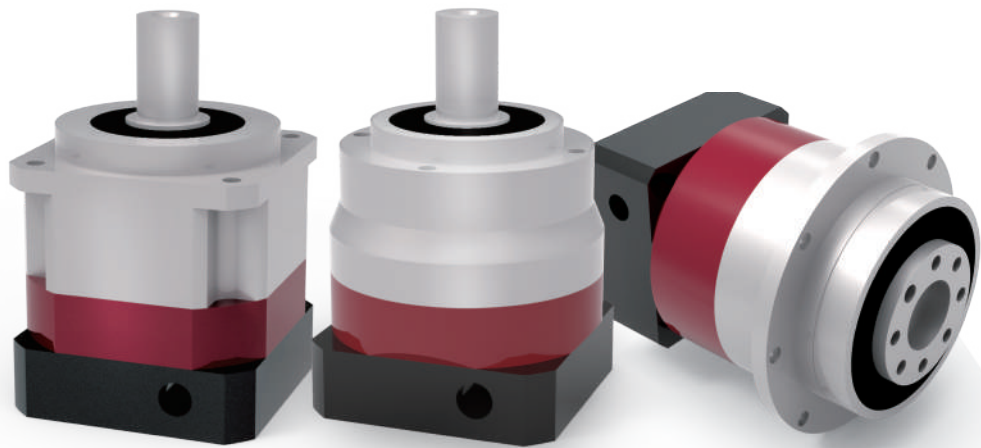


行星減速機

Planetary Reducer



公司簡介

原億昌機械將近四十年的生產經驗，擁有 ISO 9001 認證，與經濟部工研院產學合作，因應目前全球智能製造的趨勢，提供傳動系列零配件與設備，包含齒條 (排齒)、導軌齒條、齒輪、滾輪、行星減速機和消除減速機等產品。

廣大客群包含各行業領域例如：CNC 機台、工具母機、木工機、印刷機、切割機、龍門銑床、磨床、鑽床、彎管機、機器人手臂、自動化倉儲設備、自動上下料軌道、沙灘車、汽車、航空母艦、半導體設備廠、起重機等。

原億昌產品優良，於 2015 年榮獲台灣第 12 屆國家品牌玉山獎，傑出企業類；2016 年極度精密齒條齒輪組，榮獲第十三屆國家品牌玉山獎最佳產品獎，與金炬獎十大績優商品獎。

原億昌以自有品牌 YYC 行銷市場，"You drive, You Control!" 你驅動，你掌控！為企業標語，目標是客戶所使用的驅動零件品質卓越，效能皆在客戶的掌控之中，將產品定位於中高端市場，已經行銷近五十多個國家，提供更多客戶滿意，是我們持續努力的目標。

COMPANY PROFILE

Yuan Yi Chang Machinery has 40 years of experience, with ISO 9001 certificate and work projects with Industrial Technology Research Institute. Corresponding to smart manufacturing trend globally, YYC offers different series of transmission parts and equipment including Rack, Guideway Rack, Pinion, Roller, Planetary Reducers, Backlash Free Reducers.

Our major clients include all kinds of industries and fields such as CNC machines, machine centers, wood-cutting machines, printing machines, cutting machines, gantry milling machines, grinding machines, drilling machines, bending machines, robotic arms, automatic storage equipment, automatic upload & unload track, ATV, aircraft carrier, semiconductor plant, cranes, and so on.

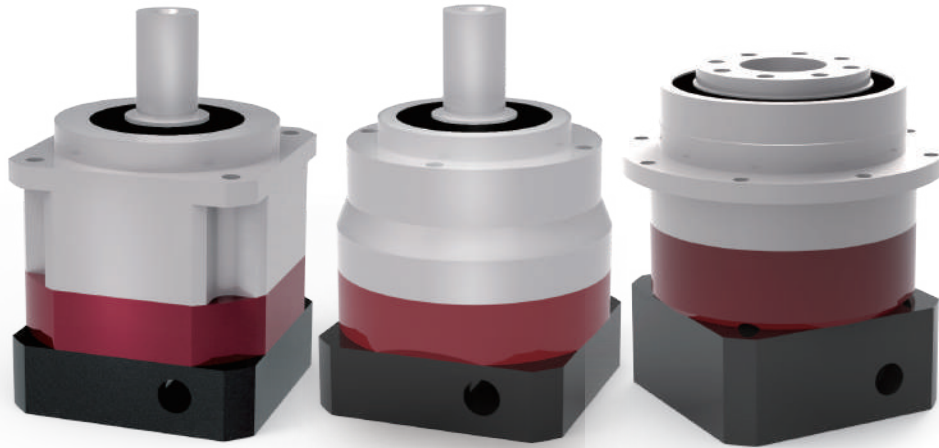
YYC has excellent quality capability. In 2015, we earned Best Enterprise of National Brand Yu-Shan Award. In 2016, our Ultra High Precision Rack and Pinion won Best Products of National Brand Yu-Shan Award and Golden Torch Prize.






Yuan Yi Chang has marketed by brand name "YYC" which means "You drive, You Control!" Every driven part with outstanding quality, so the performance is under customer's control. Products are target on middle to high end markets. Currently, we are exporting nearly 50 countries. To have more customers' satisfactions is our continuous goal.



行星減速機目錄

Contents of Planetary Reducer



型號 Code	主結構 Structure	機型 Type	型號 Code	減速比 Ratio	背隙等級 Backlash Level	照片 Photo	頁碼 Page
HR	斜齒 Helical	標準型 Standard	42, 60, 90, 115, 142, 180	L1: 3, 4, 5, 7, 10 L2: 15, 20, 25, 30, 35, 40, 50, 70, 100	P _s L1 ≤ 1, L2 ≤ 3 P ₀ L1 ≤ 3, L2 ≤ 5 P ₁ L1 ≤ 5, L2 ≤ 7		P.5
HER	斜齒 Helical	經濟型 Economy	42, 60, 90, 115, 142, 180	L1: 3, 4, 5, 7, 10 L2: 15, 20, 25, 30, 35, 40, 50, 70, 100	P ₂ : L1 ≤ 8, L2 ≤ 12		P.9
HSR	斜齒 Helical	高鋼性 Super	42, 60, 90, 115, 142, 180	L1: 3, 4, 5, 7, 10 L2: 15, 20, 25, 30, 35, 40, 50, 70, 100	P _s L1 ≤ 1, L2 ≤ 3 P ₀ L1 ≤ 3, L2 ≤ 5 P ₁ L1 ≤ 5, L2 ≤ 7 P ₂ L1 ≤ 7, L2 ≤ 9		P.13
HCR	斜齒 Helical	圓型 Cylindrical	42, 60, 90, 115, 142, 180	L1: 3, 4, 5, 7, 10 L2: 15, 20, 25, 30, 35, 40, 50, 70, 100	P ₂ : L1 ≤ 8, L2 ≤ 12		P.17
HDR	斜齒 Helical	盤型 Disk	47, 64, 90, 110, 140, 200	L1: 4, 5, 7, 10 L2: 20, 25, 35, 40, 50, 70, 100	P _s L1 ≤ 1, L2 ≤ 3 P ₀ L1 ≤ 3, L2 ≤ 5 P ₁ L1 ≤ 5, L2 ≤ 7		P.21

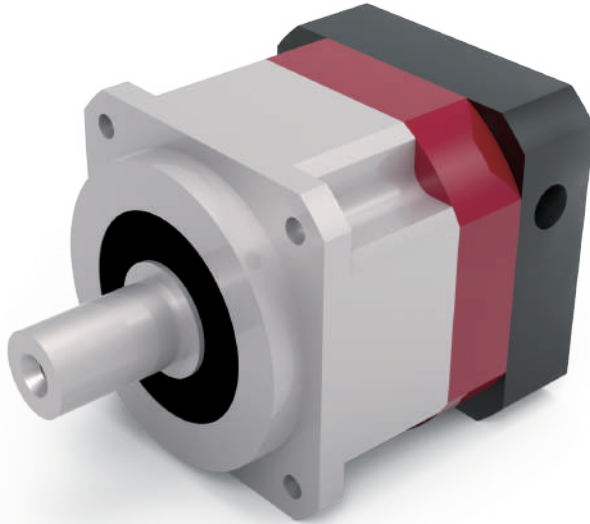
行星減速機型號說明

Planetary Reducer Code Instruction



行星減速機 Planetary Reducer

1st	2nd	3rd	4th	5th	6th	7th	8th
主結構 Structure	機型 Type	品名 Name	型號 Code	減速比 Ratio	出力軸鍵槽 Output Shaft Keyway	背隙等級 Backlash Level	馬達 Motor
H	C E S D	R	042~200	3~100	S1 S2	P _s P ₀ P ₁ P ₂	N/A
H=斜齒	C=圓型 E=經濟型 S=高剛性 D=盤型	減速機	42 60 90 110 115 140 142 180 200	L1=1 段 減速比 3,4,5,7,10 L2=2 段 減速比 15,20, 25, 30, 35, 40, 50, 70, 100	S1 標準品 (有鍵槽) S2 實心軸 (無鍵槽)	P _s =極精密 P ₀ =超精密 P ₁ =精密 P ₂ =標準	N/A
H=Helical	C=Cylindrical E=Economy S=Super D=Disk	Reducer	42 60 90 110 115 140 142 180 200	L1=Level 1 Ratio 3,4,5,7,10 L2=Level 2 Ratio 15, 20, 25, 30, 35, 40, 50, 70, 100	S1: Standard, with Keyway S2: Solid Output, No Keyway	P _s =Ultra Precision P ₀ =Super Precision P ₁ =Precision P ₂ =Standard	N/A



