

GEAR REDUCERS

齒輪減速機



Gear Reducer Series



Indication of Model Numbers

機種型號表示

H	205	20	1	A	OH
機型 Type	型號 Model	減速比 Ratio	馬力 Horse Power	馬達極數 Motor Poles	安裝方向 Installation Direction
H	[Note 1]	雙段 2-Stage	1/4HP	A: 4 極 Poles	OH
HD		1/3~1/30	~	B: 6 極 Poles	OD
HB			75HP	C: 2 極 Poles	OU
V		三段 3-Stage		D: 8 極 Poles	OL
VD		1/31~1/200			OR
VB					OS
LSH		連結		可搭配：	[Note 2]
LSHD		Multi-Stage		無段變速 Variator	
LSHB		1/200~1/6000		皮帶變速 Belt-Variator	
LSV					
LSVD					
LSVB					

Note:

1. 請參閱「齒輪減速機馬力型號速比一覽表」。See "Selection Table of HP, Model & Ratio".
2. 請參閱「安裝方向」。See "Installation Direction".

齒輪減速機馬力型號速比一覽表

Selection Table of HP, Model & Ratio

功率 Power HP (4P) (kW)	型號 Model	減速比 Ratio	功率 Power HP (4P) (kW)	型號 Model	減速比 Ratio
1/4 (0.2)	201	5 10 15 20 25 30	7 1/2 (5.5)	212	5 10
	203	35 40		213、213S	15 20 25 30
	304	50 60 70 90 100 120 ※150		314、314S	35 40 50
	306	150 180 200		315	60 70 80 90 100 120
1/2 (0.4)	202	5 10	10 (7.5)	317	150 160 180 190 200
	203	10 15 20 25 30		212	5 10
	205	35 40 45 50		214、214S	15 20 25 30
	※304	40 50		315	35 40 50
	306	60 70 80 90 100 120		316	60 70 80 90 100 120
	308	130 140 150 180 200		318	150 180 190 200
1 (0.75)	205	5 10 15 20 25 30	15 (11)	213、213S	5 10
	207	35 40		215	15 20 25 30
	308	40 50 60 70 80 90 100 120		316	35 40 50
	310、310S	130 150 160 180 200		317	60 80 90 100 120
	312、312S	140 150 200	20 (15)	215	5 10
2 (1.5)	206	5 10		216	15 20 25 30
	207	15 20 25 30		317	40 50
	209	35 40		318	60 70 80 90 100 120
	※308	35 40		319	150 175 200
	310、310S	40 50 60 70 80 90 100 120	25 (18)	216	5 10
	312	140 150 180 190 200		217	15 20 25 30
	312S	40 50 60 70 80 90 100 120		318	40 50 60
3 (2.2)	208	5 10		319	100 110
	209、209S	15 20 25 30	30 (22)	217	5 10 15 20 25 30
	211	35 40		318	40 50
	※310	40 50 60		319	60 70 120
	312	50 60 70 80 90 100 120	40 (29)	217	5 10
	314	130 140 150 160 170 180 190 200		218	10 15 20 25 30
5 (3.7)	210、210S	5 10		319	40 50 60
	211、211S	15 20 25 30	50 (37)	218	5 10
	312	40 50 ※60		219	15 20 25 30
	314、314S	60 70 80 90 100 120	60 (44)	※218	5 10
	315	150 180 200		219	15 20 30
			75 (55)	219	5 10
				220	15 20 30

◆ 表中 ※ 表示輕負荷使用。

※ means used for light loading.

◆ 亦可訂製其他不定減速比。

Other ratios are available upon request.

◆ 以下減速比屬於標準品，其餘皆屬於特殊品。

The following gear ratio are standard, others are special specification.

