arcsec	10 · 18	±10(0.0028°)					
容許載重 / Permissible Thrust Load		N	10 · 18	350	900	1200	2200	4000	5060
容許彎矩負載 / Permissible Moment Load		Nm	10 · 18	7	18	24	45	80	100
工作台面偏擺 / Runout of Output Table Surface		mm	10 · 18	0.01	0.01	0.015	0.015	0.02	0.025
工作同心度 / Runout of Output Table Inner / Outer Diameter		mm	10 · 18	0.01	0.01	0.015	0.015	0.02	0.025
工作台面平行度 / Parallelism of Output Table		mm	10 · 18	0.02	0.02	0.025	0.025	0.03	0.035
重量 / Weight		kg	10 · 18	0.595	1.1	2.25	3.3	9.7	20.1

MODEL : GT-H

RATIO : 50.100 (雙段 2-Stage)



85#~250#



unit: mm

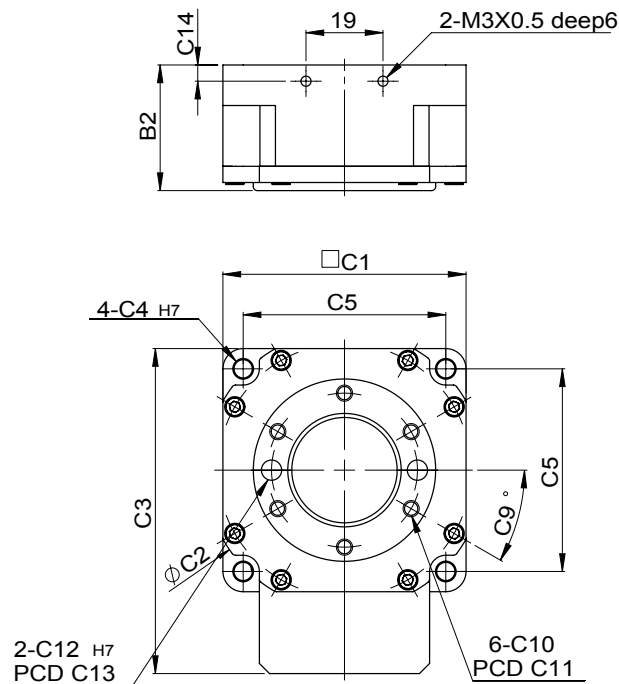
Model Code	60	85	110	135	200	250	
A	A1	8	14	14	14	19 · 24	
	A2	30 · 40 · 50	30 · 40 · 50	50 · 60 · 70	50 · 60 · 70	50 · 60 · 70	70 · 80 · 95 · 110
	A3	M3 · M4 · M5	M3 · M4 · M5	M4 · M5 · M6	M4 · M5 · M6	M4 · M5 · M6	M5 · M6 · M8
	A4	46 · 63 · 60	46 · 63 · 60	70 · 75 · 90	70 · 75 · 90	70 · 75 · 90	90 · 100 · 115 · 145
	A5	46 · 55	46 · 55	64 · 70 · 80	64 · 70 · 80	64 · 70 · 80	92 · 110 · 130
	A6	M4 x 0.7	M4 x 0.7	M5 x 0.8	M5 x 0.8	M5 x 0.8	M6 x 1.0
B	B1	103	108.5	131	134	166.5	198 · 212.5
	B2	31	36.5	45	48	70	84
	B3	6	13	17	12	25	27.5
	B4	10	10	12	15	20	25
	B5	2	3	3	3	4	5
	B6	45	70	95	115	170	218
	B7	-	52	59	92	140	160
	B8	26	33	40	63	100	120
	B9	32	32	33.5	33.5	45.5	51 · 65.5
	B10	4.5	5	6	6	10	8 · 22.5
	B11	29.2	41.6	54	66.6	98.5	122
C	C1	60	85	110	135	200	250
	C2	69	87	112	138	202	254
	C3	80.2	110.1	144	169.1	248.5	307
	C4	4.5	5.5	6.8	9	11	13
	C5	50	70	90	110	170	220
	C6	-	4	5	5	8	10
	C7	-	28	35	45	68	90
	C8	-	38	49	60	85	110
	C9	30	30	45	30	30	30
	C10	M4 x 0.7	M4 x 0.7	M5 x 0.8	M5 x 0.8	M6 x 1.0	M8 x 1.25
	C11	38	62.5	80	104	155	200
	C12	5 deep6	5 deep6	5 deep5	5 deep5	8 deep8	8 deep14.5
	C13	36	62.5	80	104	155	200
	C14	4	4	5	5.5	9	9
	C15	-	5	4.5	6	12	8