HR L1 Ratio 3~10

減速比 Ratio

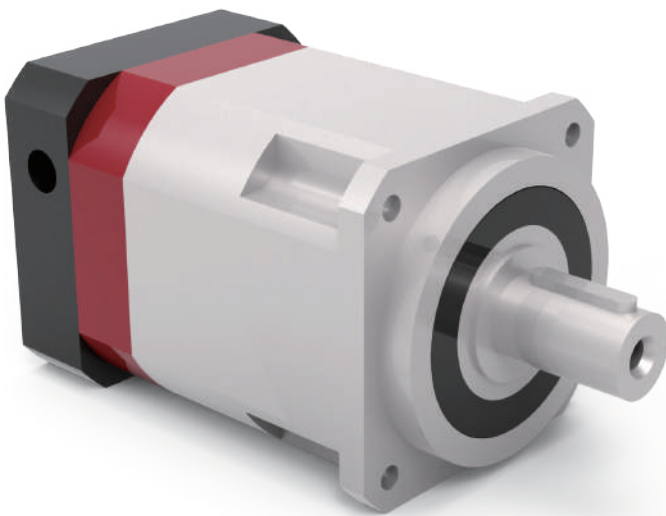
3, 4, 5, 7, 10

背隙等級 Backlash Level L1

$P_s \leq 1$

$P_0 \leq 3$

$P_1 \leq 5$



HR L2 Ratio 15~100

減速比 Ratio

15, 20, 25, 30, 35, 40, 50,
70, 100

背隙等級 Backlash Level L2

$P_S \leq 3$

$P_0 \leq 5$

$P_1 \leq 7$

HR Series



HR 行星減速機 Planetary Reducer

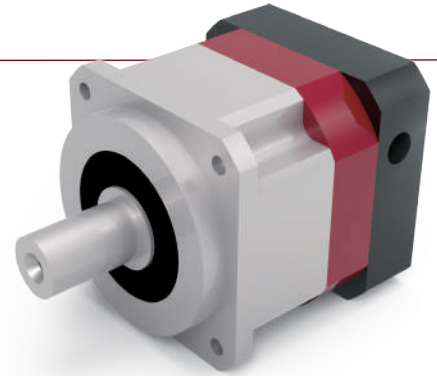
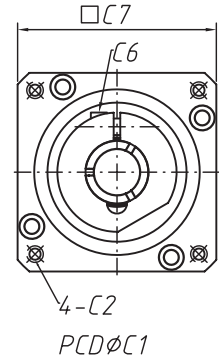
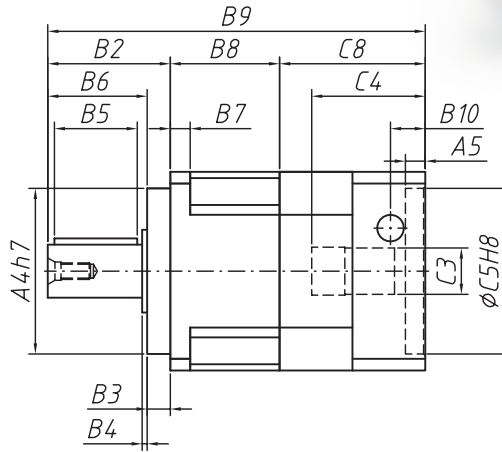
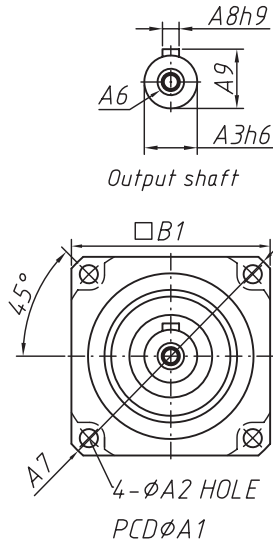
規格 Model NO.	單位 Unit	節數 Stage	減速比 Ratio	42	60	90	115	142	180
額定輸出力矩 Nominal Output Torque	Nm	L1	3	21	57	135	216	352	603
			4	20	52	145	298	552	1065
			5	23	62	165	338	660	1215
			7	20	52	145	308	560	1115
			10	15	42	105	238	460	915
		L2	15	21	57	135	216	352	603
			20	20	52	145	298	552	1065
			25	23	62	165	338	660	1215
			30	21	57	155	318	610	1115
			35	20	52	145	308	560	1115
			40	18	47	125	268	510	1015
			50	23	62	165	338	660	1215
			70	20	52	145	308	560	1115
			100	15	42	105	238	460	915
最大輸入轉速 Max. Input Speed	rpm	L1 / L2	3~100	10,000	10,000	8,000	8,000	6,000	6,000
額定輸入轉速 Nominal Input Speed	rpm	L1 / L2	3~100	5,000	5,000	4,000	4,000	3,000	3,000
極精密背隙 P _s Ultra Precision Backlash	arc min	L1	3~10	≤ 1					
		L2	15~100	≤ 3					
超精密背隙 P ₀ Super Precision Backlash	arc min	L1	3~10	≤ 3					
		L2	15~100	≤ 5					
精密背隙 P ₁ Precision Backlash	arc min	L1	3~10	≤ 5					
		L2	15~100	≤ 7					
最大加速扭矩 Max. Acceleration Torque	Nm	L1 / L2	3~100	1.8 倍額定輸出力矩 / 1.8 Times of nominal output torque					
最大輸出 (急停) 扭矩 Max. Output (Emergency Stop) Torque	Nm	L1 / L2	3~100	3 倍額定輸出力矩 / 3 Times of nominal output torque					
扭轉剛性 Torsional Rigidity	Nm / arc min	L1 / L2	3~100	3	7	14	25	50	145
容許徑向力 Max. Radial Force	N	L1 / L2	3~100	780	1,530	3,250	6,700	9,400	14,500
容許軸向力 Max. Axial Force	N	L1 / L2	3~100	390	765	1,625	3,350	4,700	7,250
使用壽命 Product Life	hr	L1 / L2	3~100	S5 週期 > 20,000 (S1 連續運轉 > 10,000 hrs) S5 Cycle Operation > 20,000 (S1 Continuous Operation > 10,000 hrs)					
使用溫度 Operation Temp	°C	L1 / L2	3~100	-25°C ~ 90°C					
效率 Efficiency	%	L1	3~10	≤ 97					
		L2	15~100	≤ 94					
潤滑 Lubrication		L1 / L2	3~100	合成潤滑油 / Synthetic Lubrication Grease					
噪音值 Noise Level (2000pm)	dB	L1	3~10	≤ 56	≤ 60	≤ 63	≤ 63	≤ 65	≤ 67
		L2	15~100	≤ 56	≤ 60	≤ 63	≤ 63	≤ 65	≤ 67
防護等級 Degree of Gearbox Protection	IP	L1 / L2	3~100	IP 65					
安裝方向 Mounting Direction		L1 / L2	3~100	任意方向 / Any direction					
重量 Weight	Kg	L1	3~10	0.5	1.2	3.5	7.5	15.5	38
		L2	15~100	0.8	1.8	5.2	11.2	22.5	48

減速機轉動慣量

Reducer Moment of Inertia

規格 Model NO.	單位 Unit	節數 Stage	減速比 Ratio	42	60	90	115	142	180
轉動慣量 Moment of Inertia	kg.cm ²	L1	3	0.03	0.16	0.61	3.25	9.21	28.98
			4	0.03	0.14	0.48	2.74	7.54	23.67
			5	0.03	0.13	0.47	2.71	7.42	23.29
			7	0.03	0.13	0.45	2.62	7.14	22.48
			10	0.03	0.13	0.44	2.57	7.03	22.51
		L2	15	0.03	0.03	0.13	0.47	2.71	7.42
			20	0.03	0.03	0.13	0.47	2.71	7.42
			25	0.03	0.03	0.13	0.47	2.71	7.42
			30	0.03	0.03	0.13	0.47	2.71	7.42
			35	0.03	0.03	0.13	0.47	2.71	7.42
			40	0.03	0.03	0.13	0.47	2.71	7.42
			50	0.03	0.03	0.13	0.44	2.57	7.03
			70	0.03	0.03	0.13	0.44	2.57	7.03
			100	0.03	0.03	0.13	0.44	2.57	7.03

HR L1 Ratio 3~10



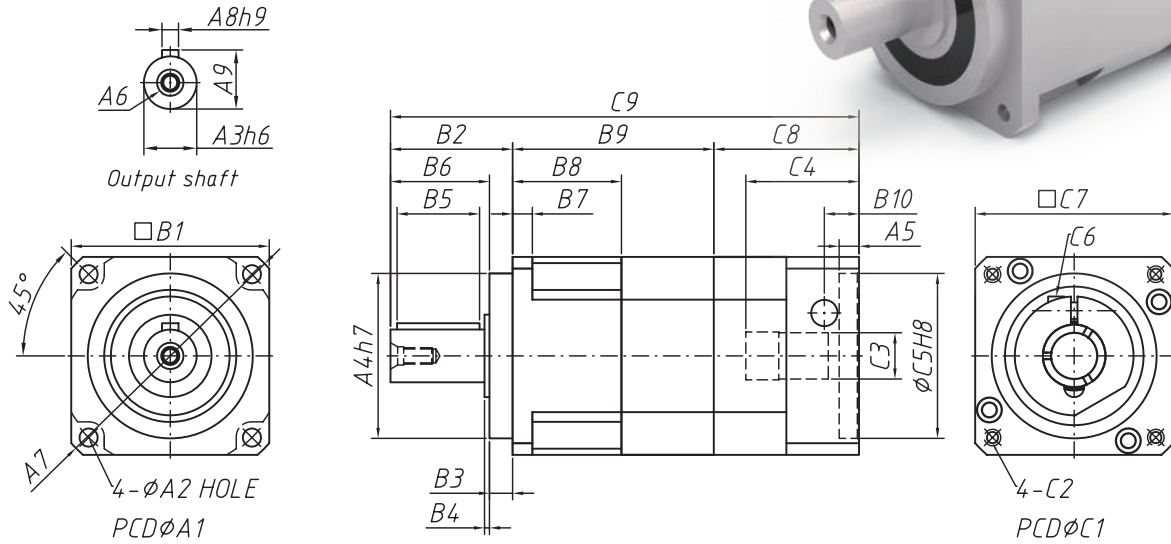
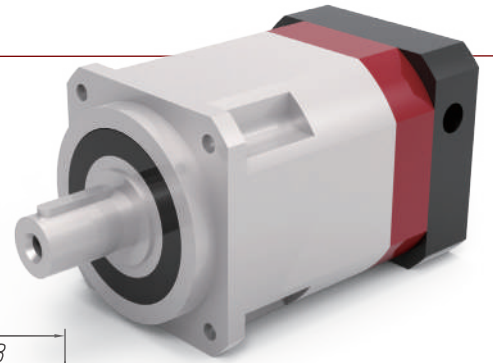
HR 行星減速機
Planetary Reducer