5,10,15,20,25,30,40,50,60,70,80,90,100,120,150,200

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齒輪減速機系列

齒輪減速機實際減速比對照表 Actual Ratio Table

型號 Model	馬力 HP (4P)	減速比 Ratio	實際減速比 Actual Ratio	型號 Model	馬力 HP (4P)	減速比 Ratio	實際減速比 Actual Ratio	型號 Model	馬力 HP (4P)	減速比 Ratio	實際減速比 Actual Ratio
201	1/4	5	5.00	209	3	15	15.07	215	15	15	15.20
		10	10.09			20	20.00			20	19.95
		15	14.89			25	24.00			25	25.24
		20	20.57			30	29.97			30	30.07
		25	24.92	209S	2	35	35.37		20	5	5.09
		30	30.39			40	38.50			10	9.69
202	1/2	5	5.00		3	15	15.13	216	20	15	15.20
		10	10.09			20	19.51			20	19.95
203	1/4	35	34.86			25	24.55			25	25.24
		40	39.35			30	29.25			30	30.07
	1/2	15	15.25	210	5	5	4.98		25	5	5.09
		20	20.08			10	10.00			10	9.69
		25	24.62	210S	5	5	5.02	217	30	5	5.03
		30	30.02			10	9.87			10	10.07
205	1	5	4.99	211	3	35	35.00			15	15.05
		10	9.95			40	39.67			20	19.77
		15	14.90		5	15	15.00			25	24.75
		20	20.06			20	19.45			30	28.11
		25	24.16			25	25.05		40	5	5.03
		30	29.89			30	29.70			10	10.07
	1/2	35	35.20	211S	5	15	15.00	218	40	15	15.06
		40	39.70			20	19.80			20	20.00
		45	45.10			25	24.00			25	25.45
		50	50.87			30	30.30			30	29.91
206	2	5	4.99	212	7 1/2	5	5.05		50	5	5.18
		10	9.95			10	10.09			10	10.01
207	1	35	35.85		10	5	5.05	219	50	10	10.04
		40	39.85			10	10.09			15	14.84
	2	15	15.00	213 213S	7 1/2	15	14.88			20	20.22
		20	20.21			20	20.67			25	25.06
		25	25.39			25	25.28			30	28.74
		30	29.16			30	29.40		60	15	14.84
208	3	5	5.02		15	5	5.00			20	20.22
		10	10.09			10	10.05			30	28.74
209	2	35	34.80	214 214S	10	15	14.89	220	75	5	5.03
		40	40.48			20	20.67			10	10.04
						25	25.28			15	15.00
						30	29.40			20	19.90
										30	29.19