Characteristic of GT-H 2-Stage Series

GT-H 雙段系列產品特性



60#



GT-H 雙段減速機 2-Stage

特性 Parameter	Code	Unit	Ratio	60H	85H	110H	135H	200H	250H
輸出平台支撐軸 / Output Table Supporting Bearing			50、100	深溝滾珠軸承 / Ball Bearing	交叉斜角滾柱軸承大中空 / Crossed Roller Bearing				
額定輸出扭矩 / Rated Output Torque (Nominal output torque)	T_{2N}	Nm	50、100	4	14	26	34	183	334
最大加速扭矩 / Max. Acceleration Torque	T_{2B}	Nm	50、100	1.5 倍額定輸出扭矩 1.5 Times of Rated Output Torque					
最大輸出扭矩 / Max. Output Torque 急停扭矩 / Emergency Stop Torque	T_{2NOT}	Nm	50、100	2 倍額定輸出扭矩 2 Times of Rated Output Torque					
慣性慣量 / Inertia Moment		kg.m ²	50、100	777×10^{-7}	1203×10^{-6}	1483×10^{-6}	2772×10^{-6}	27619×10^{-6}	53551×10^{-6}
出力容許轉速 / Output Permissible Speed		rpm	50、100	300	200	200	200	200	200
回程間隙 / Torsional Backlash		arcmin	50、100	≤ 2	≤ 2	≤ 2	≤ 2	≤ 2	≤ 2
動態齒輪差 / Lost Motion		arcmin	50、100	3(0.05°)					
重覆定位精度 / Repetitive Positioning Accuracy		arcsec	50、100	±15(0.0042°)					
容許載重 / Permissible Thrust Load		N	50、100	350	900	1200	2200	4000	5060
容許彎矩負載 / Permissible Moment Load		Nm	50、100	7	18	24	45	80	100
工作台面偏擺 / Runout of Output Table Surface		mm	50、100	0.01	0.01	0.015	0.015	0.02	0.025
工作台同心度 / Runout of Output Table Inner / Outer Diameter		mm	50、100	0.01	0.01	0.015	0.015	0.02	0.025
工作台面平行度 / Parallelism of Output Table		mm	50、100	0.02	0.02	0.025	0.025	0.03	0.035
重量 / Weight		kg	50、100	1.1	1.7	2.9	4	9.2	18.5

Glossary

減速機專用名詞解釋

輸出平台支撐軸承

使用於輸出平台的軸承種類。

Output Table Supporting Bearing

This is the type of the bearing used for the output table.

額定輸出扭矩 [N.m]

指減速機長時間可以加載的扭矩。

Reted Output Torque [N.m]

This is the limit of mechanical strength of the speed reduction mechanism. Make sure that the applied torque, including the acceleration torque and load fluctuation, does not exceed the permissible torque.

最大輸出扭矩 / 急停扭矩 (T_{2NOT}) [N.m]

指減速機輸出端所能加載的最大扭矩。這個扭矩可在減速機壽命期內加載 1000 次。超過 1000 次可能會造成內部零件的破壞。(備註:GT 系列機型為 $T_{2NOT} = 2 \cdot T_{2N}$; 即 2 倍額定輸出扭矩)。

Max. Output Torque / Emergency Stop Torque (T_{2NOT}) [N.m]

The emergency stop torque T_{2NOT} is the maximum permissible torque at the gearbox output end and must not be reached more than 1000 times during the service life of the gearbox. It must never be exceeded to prevent inside parts from damage. LIMING GT $T_{2NOT} = 2 \cdot T_{2B}$ (2 times of rated output torque)

慣性慣量 [kg.m²]

減速機構部慣性慣量至輸出的值。

Inertia Moment [kg.m²]

This is the total sum of the inertial moment of the speed reduction mechanism converted to a moment on the output table.

出力容許轉速 [rpm]

減速機的機械性強度·可容許的輸出平台轉速。

Output Permissible Speed [rpm]

This is the output table speed that can be tolerated by the mechanical strength of the speed reduction mechanism.