單位 / Dimension : mm

Code	Model	42	60	90	115	142	180
A1		50	70	100	130	165	215
A2		3.5	5.5	6.5	8.5	10.5	13.5
A3		13	16	22	32	40	55
A4		35	50	80	110	130	160
A5		6	6	7.5	7.5	11	12
A6		M4 x P0.7	M5 x P0.8	M8 x P1.25	M12 x P1.75	M16 x P2.0	M20 x P2.5
A7		56	80	116	148	185	240
A8		5	5	6	10	12	16
A9		15	18	24.5	35	43	60
B1		42.6	60	90	115	142	180
B2		25.8	37	48	65	97	104.5
B3		5.5	7	10	12	15	20
B4		1.6	1.5	1.5	2	3	2.5
B5		15	25	30	40	63	70
B6		20.5	30	38	53	82	84.5
B7		4	6	8	10	12	16
B8		28.3	35	53	79.1	72	87.5
B9		88.65	117	153.5	210	251	292
B10		11	13.65	17.9	19.9	23	27.5
C1		46	70	100	145	165	200
C2		M4 x P0.7	M5 x P0.8	M6 x P1.0	M8 x P1.25	M10 x P1.5	M12 x P1.75
C3		8	14, 19	19, 24	24, 28	35, 42	42
C4		26	35	46	60	68	72.5
C5		30	50	70	110	130	114.3
C6		M3 x P0.5	M5 x P0.8	M6 x P1.0	M8 x P1.25	M10 x P1.5	M12 x P1.75
C7		42.6	60	90	130	142	180
C8		34.35	45	52.5	65.9	82	100

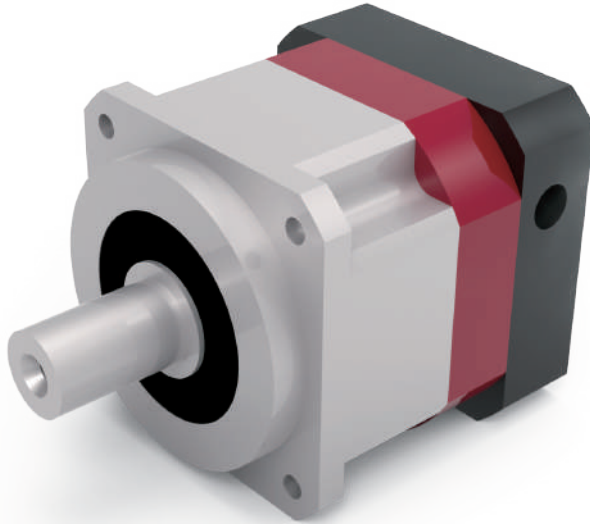
HR L2 Ratio 15~100

HR 行星減速機 Planetary Reducer



單位 / Dimension : mm

Code	Model	42	60	90	115	142	180
A1		50	70	100	130	165	215
A2		3.5	5.5	6.5	8.5	10.5	13.5
A3		13	16	22	32	40	55
A4		35	50	80	110	130	160
A5		6	6	7.5	22.5	11	12
A6		M4 x P0.7	M5 x P0.8	M8 x P1.25	M12 x P1.75	M16 x P2.0	M20 x P2.5
A7		56	80	116	148	185	240
A8		5	5	6	10	12	16
A9		15	18	24.5	35	43	60
B1		42.6	60	90	115	142	180
B2		25.8	37	48	65	97	104.5
B3		5.5	7	10	12	15	20
B4		1.6	1.5	1.5	2	3	2.5
B5		15	25	30	40	63	70
B6		20.5	30	38	53	82	84.5
B7		4	6	8	10	12	16
B8		28.3	33	43	54	72	87.5
B9		54.3	61	83	102	123	177.5
B10		11	13.5	14	15	23	27.5
C1		46	70	90	145	165	200
C2		M4 x P0.7	M5 x P0.8	M6 x P1.0	M8 x P1.25	M10 x P1.5	M12 x P1.75
C3		8	14, 19	19	24, 28	35, 42	42
C4		26	34	43	67.5	68	72.5
C5		30	50	70	110	130	114.3
C6		M3 x P0.5	M5 x P0.8	M6 x P1.0	M8 x P1.25	M10 x P1.5	M12 x P1.75
C7		42.6	60	90	130	142	180
C8		34.35	44	47	71	82	100
C9		114.65	142	178	238	312	382



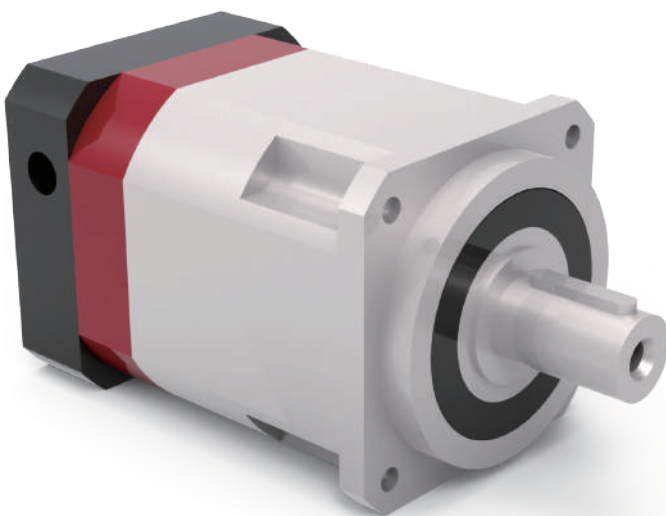
HER L1 Ratio 3~10

減速比 Ratio

3, 4, 5, 7, 10

背隙等級 Backlash Level L1

$P_2 \leq 8$



HER L2 Ratio 15~100

減速比 Ratio

15, 20, 25, 30, 35, 40, 50,

70, 100

背隙等級 Backlash Level L2

$P_2 \leq 12$



HER Series



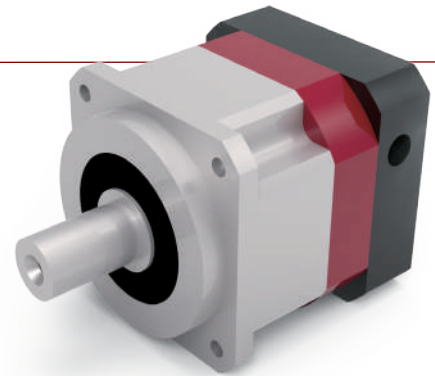
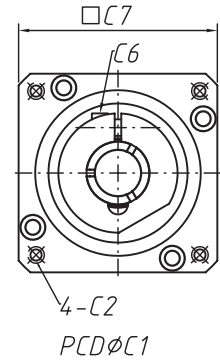
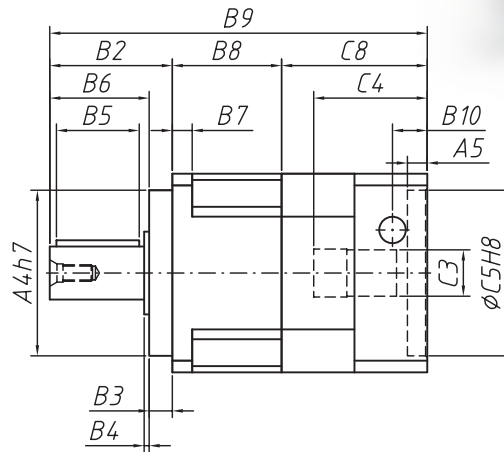
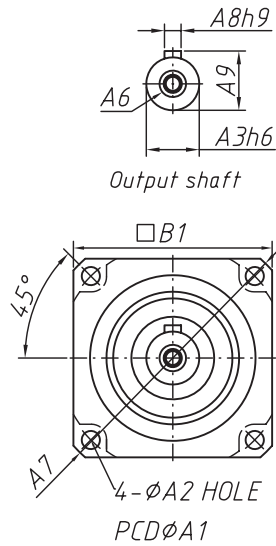
規格 Model NO.	單位 Unit	節數 Stage	減速比 Ratio	42	60	90	115	142	180
額定輸出力矩 Nominal Output Torque	Nm	L1	3	21	57	135	216	352	603
			4	20	52	145	298	552	1065
			5	23	62	165	338	660	1215
			7	20	52	145	308	560	1115
			10	15	42	105	238	460	915
		L2	15	21	57	135	216	352	603
			20	20	52	145	298	552	1065
			25	23	62	165	338	660	1215
			30	21	57	155	318	610	1115
			35	20	52	145	308	560	1115
			40	18	47	125	268	510	1015
			50	23	62	165	338	660	1215
			70	20	52	145	308	560	1115
			100	15	42	105	238	460	915
最大輸入轉速 Max. Input Speed	rpm	L1 / L2	3~100	10,000	10,000	8,000	8,000	6,000	6,000
額定輸入轉速 Nominal Input Speed	rpm	L1 / L2	3~100	5,000	5,000	4,000	4,000	3,000	3,000
標準背隙 P ₂ Standard Backlash	arc min	L1	3~10	≤ 8					
		L2	15~100	≤ 12					
最大加速扭矩 Max. Acceleration Torque	Nm	L1 / L2	3~100	1.8 倍額定輸出力矩 / 1.8 Times of nominal output torque					
最大輸出 (急停) 扭矩 Max. Output (Emergency Stop) Torque	Nm	L1 / L2	3~100	3 倍額定輸出力矩 / 3 Times of nominal output torque					
扭轉剛性 Torsional Rigidity	Nm / arc min	L1 / L2	3~100	3	7	14	25	50	145
容許徑向力 Max. Radial Force	N	L1 / L2	3~100	780	1,530	3,250	6,700	9,400	14,500
容許軸向力 Max. Axial Force	N	L1 / L2	3~100	390	765	1,625	3,350	4,700	7,250
使用壽命 Product Life	hr	L1 / L2	3~100	S5 週期 > 20,000 (S1 連續運轉 > 10,000 hrs) S5 Cycle Operation > 20,000(S1 Continuous Operation > 10,000 hrs)					
使用溫度 Operation Temp	°C	L1 / L2	3~100	-25°C ~ 90°C					
效率 Efficiency	%	L1	3~10	≤ 97					
		L2	15~100	≤ 94					
潤滑 Lubrication		L1 / L2	3~100	合成潤滑油 / Synthetic Lubrication Grease					
噪音值 Noise Level (2000pm)	dB	L1	3~10	≤ 56	≤ 60	≤ 63	≤ 63	≤ 65	≤ 67
		L2	15~100	≤ 56	≤ 60	≤ 63	≤ 63	≤ 65	≤ 67
防護等級 Degree of Gearbox Protection	IP	L1 / L2	3~100	IP 65					
安裝方向 Mounting Direction		L1 / L2	3~100	任意方向 / Any direction					
重量 Weight	Kg	L1	3~10	0.5	1.2	3.5	7.5	15.5	38
		L2	15~100	0.8	1.8	5.2	11.2	22.5	48

減速機轉動慣量

Reducer Moment of Inertia

規格 Model NO.	單位 Unit	節數 Stage	減速比 Ratio	42	60	90	115	142	180
轉動慣量 Moment of Inertia	kg.cm ²	L1	3	0.03	0.16	0.61	3.25	9.21	28.98
			4	0.03	0.14	0.48	2.74	7.54	23.67
			5	0.03	0.13	0.47	2.71	7.42	23.29
			7	0.03	0.13	0.45	2.62	7.14	22.48
			10	0.03	0.13	0.44	2.57	7.03	22.51
		L2	15	0.03	0.03	0.13	0.47	2.71	7.42
			20	0.03	0.03	0.13	0.47	2.71	7.42
			25	0.03	0.03	0.13	0.47	2.71	7.42
			30	0.03	0.03	0.13	0.47	2.71	7.42
			35	0.03	0.03	0.13	0.47	2.71	7.42
			40	0.03	0.03	0.13	0.47	2.71	7.42
			50	0.03	0.03	0.13	0.44	2.57	7.03
			70	0.03	0.03	0.13	0.44	2.57	7.03
			100	0.03	0.03	0.13	0.44	2.57	7.03

HER L1 Ratio 3~10



單位 / Dimension : mm

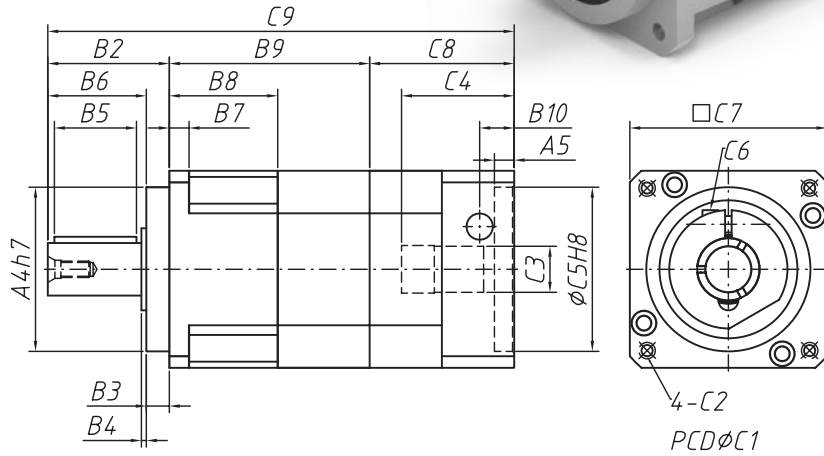
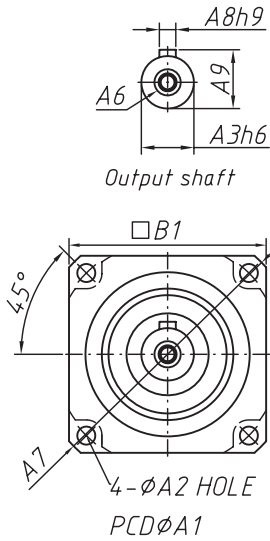
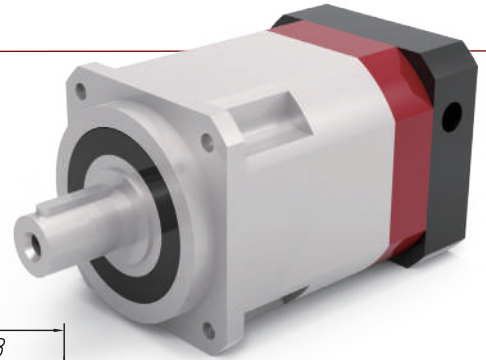
Code	Model	42	60	90	115	142	180
A1		50	70	100	130	165	215
A2		3.5	5.5	6.5	8.5	10.5	13.5
A3		13	16	22	32	40	55
A4		35	50	80	110	130	160
A5		6	6	7.5	7.5	11	12
A6		M4 x P0.7	M5 x P0.8	M8 x P1.25	M12 x P1.75	M16 x P2.0	M20 x P2.5
A7		56	80	116	148	185	240
A8		5	5	6	10	12	16
A9		15	18	24.5	35	43	60
B1		42.6	60	90	115	142	180
B2		25.8	37	48	65	97	104.5
B3		5.5	7	10	12	15	20
B4		1.6	1.5	1.5	2	3	2.5
B5		15	25	30	40	63	70
B6		20.5	30	38	53	82	84.5
B7		4	6	8	10	12	16
B8		28.3	35	53	79.1	72	87.5
B9		88.65	117	153.5	210	251	292
B10		11	13.65	17.9	19.9	23	27.5
C1		46	70	100	145	165	200
C2		M4 x P0.7	M5 x P0.8	M6 x P1.0	M8 x P1.25	M10 x P1.5	M12 x P1.75
C3		8	14, 19	19, 24	24, 28	35, 42	42
C4		26	35	46	60	68	72.5
C5		30	50	70	110	130	114.3
C6		M3 x P0.5	M5 x P0.8	M6 x P1.0	M8 x P1.25	M10 x P1.5	M12 x P1.75
C7		42.6	60	90	130	142	180
C8		34.35	45	52.5	65.9	82	100

※ 圖面更新恕不另行通知；如需圖面請洽業務人員。

※ The drawings are subject to change without notice. Please contact our staff for confirmation.

HER L2 Ratio 15~100

HER 行星減速機 Planetary Reducer

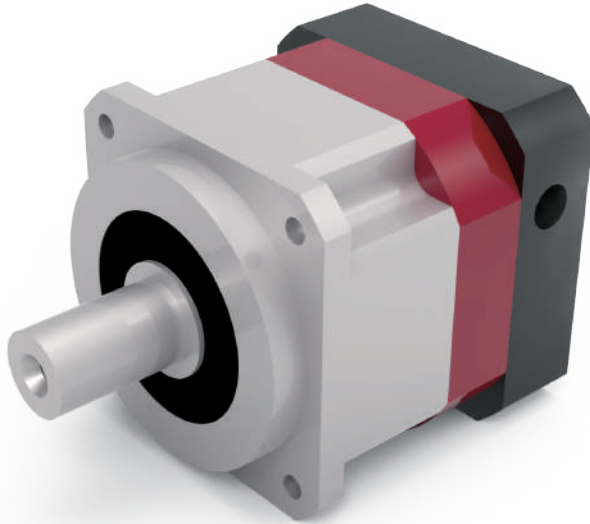


單位 / Dimension : mm

Code	Model	42	60	90	115	142	180
A1		50	70	100	130	165	215
A2		3.5	5.5	6.5	8.5	10.5	13.5
A3		13	16	22	32	40	55
A4		35	50	80	110	130	160
A5		6	6	7.5	22.5	11	12
A6		M4 x P0.7	M5 x P0.8	M8 x P1.25	M12 x P1.75	M16 x P2.0	M20 x P2.5
A7		56	80	116	148	185	240
A8		5	5	6	10	12	16
A9		15	18	24.5	35	43	60
B1		42.6	60	90	115	142	180
B2		25.8	37	48	65	97	104.5
B3		5.5	7	10	12	15	20
B4		1.6	1.5	1.5	2	3	2.5
B5		15	25	30	40	63	70
B6		20.5	30	38	53	82	84.5
B7		4	6	8	10	12	16
B8		28.3	33	43	54	72	87.5
B9		54.3	61	83	102	123	177.5
B10		11	13.5	14	15	23	27.5
C1		46	70	90	145	165	200
C2		M4 x P0.7	M5 x P0.8	M6 x P1.0	M8 x P1.25	M10 x P1.5	M12 x P1.75
C3		8	14, 19	19, 24	24, 28	35, 42	42
C4		26	34	43	67.5	68	72.5
C5		30	50	70	110	130	114.3
C6		M3 x P0.5	M5 x P0.8	M6 x P1.0	M8 x P1.25	M10 x P1.5	M12 x P1.75
C7		42.6	60	90	130	142	180
C8		34.35	44	47	71	82	100
C9		114.65	142	178	238	312	382

※ 圖面更新恕不另行通知；如需圖面請洽業務人員。

※ The drawings are subject to change without notice. Please contact our staff for confirmation.