回程間隙 (j_i) [arcmin]

指減速機輸出軸與輸入端的最大偏差角·測量時先將齒輪輸入端固定住·然後在輸出軸加載額定扭矩的 2% 扭矩·減速機輸出端正反轉時有一個微小的角位移·此角位移即為回程間隙·單位是 " 弧分 "·即一度的六十分之一度。

Torsional Backlash (j_t) [arcmin]

Torsional backlash j_t is the maximum angle of torsion of the output shaft in relation to the input. Torsional backlash is measured with the input shaft locked. The output is then loaded with a defined test torque (2% rated output torque) in order to overcome the internal gearhead friction. The main factor affecting torsional backlash is the face clearance between the gear teeth.

動態齒隙差 [arcmin]

即正反轉定位精度差·將輸出平台在某個位置從正轉方向定位時·與從逆轉方向在相同位置定位時停止角度之差。

Lost Motion [arcmin]

This is the difference in stopped angles achieved when the output table is positioned to the same position in the forward and reverse directions.

Glossary

減速機專用名詞解釋

重覆定位精度 [arcsec]

在同位置從同方向反覆定位所產生誤差值。

Repetitive Positioning Accuracy [arcsec]

This is a value indicating the degree of error that generates when positioning is performed repeatedly to the same position in the same direction.

容許載重 [N]

表示施加在輸出平台的軸方向推力載重的容許值。

Permissible Thrust Load [N]

This is the permissible value of thrust load applied to the output table in the axial direction.

容許彎矩負載 [N.m]

在從輸出平台中心偏心的位置施加载重時，產生使輸出平台傾斜的作用力。是指離此時中心的偏心量 × 載重而計算的慣量載重容許值。

Permissible Moment Load [N.m]

When a load is applied to a position away from the center of the output table, the output table receives a tilting force. The permissible moment load refers to the permissible value of moment load calculated by the eccentricity from the center by the applied load.

工作台面偏擺 [mm]

指無負載下輸出平台運轉時，輸出平台安裝面的偏轉最大值。

Runout of Output Table Surface [mm]

This is the max. value of runout of the installation surface of the output table when the output table is rotated under no load.

工作同心度 [mm]

指無負載下使輸出平台運轉時，平台內徑或外徑的偏轉度最大值。

Runout of Output Table Inner / Outer Diameter [mm]

This is the max. value of runout of the inner diameter or outer diameter of the table when the output table is rotated under no load.

工作台平行度 [mm]

減速機安裝面與輸出平台的安裝面傾斜的程度。

Parallelism of Output Table [mm]

This is the inclination of the installation surface of the output table compared with the actuator installation surface on the equipment side.

Protection Class

Based on IP65, dustresistance and waterproofing regarding the degree of protection of the device is classified using a grade.

重量 Weight [kg]

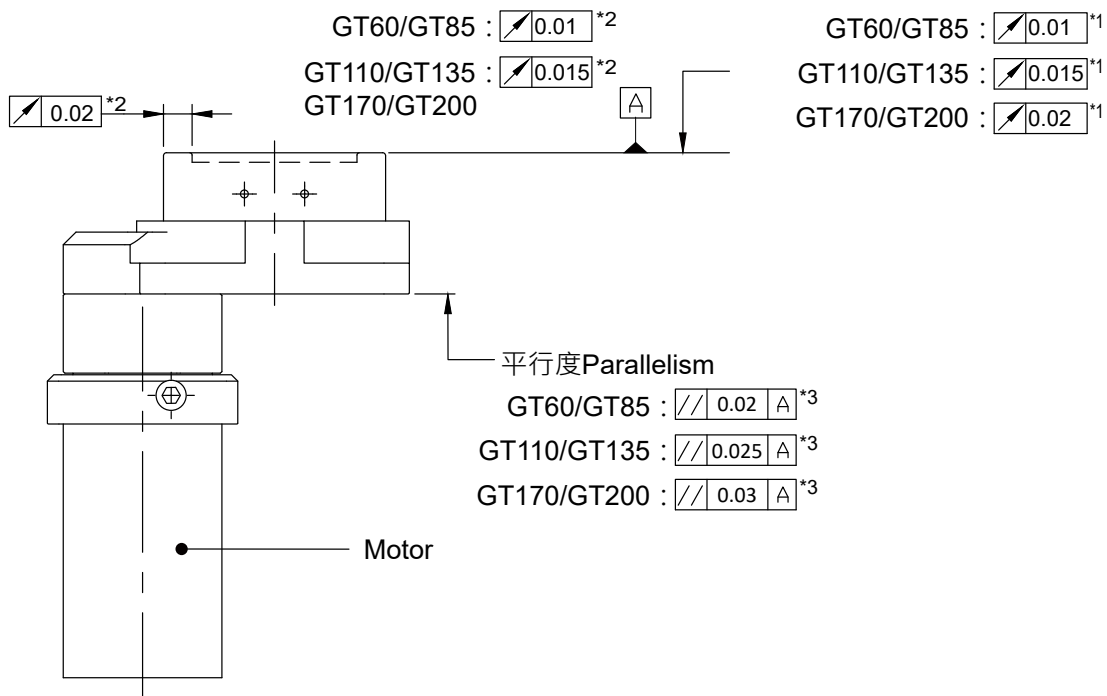
實物重量。 Product weight.