HSR L1 Ratio 3~10

減速比 Ratio

3, 4, 5, 7, 10

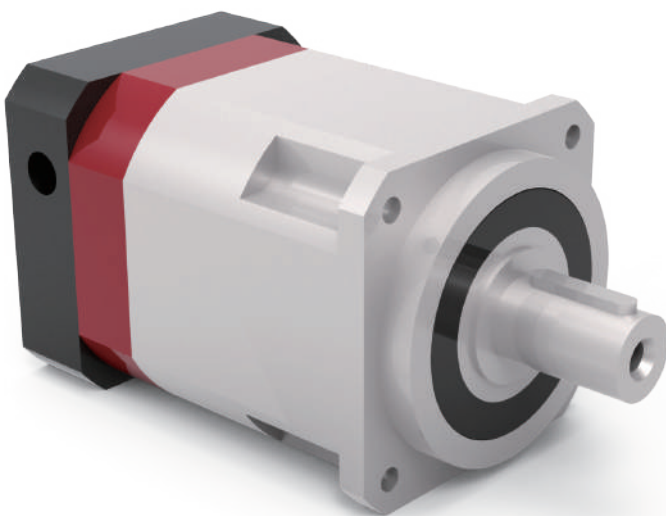
背隙等級 Backlash Level L1

$P_s \leq 1$

$P_0 \leq 3$

$P_1 \leq 5$

$P_2 \leq 7$



HSR L2 Ratio 15~100

減速比 Ratio

15, 20, 25, 30, 35, 40, 50,

70, 100

背隙等級 Backlash Level L2

$P_s \leq 3$

$P_0 \leq 5$

$P_1 \leq 7$

$P_2 \leq 9$



HSR Series



HSR 行星減速機 Planetary Reducer

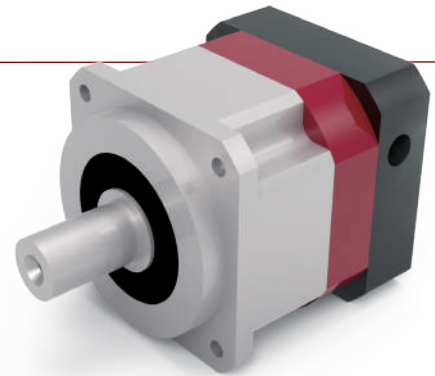
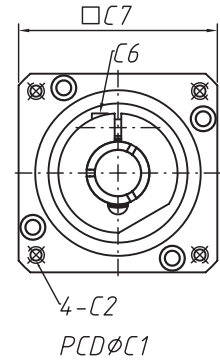
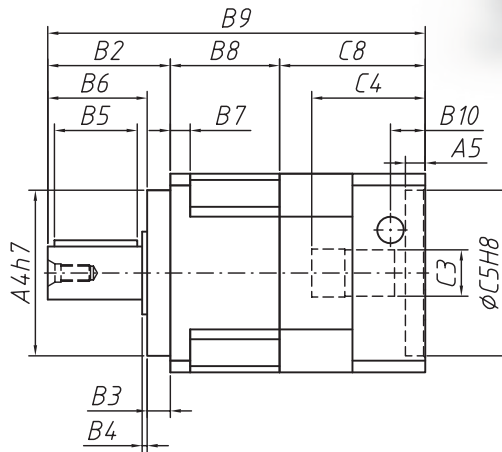
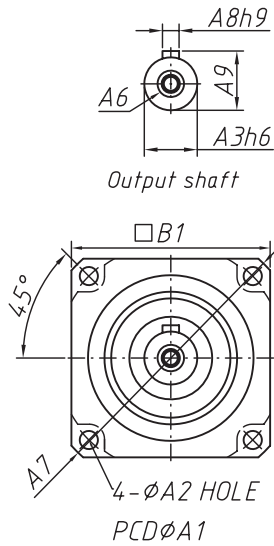
規格 Model NO.	單位 Unit	節數 Stage	減速比 Ratio	42	60	90	115	142	180
額定輸出力矩 Nominal Output Torque	Nm	L1	3	21	57	135	216	352	603
			4	20	52	145	298	552	1065
			5	23	62	165	338	660	1215
			7	20	52	145	308	560	1115
			10	15	42	105	238	460	915
		L2	15	21	57	135	216	352	603
			20	20	52	145	298	552	1065
			25	23	62	165	338	660	1215
			30	21	57	155	318	610	1115
			35	20	52	145	308	560	1115
			40	18	47	125	268	510	1015
			50	23	62	165	338	660	1215
			70	20	52	145	308	560	1115
			100	15	42	105	238	460	915
最大輸入轉速 Max. Input Speed	rpm	L1 / L2	3~100	10,000	10,000	8,000	8,000	6,000	6,000
額定輸入轉速 Nominal Input Speed	rpm	L1 / L2	3~100	5,000	5,000	4,000	4,000	3,000	3,000
極精密背隙 P _s Ultra Precision Backlash	arc min	L1	3~10	≤ 1					
		L2	15~100	≤ 3					
超精密背隙 P ₀ Super Precision Backlash	arc min	L1	3~10	≤ 3					
		L2	15~100	≤ 5					
精密背隙 P ₁ Precision Backlash	arc min	L1	3~10	≤ 5					
		L2	15~100	≤ 7					
標準背隙 P ₂ Standard Backlash	arc min	L1	3~10	≤ 7					
		L2	15~100	≤ 9					
最大加速扭矩 Max. Acceleration Torque	Nm	L1 / L2	3~100	1.8 倍額定輸出力矩 / 1.8 Times of nominal output torque					
最大輸出 (急停) 扭矩 Max. Output (Emergency Stop) Torque	Nm	L1 / L2	3~100	3 倍額定輸出力矩 / 3 Times of nominal output torque					
扭轉剛性 Torsional Rigidity	Nm / arc min	L1 / L2	3~100	3	7	14	25	50	145
容許徑向力 Max. Radial Force	N	L1 / L2	3~100	610	1,400	4,100	9,200	14,000	18,000
容許軸向力 Max. Axial Force	N	L1 / L2	3~100	320	1,100	3,700	5,820	11,400	19,500
使用壽命 Product Life	hr	L1 / L2	3~100	S5 週期 > 20,000 (S1 連續運轉 > 10,000 hrs) S5 Cycle Operation > 20,000 (S1 Continuous Operation > 10,000 hrs)					
使用溫度 Operation Temp	°C	L1 / L2	3~100	-25°C ~ 90°C					
效率 Efficiency	%	L1	3~10	≤ 97					
		L2	15~100	≤ 94					
潤滑 Lubrication		L1 / L2	3~100	合成潤滑油 / Synthetic Lubrication Grease					
噪音值 Noise Level (2000pm)	dB	L1	3~10	≤ 56	≤ 60	≤ 63	≤ 63	≤ 65	≤ 67
		L2	15~100	≤ 56	≤ 60	≤ 63	≤ 63	≤ 65	≤ 67
防護等級 Degree of Gearbox Protection	IP	L1 / L2	3~100	IP 65					
安裝方向 Mounting Direction		L1 / L2	3~100	任意方向 / Any direction					
重量 Weight	Kg	L1	3~10	0.5	1.2	3.5	7.5	15.5	38
		L2	15~100	0.8	1.8	5.2	11.2	22.5	48

減速機轉動慣量

Reducer Moment of Inertia

規格 Model NO.	單位 Unit	節數 Stage	減速比 Ratio	42	60	90	115	142	180
轉動慣量 Moment of Inertia	kg.cm ²	L1	3	0.03	0.16	0.61	3.25	9.21	28.98
			4	0.03	0.14	0.48	2.74	7.54	23.67
			5	0.03	0.13	0.47	2.71	7.42	23.29
			7	0.03	0.13	0.45	2.62	7.14	22.48
			10	0.03	0.13	0.44	2.57	7.03	22.51
		L2	15	0.03	0.03	0.13	0.47	2.71	7.42
			20	0.03	0.03	0.13	0.47	2.71	7.42
			25	0.03	0.03	0.13	0.47	2.71	7.42
			30	0.03	0.03	0.13	0.47	2.71	7.42
			35	0.03	0.03	0.13	0.47	2.71	7.42
			40	0.03	0.03	0.13	0.47	2.71	7.42
			50	0.03	0.03	0.13	0.44	2.57	7.03
			70	0.03	0.03	0.13	0.44	2.57	7.03
			100	0.03	0.03	0.13	0.44	2.57	7.03

HSR L1 Ratio 3~10



HSR 行星減速機 Planetary Reducer

單位 / Dimension : mm

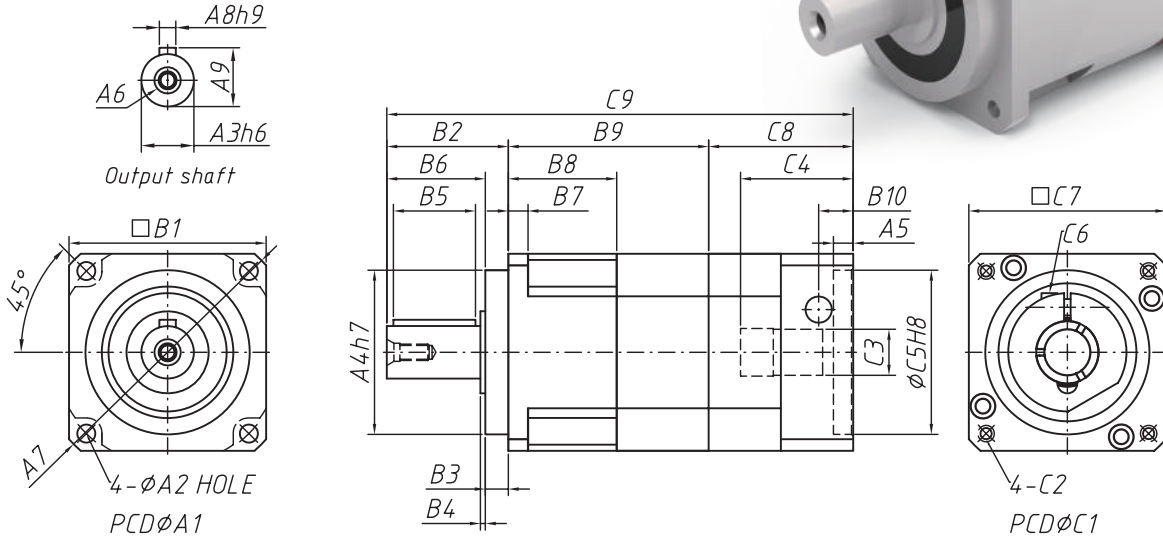
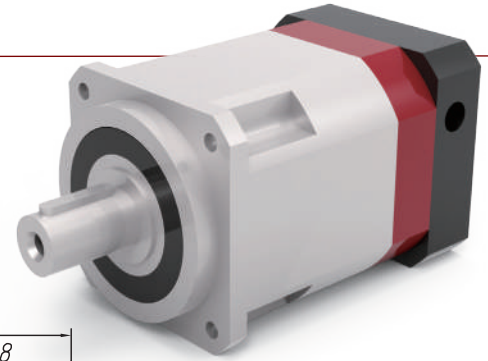
Code	Model	42	60	90	115	142	180
A1		50	70	100	130	165	215
A2		3.5	5.5	6.5	8.5	10.5	13.5
A3		13	16	22	32	40	55
A4		35	50	80	110	130	160
A5		6	6	7.5	7.5	11	12
A6		M4 x P0.7	M5 x P0.8	M8 x P1.25	M12 x P1.75	M16 x P2.0	M20 x P2.5
A7		56	80	116	148	185	240
A8		5	5	6	10	12	16
A9		15	18	24.5	35	43	60
B1		42.6	60	90	115	142	180
B2		25.8	37	48	65	97	104.5
B3		5.5	7	10	12	15	20
B4		1.6	1.5	1.5	2	3	2.5
B5		15	25	30	40	63	70
B6		20.5	30	38	53	82	84.5
B7		4	6	8	10	12	16
B8		28.3	35	53	79.1	72	87.5
B9		88.65	117	153.5	210	251	292
B10		11	13.65	17.9	19.9	23	27.5
C1		46	70	100	145	165	200
C2		M4 x P0.7	M5 x P0.8	M6 x P1.0	M8 x P1.25	M10 x P1.5	M12 x P1.75
C3		8	14, 19	19, 24	24, 28	35, 42	42
C4		26	35	46	60	68	72.5
C5		30	50	70	110	130	114.3
C6		M3 x P0.5	M5 x P0.8	M6 x P1.0	M8 x P1.25	M10 x P1.5	M12 x P1.75
C7		42.6	60	90	130	142	180
C8		34.35	45	52.5	65.9	82	100

※ 圖面更新恕不另行通知；如需圖面請洽業務人員。

※ The drawings are subject to change without notice. Please contact our staff for confirmation.

HSR L2 Ratio 15~100

HSR 行星減速機 Planetary Reducer

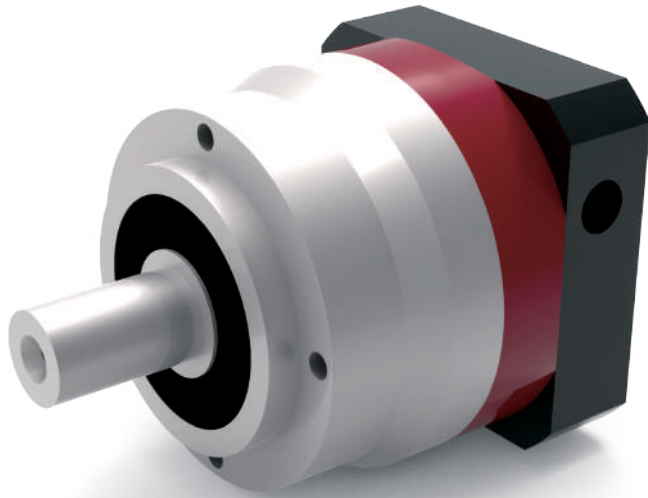


單位 / Dimension : mm

Code	Model	42	60	90	115	142	180
A1		50	70	100	130	165	215
A2		3.5	5.5	6.5	8.5	10.5	13.5
A3		13	16	22	32	40	55
A4		35	50	80	110	130	160
A5		6	6	7.5	22.5	11	12
A6		M4 x P0.7	M5 x P0.8	M8 x P1.25	M12 x P1.75	M16 x P2.0	M20 x P2.5
A7		56	80	116	148	185	240
A8		5	5	6	10	12	16
A9		15	18	24.5	35	43	60
B1		42.6	60	90	115	142	180
B2		25.8	37	48	65	97	104.5
B3		5.5	7	10	12	15	20
B4		1.6	1.5	1.5	2	3	2.5
B5		15	25	30	40	63	70
B6		20.5	30	38	53	82	84.5
B7		4	6	8	10	12	16
B8		28.3	33	43	54	72	87.5
B9		54.3	61	83	102	123	177.5
B10		11	13.5	14	15	23	27.5
C1		46	70	90	145	165	200
C2		M4 x P0.7	M5 x P0.8	M6 x P1.0	M8 x P1.25	M10 x P1.5	M12 x P1.75
C3		8	14, 19	19, 24	24, 28	35, 42	42
C4		26	34	43	67.5	68	72.5
C5		30	50	70	110	130	114.3
C6		M3 x P0.5	M5 x P0.8	M6 x P1.0	M8 x P1.25	M10 x P1.5	M12 x P1.75
C7		42.6	60	90	130	142	180
C8		34.35	44	47	71	82	100
C9		114.65	142	178	238	312	382

※ 圖面更新恕不另行通知；如需圖面請洽業務人員。

※ The drawings are subject to change without notice. Please contact our staff for confirmation.



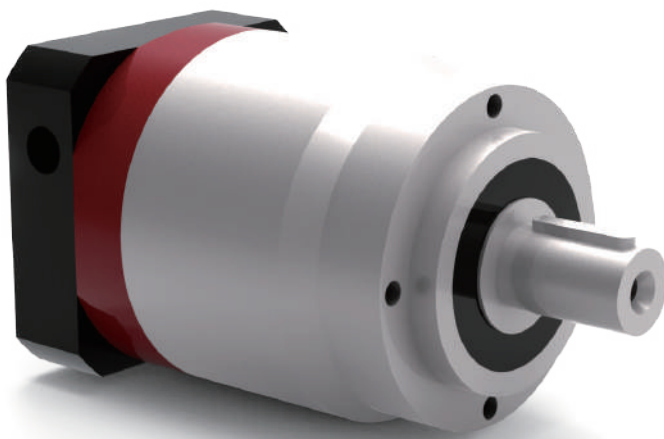
HCR L1 Ratio 3~10

減速比 Ratio

3, 4, 5, 7, 10

背隙等級 Backlash Level L1

$P_2 \leq 8$



HCR L2 Ratio 15~100

減速比 Ratio

15, 20, 25, 30, 35, 40, 50,

70, 100

背隙等級 Backlash Level L2

$P_2 \leq 12$



HCR Series

HCR 行星減速機 Planetary Reducer

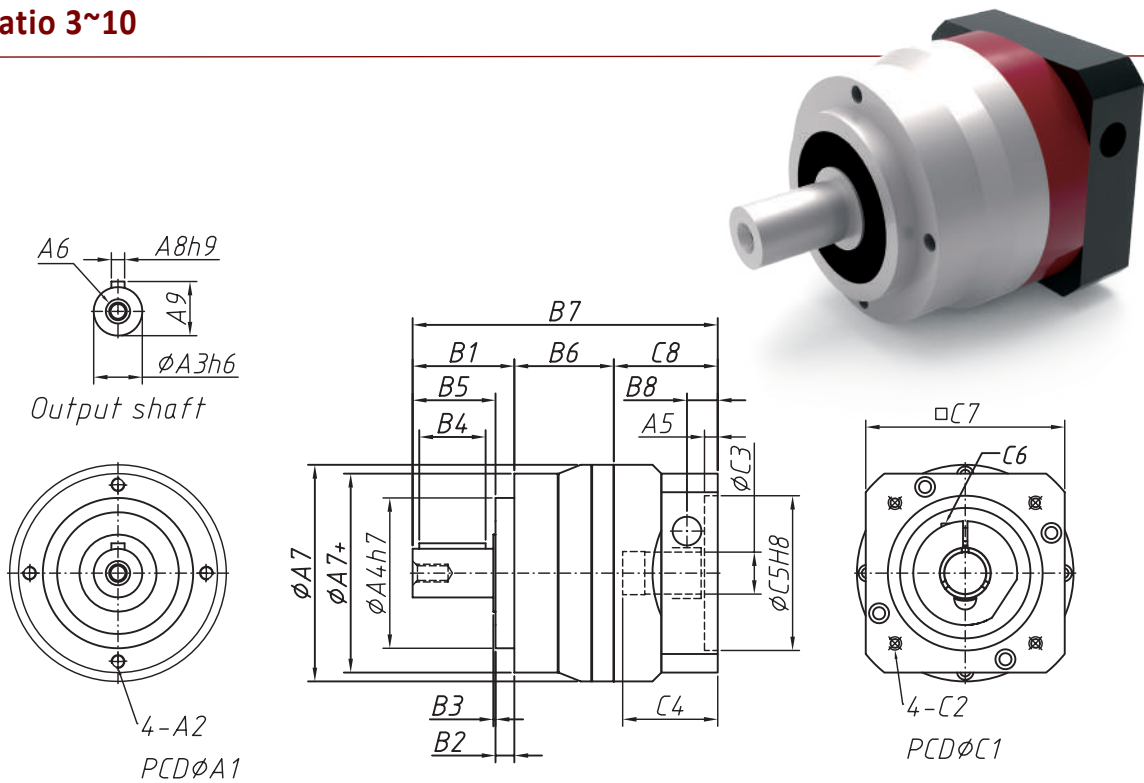
規格 Model NO.	單位 Unit	節數 Stage	減速比 Ratio	42	60	90	115	142	180
額定輸出力矩 Nominal Output Torque	Nm	L1	3	21	57	135	216	352	603
			4	20	52	145	298	552	1065
			5	23	62	165	338	660	1215
			7	20	52	145	305	560	1115
			10	15	42	105	238	460	915
		L2	15	21	57	135	216	352	603
			20	20	52	145	298	552	1065
			25	23	62	165	338	660	1215
			30	21	57	155	318	610	1115
			35	20	52	145	308	560	1115
			40	18	47	125	268	510	1015
			50	23	62	165	338	660	1215
			70	20	52	145	308	560	1115
			100	15	42	105	238	460	915
最大輸入轉速 Max. Input Speed	rpm	L1 / L2	3~100	10,000	10,000	8,000	8,000	6,000	6,000
額定輸入轉速 Nominal Input Speed	rpm	L1 / L2	3~100	5,000	5,000	4,000	4,000	3,000	3,000
標準背隙 P ₂ Standard Backlash	arc min	L1	3~10	≤ 8					
		L2	15~100	≤ 12					
最大加速扭矩 Max. Acceleration Torque	Nm	L1 / L2	3~100	1.8 倍額定輸出力矩 / 1.8 Times of nominal output torque					
最大輸出 (急停) 扭矩 Max. Output (Emergency Stop) Torque	Nm	L1 / L2	3~100	3 倍額定輸出力矩 / 3 Times of nominal output torque					
扭轉剛性 Torsional Rigidity	Nm / arc min	L1 / L2	3~100	3	7	14	25	50	145
容許徑向力 Max. Radial Force	N	L1 / L2	3~100	780	1,530	3,250	6,700	9,400	14,500
容許軸向力 Max. Axial Force	N	L1 / L2	3~100	390	765	1,625	3,350	4,700	7,250
使用壽命 Product Life	hr	L1 / L2	3~100	S5 週期 > 20,000 (S1 連續運轉 > 10,000 hrs) S5 Cycle Operation > 20,000(S1 Continuous Operation > 10,000 hrs)					
使用溫度 Operation Temp	°C	L1 / L2	3~100	-25°C ~ 90°C					
效率 Efficiency	%	L1	3~10	≤ 97					
		L2	15~100	≤ 94					
潤滑 Lubrication		L1 / L2	3~100	合成潤滑油 / Synthetic Lubrication Grease					
噪音值 Noise Level (2000pm)	dB	L1	3~10	≤ 56	≤ 60	≤ 63	≤ 63	≤ 65	≤ 67
		L2	15~100	≤ 56	≤ 60	≤ 63	≤ 63	≤ 65	≤ 67
防護等級 Degree of Gearbox Protection	IP	L1 / L2	3~100	IP 65					
安裝方向 Mounting Direction		L1 / L2	3~100	任意方向 / Any direction					
重量 Weight	Kg	L1	3~10	0.6	1.4	3.3	6.9	13	31
		L2	15~100	0.9	1.6	4.7	8.7	17	35

減速機轉動慣量

Reducer Moment of Inertia

規格 Model NO.	單位 Unit	節數 Stage	減速比 Ratio	42	60	90	115	142	180
轉動慣量 Moment of Inertia	kg.cm ²	L1	3	0.03	0.16	0.61	3.25	9.21	28.98
			4	0.03	0.14	0.48	2.74	7.54	23.67
			5	0.03	0.13	0.47	2.71	7.42	23.29
			7	0.03	0.13	0.45	2.62	7.14	22.48
			10	0.03	0.13	0.44	2.57	7.03	22.51
		L2	15	0.03	0.03	0.13	0.47	2.71	7.42
			20	0.03	0.03	0.13	0.47	2.71	7.42
			25	0.03	0.03	0.13	0.47	2.71	7.42
			30	0.03	0.03	0.13	0.47	2.71	7.42
			35	0.03	0.03	0.13	0.47	2.71	7.42
			40	0.03	0.03	0.13	0.47	2.71	7.42
			50	0.03	0.03	0.13	0.44	2.57	7.03
			70	0.03	0.03	0.13	0.44	2.57	7.03
			100	0.03	0.03	0.13	0.44	2.57	7.03