Permissible Moment Load

容許彎矩負載

GT

GT60/GT85/GT110/GT135/GT170/GT200



- * 1 輸出平台面振幅
Runout of output table surface
- * 2 輸出平台內外徑振幅
Runout of output table inner and outer diameter
- * 3 輸出平台平行度 (安裝面標準)
Parallelism of output table (against the installation surface)

工作台面偏擺：指無負載下輸出平台運轉時，輸出平台安裝面的偏轉最大值。

工作台同心度：指無負載下使輸出平台運轉時，平台內徑或外徑的偏轉度最大值。

工作台平行度：減速機安裝面與輸出平台的安裝面傾斜的程度。

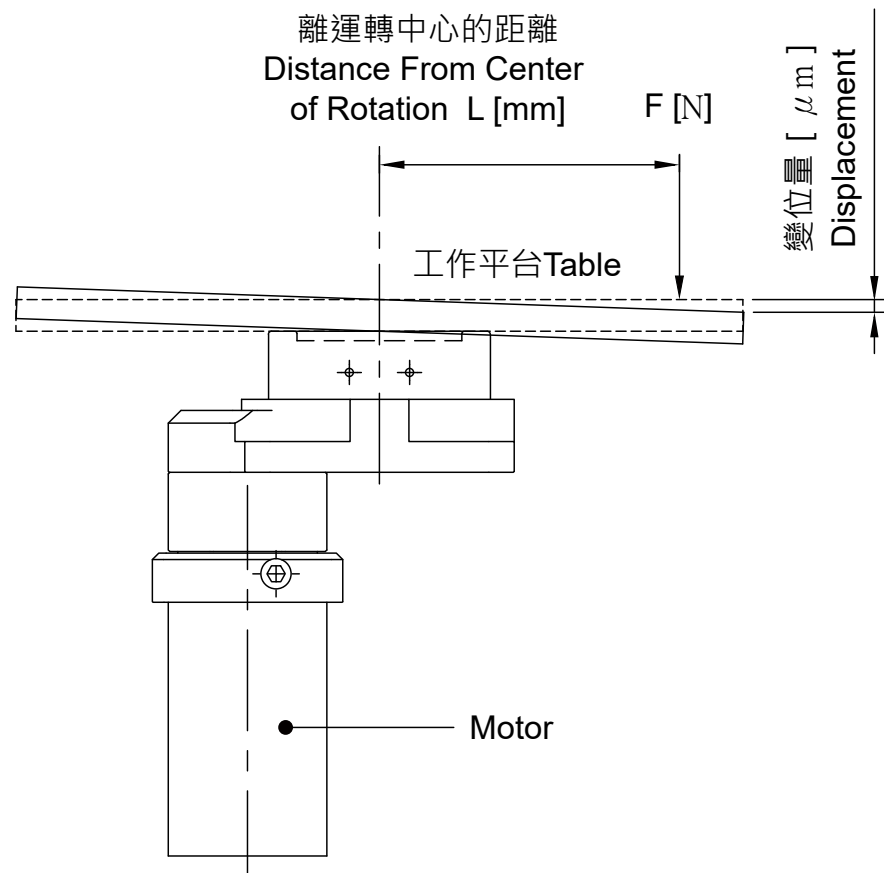
Runout of Output Table Surface: This is the max. value of runout of the installation surface of the output table when the output table is rotated under no load.