HCR L1 Ratio 3~10



HCR 行星減速機 Planetary Reducer

單位 / Dimension : mm

Code	Model	42	60	90	115	142	180
A1		44	62	80	108	140	184
A2		M4 x P0.7	M5 x P0.8	M6 x P1.0	M6 x P1.0	M10 x P1.25	M12 x P1.75
A3		13	16	22	32	40	55
A4		35	52	68	90	120	160
A5		6	6	7.5	7.5	11	12
A6		M4 x P0.7	M5 x P0.8	M8 x P1.25	M12 x P1.75	M16 x P2.0	M20 x P2.5
A7		59	70	98	125	156	212
A7+		50	70	90	120	156	212
A8		5	5	6	10	12	16
A9		15	18	24.5	35	43	60
B1		26	36.5	46	70	97	99.5
B2		5.5	6.5	8.5	17	15	15
B3		1.6	1.5	1	2	3	2.5
B4		15	25	30	40	63	70
B5		20.5	30	37.5	53	82	84.5
B6		4	33.5	45	49	72	87.5
B7		28.3	114	138	190	251	283
B8		114.8	10.5	14	30	23	27.5
C1		46	70	90	145	165	200
C2		M4 x P0.7	M5 x P0.8	M6 x P1.0	M8 x P1.25	M10 x P1.5	M12 x P1.75
C3		8	14, 19	19, 24	24, 28	35, 42	42
C4		26	34	43	67.5	68.1	72.5
C5		30	50	70	110	130	114.3
C6		M3 x P0.5	M5 x P0.8	M6 x P1.0	M8 x P1.25	M10 x P1.5	M12 x P1.75
C7		42.6	60	90	130	142	180
C8		34.35	44	47	71	82	91

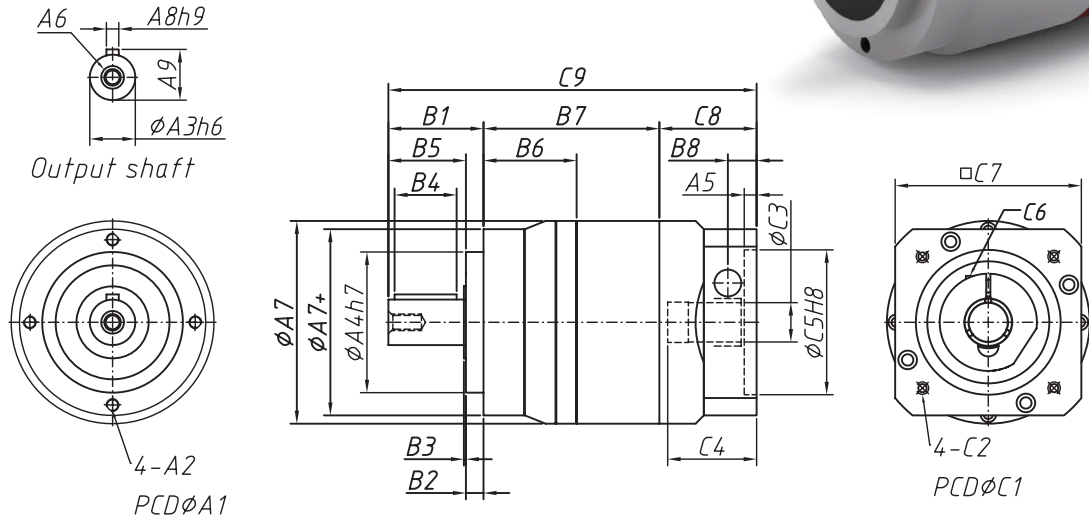
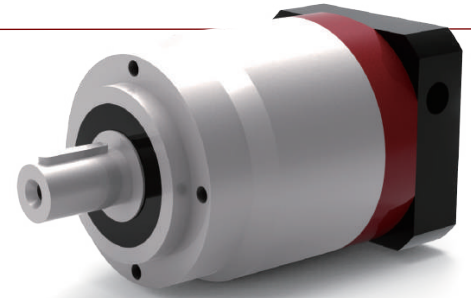
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HCR L2 Ratio 15~100

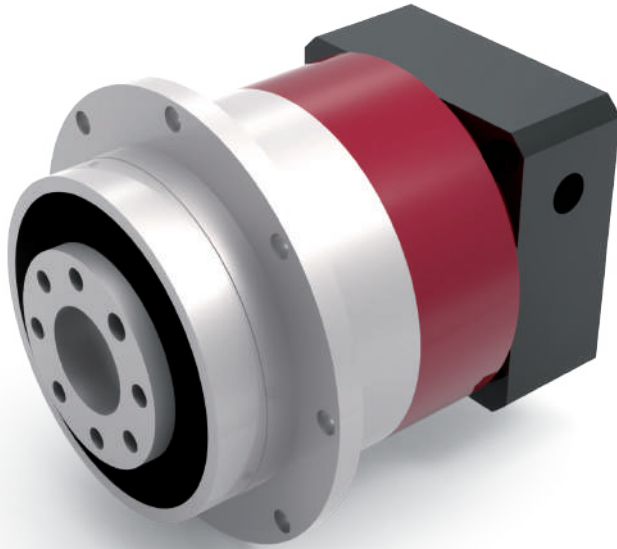


HCR 行星減速機 Planetary Reducer



單位 / Dimension : mm

Code	Model	42	60	90	115	142	180
A1		44	62	80	108	140	184
A2		M4 x P0.7	M5 x P0.8	M6 x P1.0	M6 x P1.0	M10 x P1.25	M12 x P1.75
A3		13	16	22	32	40	55
A4		35	52	68	90	120	160
A5		6	6	7	7.5	11	12
A6		M4 x P0.7	M5 x P0.8	M8 x P1.25	M12 x P1.75	M16 x P2.0	M20 x P2.5
A7		59	70	98	125	156	212
A7+		50	70	90	120	12	212
A8		5	5	6	10	43	16
A9		15	18	24.5	35	142	60
B1		26	36.5	46	70	97	99.5
B2		5.5	6.5	8.5	17	15	15
B3		1.6	1.5	1	2	3	2.5
B4		15	25	30	40	63	70
B5		20.5	30	37.5	53	82	84.5
B6		28.3	33.5	45	49	72	87.5
B7		54.3	61.5	85	97	133	177.5
B8		11	10.5	14	30	23	27.5
C1		46	70	90	145	165	200
C2		M4 x P0.7	M5 x P0.8	M6 x P1.0	M8 x P1.25	M10 x P1.5	M12 x P1.75
C3		8	14, 19	19, 24	24, 28	35, 42	42
C4		26	34.1	43	67.5	68.1	72.5
C5		30	50	70	110	130	114.3
C6		M3 x P0.5	M5 x P0.8	M6 x P1.0	M8 x P1.25	M10 x P1.5	M12 x P1.75
C7		42.6	60	90	130	142	180
C8		34.35	44	47	71	82	91
C9		114.8	142	178	238	312	373



HDR L1 Ratio 4~10

減速比 Ratio

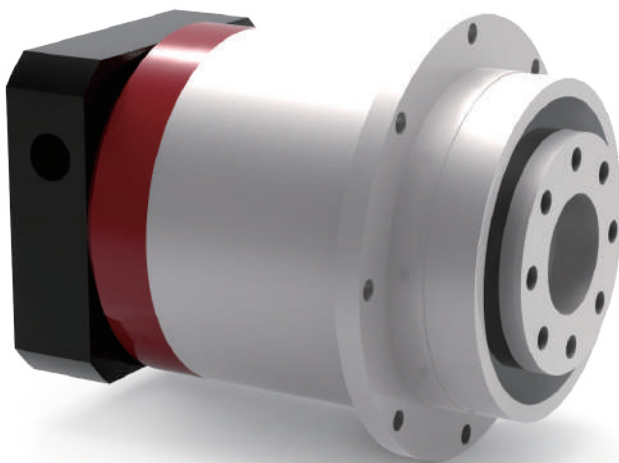
4, 5, 7, 10

背隙等級 Backlash Level L1

$P_s \leq 1$

$P_0 \leq 3$

$P_1 \leq 5$



HDR L2 Ratio 20~100

減速比 Ratio

20, 25, 35, 40, 50, 70, 100

背隙等級 Backlash Level L2

$P_s \leq 3$

$P_0 \leq 5$

$P_1 \leq 7$



HDR Series



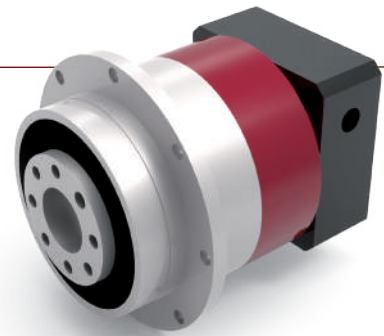
規格 Model NO.	單位 Unit	節數 Stage	減速比 Ratio	47	64	90	110	140	200
額定輸出力矩 Nominal Output Torque	Nm	L1	4	20	50	135	278	570	1115
			5	23	62	165	338	660	1215
			7	20	52	145	308	560	1115
			10	15	42	105	238	460	915
		L2	20	20	50	135	278	570	1115
			25	23	62	165	338	660	1215
			35	20	52	145	308	560	1115
			40	20	50	135	278	570	1115
			50	23	62	165	338	660	1215
			70	20	52	145	308	560	1115
		100	15	42	105	238	460	915	
最大輸入轉速 Max. Input Speed	rpm	L1 / L2	4~100	10,000	10,000	8,000	8,000	6,000	6,000
額定輸入轉速 Nominal Input Speed	rpm	L1 / L2	4~100	5,000	5,000	4,000	4,000	3,000	3,000
極精密背隙 P ₅ Ultra Precision Backlash	arc min	L1	4~10	≤ 1					
		L2	20~100	≤ 3					
超精密背隙 P ₀ Super Precision Backlash		L1 / L2	4~10	≤ 3					
			20~100	≤ 5					
精密背隙 P ₁ Precision Backlash	arc min	L1 / L2	4~10	≤ 5					
			20~100	≤ 7					
最大加速扭矩 Max. Acceleration Torque	Nm	L1 / L2	4~100	1.8 倍額定輸出力矩 / 1.8 Times of nominal output torque					
最大輸出 (急停) 扭矩 Max. Output (Emergency Stop) Torque	Nm	L1 / L2	4~100	3 倍額定輸出力矩 / 3 Times of nominal output torque					
扭轉剛性 Torsional Rigidity	Nm / arc min	L1 / L2	4~100	7	13	31	82	151	440
最大彎曲力矩 Max. OOD Torque	N	L1 / L2	4~100	43	125	235	430	1,300	3,064
容許軸向力 Max. Axial Force	N	L1 / L2	4~100	990	1,050	2,850	2,990	10,590	16,660
使用壽命 Product Life	hr	L1 / L2	4~100	S5 週期 > 20,000 (S1 連續運轉 > 10,000 hrs) S5 Cycle Operation > 20,000 (S1 Continuous Operation > 10,000 hrs)					
使用溫度 Operation Temp	°C	L1 / L2	4~100	-25°C ~ 90°C					
效率 Efficiency	%	L1	4~10	≤ 97					
		L2	20~100	≤ 94					
潤滑 Lubrication		L1 / L2	4~100	合成潤滑油 / Synthetic Lubrication Grease					
噪音值 Noise Level (2000pm)	dB	L1	4~10	≤ 56	≤ 58	≤ 63	≤ 60	≤ 65	≤ 67
		L2	20~100	≤ 56	≤ 58	≤ 63	≤ 60	≤ 65	≤ 67
防護等級 Degree of Gearbox Protection	IP	L1 / L2	4~100	IP 65					
安裝方向 Mounting Direction		L1 / L2	4~100	任意方向 / Any direction					
重量 Weight	Kg	L1	4~10	0.7	1.4	4.2	7.4	13.9	32.4
		L2	20~100	1	1.9	4.8	9.4	16.7	40.2