Runout of Output Table Inner / Outer Diameter: This is the max. value of runout of the inner diameter or outer diameter of the table when the output table is rotated under no load.

Parallelism of Output Table: This is the inclination of the installation surface of the output table compared with the actuator installation surface on the equipment side.

Permissible Moment Load

容許彎矩負載



慣量載重 Moment Load [Nm] = $0.001 \times F(\text{N}) \times L(\text{mm})$

慣量載重引起的變位量 (參考值)

在輸台上施加慣量載重時會引起變位。

圖表上的變位量是使慣量載重作用一個方向時，自輸出平台運轉中心距離 L 的變位量。

慣量載重在正負兩方向作用時，變位量約為 2 倍。

Displacement by Moment Load (Reference Value)

The output table will be displaced when it receives the moment load.

The graph plots the table displacement that occurs at distance L from the rotation center of the output table when a given moment load is applied in the negative direction.

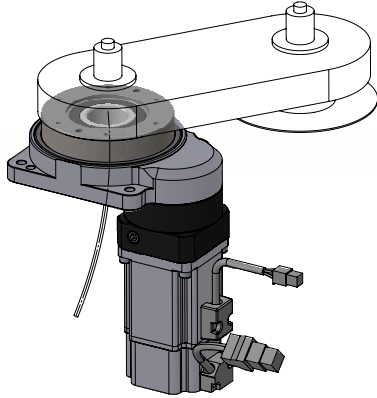
The displacement becomes approximately twofold when the moment load is applied in both the positive and negative directions.

Applications

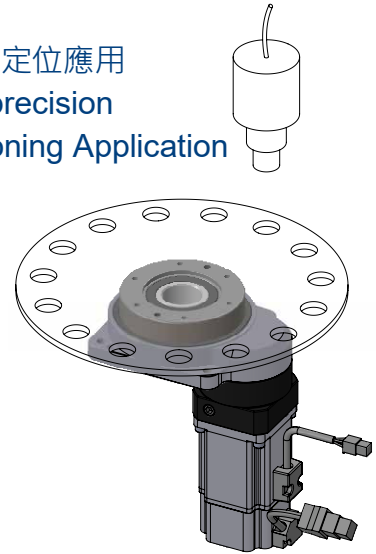
減速機應用範例

GT

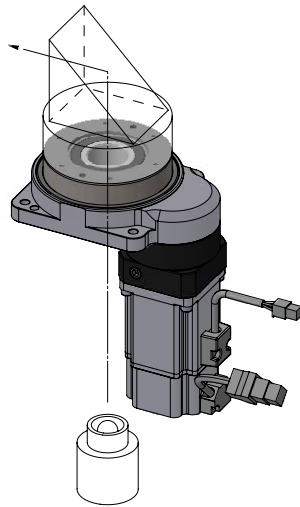
○施加力矩負載的應用
Torque Loading Application



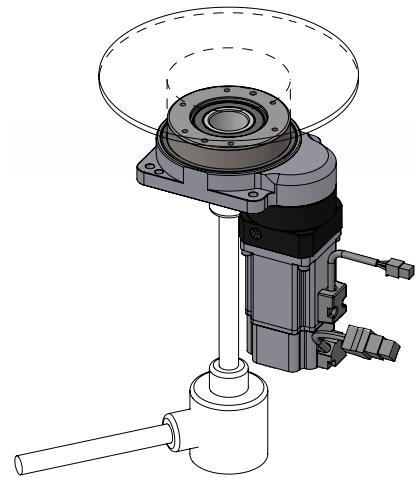
○高精度定位應用
High-precision
Positioning Application



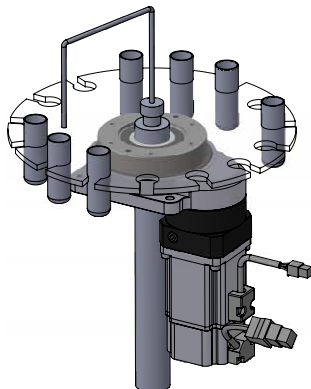
○使用中空孔光學應用
Hollow Hole for Optical Application



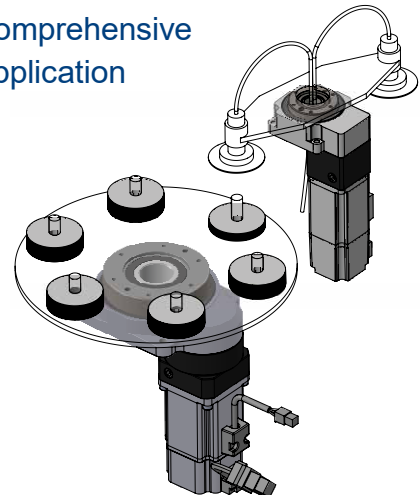
○使用中空孔的應用
Hollow Hole Application



○高精度中空孔定位應用
High-precision Hollow
Hole Positioning Application

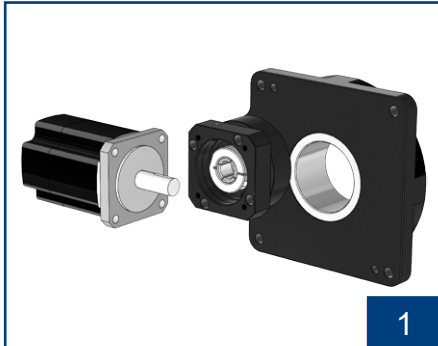


○綜合應用
Comprehensive
Application



Hollow Rotary Reducer and Motor Mounting Instructions

高精度中空旋轉平台減速機與馬達安裝指南



1

核對馬達型號與減速機規格是否正確。並將配合面擦拭乾淨。

Confirm the motor, and gearbox size. Clean up the mounting surface.



2

如馬達軸徑在 $\phi 35$ 以下，請將馬達軸上的鍵拿掉。

Remove the motor key if the diameter of motor shaft is under $\phi 35$.



3

檢查馬達出力軸尺寸，如需軸套，請先裝進入力孔內。

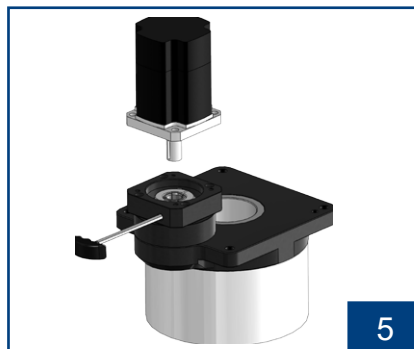
Check motor shaft size and insert bushing into input bore if necessary.



4

取出塞頭，使用六角扳手將迫緊環螺絲鬆開。並將螺絲對準孔位。

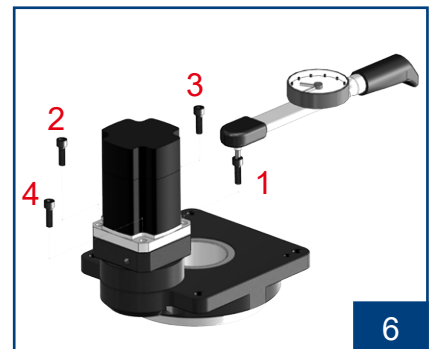
Remove the plug on the adapter plate. Rotate the set collar till the bolt is line up.



5

將馬達垂直裝入減速機。

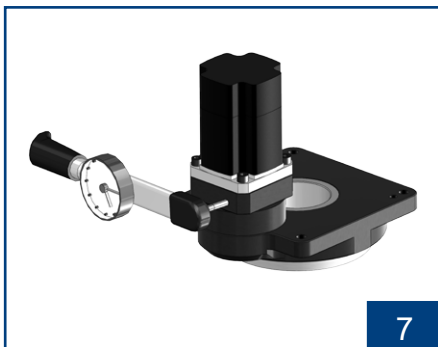
Put the motor into the gearbox vertically.



6

依序 1~4 使用扭力扳手鎖上外六角螺絲。

Tighten the mounting bolt in 1~4 order with torque wrench.



7

使用扭力扳手將迫緊環螺絲鎖緊。

Tighten the set collar bolt with torque wrench.



8

裝回塞頭。

Tighten back the screw plug.

1. 務必先鎖緊馬達，才能鎖緊馬達軸心迫緊環。

To be sure to tighten motor first and then to tighten the set collar on motor shaft.

2. 請依步驟順序組裝，尤其步驟 6、7 不可顛倒。

Please assembly in order according to above steps, especially for step 6 and step 7.