減速機轉動慣量

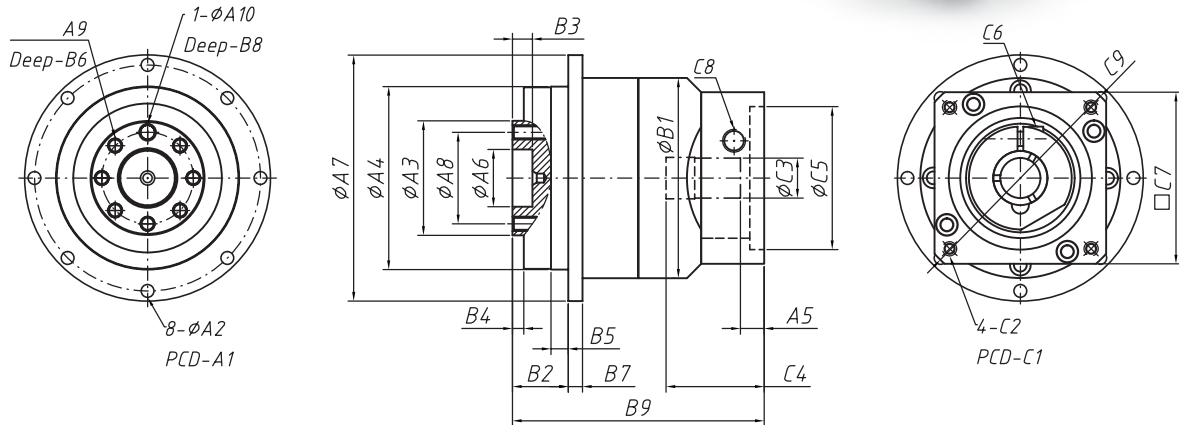
Reducer Moment of Inertia

規格 Model NO.	單位 Unit	節數 Stage	減速比 Ratio	42	60	90	115	142	180
轉動慣量 Moment of Inertia	kg.cm ²	L1	4	0.03	0.14	0.51	2.87	7.54	25.03
			5	0.03	0.13	0.47	2.71	7.42	23.29
			7	0.03	0.13	0.45	2.62	7.14	22.48
			10	0.03	0.13	0.44	2.57	7.03	22.51
		L2	20	0.03	0.03	0.13	0.47	2.71	7.42
			25	0.03	0.03	0.13	0.47	2.71	7.42
			35	0.03	0.03	0.13	0.47	2.71	7.42
			40	0.03	0.03	0.13	0.47	2.71	7.03
			50	0.03	0.03	0.13	0.44	2.57	7.03
			70	0.03	0.03	0.13	0.44	2.57	7.03
		100	0.03	0.03	0.13	0.44	2.57	7.03	

HDR L1 Ratio 4~10



HDR 行星減速機 Planetary Reducer



單位 / Dimension : mm

Code	Model	47	64	90	110	140	200
A1		67	79	109	135	168	233
A2		3.4	4.5	5.5	5.5	6.6	12-9.0
A3		28	40	63	80	100	160
A4		47	64	90	110	140	200
A5		6	6	7.5	7.5	11	12
A6		12	20	31.5	40	50	80
A7		72	86	118	146	179	248
A8		20	31.5	50	63	80	125
A9		3-M3 x P0.5	7-M5 x P0.8	7-M6 x P1.0	11-M6 x P1.0	11-M8 x P1.25	11-M10 x P1.5
A10		3	5	6	6	8	10
B1		59	70	98	125	156	212
B2		20	20	30	23	44	50
B3		5	7	12	12	12	16
B4		3	4	14	6	6	8
B5		5	6	10	10	15	15
B6		6.5	12	14	18	24	24
B7		4	5	7	8	10	12
B8		4	7	8	10	10	10
B9		71.3	98	124	149	175	228.5
C1		46	70	90	145	165	200
C2		M4 x P0.7	M5 x P0.8	M6 x P1.0	M8 x P1.25	M10 x P1.5	M12 x P1.75
C3		8	14, 19	19, 24	24, 28	35, 42	42
C4		26	34	43	67.5	68	72.5
C5		30	50	70	110	130	114.3
C6		M3 x P0.5	M5 x P0.8	M6 x P1.0	M8 x P1.25	M10 x P1.5	M12 x P1.75
C7		42.6	60	90	130	142	180
C8		M8 x P1.25	φ9.5	φ12.7	M16 x P2.0	M16 x P2.0	M16 x P2.0
C9		φ56	φ80	φ116	φ160	φ189	φ240

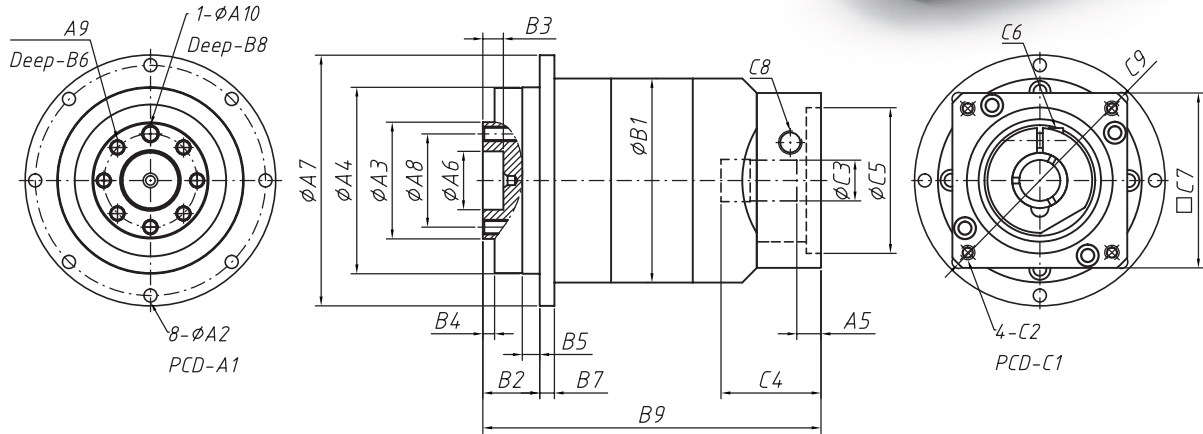
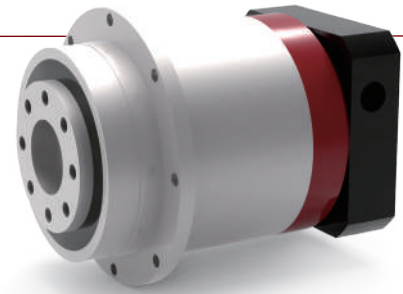
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HDR L2 Ratio 20~100



HDR 行星減速機 Planetary Reducer



單位 / Dimension : mm

Code	Model	47	64	90	110	140	200
A1		67	79	109	135	168	233
A2		3.4	4.5	5.5	5.5	6.6	12-9.0
A3		28	40	63	80	100	160
A4		47	64	90	110	140	200
A5		6	6	7.5	22.5	11	12
A6		12	20	31.5	40	50	80
A7		72	86	118	146	179	248
A8		20	31.5	50	63	80	125
A9		3-M3 x P0.5	7-M5 x P0.8	7-M6 x P1.0	11-M6 x P1.0	11-M8 x P1.25	1-M10 x P1.5
A10		3	5	6	6	8	10
B1		59	70	98	125	156	212
B2		19.5	19.5	30	29	44	50
B3		5	7	12	12	12	16
B4		3	4	6	6	6	8
B5		5	6	10	10	15	15
B6		6.5	13	18	18	24	24
B7		4	5	7	8	10	12
B8		4	7	8	10	10	10
B9		97.3	116	156	197	236	318.5
C1		46	70	90	145	165	200
C2		M4 x P0.7	M5 x P0.8	M6 x P1.0	M8 x P1.25	M10 x P1.5	M12 x P1.75
C3		8	14, 19	19, 24	24, 28	35, 42	42
C4		26	34	43	67.5	68	72.5
C5		30	50	70	110	130	114.3
C6		M3 x P0.5	M5 x P0.8	M6 x P1.0	M8 x P1.25	M10 x P1.5	M12 x P1.75
C7		42.6	60	90	130	142	180
C8		M8 x P1.25	M8 x P1.25	M12 x P1.75	M16 x P2.0	M16 x P2.0	M16 x P2.0
C9		Ø56	Ø80	Ø116	Ø160	Ø189	Ø240

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原億昌機械股份有限公司

- ◆台灣41469台中市烏日區
溪南路三段752號
- ◆電話: +886 4 23357828
- ◆傳真: +886 4 23356732
- ◆<https://www.yycdrives.com>

Yuan Yi Chang Machinery Co., Ltd.

- ◆No. 752, Sec. 3, Xinan Rd., Wuri Dist.,
Taichung City 41469, Taiwan
- ◆TEL: +886 4 23357828
- ◆FAX: +886 4 23356732
- ◆E-mail: info@yycdrives.com