齒輪減速機實際減速比對照表 Actual Ratio Table

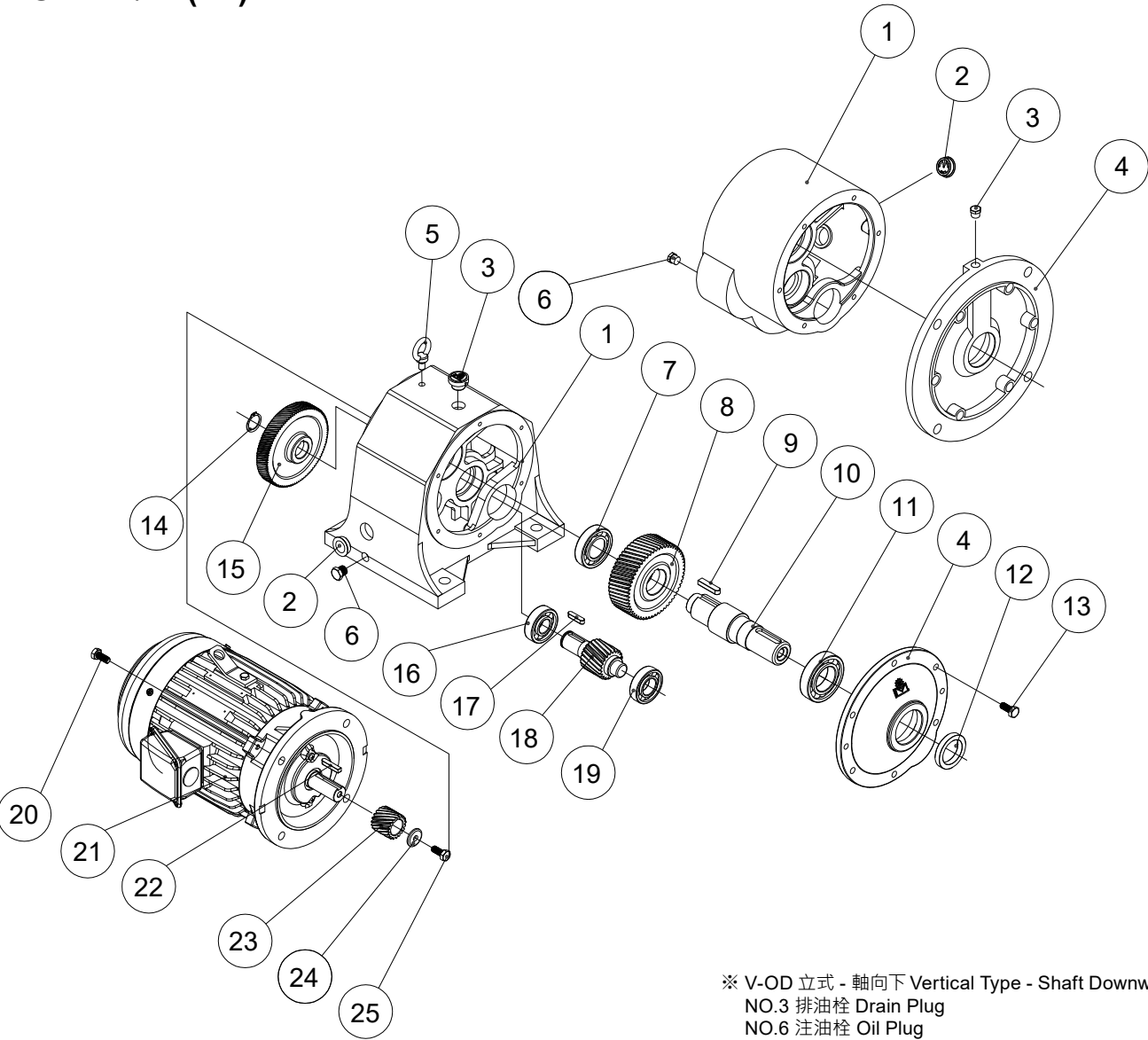
型號 Model	馬力 HP (4P)	減速比 Ratio	實際減速比 Actual Ratio	型號 Model	馬力 HP (4P)	減速比 Ratio	實際減速比 Actual Ratio	型號 Model	馬力 HP (4P)	減速比 Ratio	實際減速比 Actual Ratio	型號 Model	馬力 HP (4P)	減速比 Ratio	實際減速比 Actual Ratio				
304	1/4	50	49.47	310	2	40	41.18	312S	2	35	36.88	317	71/2	125	125.00				
		60	59.60			50	50.15			40	39.16			150	151.10				
		70	71.18			60	58.95			50	50.19			160	158.65				
		90	92.89			70	70.68			60	60.95			170	173.60				
		100	100.03			80	80.29			70	70.3			190	190.38				
		120	120.59			90	92.70			80	84.58			200	200.40				
		150	147.85			100	100.42			90	89.87			40	43.82				
	1/2	40	38.03			120	120.82			100	99.53		50	49.50					
		50	49.47		40	41.18	120		123.6	60	60.06								
306	1/4	150	149.11	310S	3	50	49.38	314 314S	3	140	141.97		15	80	79.80				
		180	181.69			130	131.21			150	149.86			150	149.86	90	90.48		
		200	197.85			150	147.67			170	167.62			100	100.00				
	1/2	40	42.84		1	180	183.25			180	184.42			120	119.05				
		50	50.59			2	40			41.81	200			204.29	40	43.82			
		60	59.28				50			50.25	60	62.45		50	49.50				
		70	69.47		60		60.4			70	72.55	20		150	148.83				
		80	79.43		70		69.12			80	81.99			165	165.07				
		90	90.05		80		81.96		90	90.43	180			179.30					
		100	100.10		90		90.25		100	100.53	190			189.42					
		120	119.94		100		98.32		120	122.96	195			195.35					
		308	1/2		100		101.56		312	2	120	121.91		315	71/2	35	33.60	318	10
120	121.62				40	44.19	40				40.56	60	60.13						
150	146.70				50	52.19	50				51.78	70	69.63						
200	199.51				60	60.20	60				60.89	80	83.33						
1	40		40.18		100	100.50	70				68.63	90	92.93						
	50		50.46		120	120.92	80				79.13	100	98.83						
	60		59.06		140	145.35	90				88.40	120	120.33						
	70		68.63		150	153.42	100				100.58	25・30	40			40.62			
	80		81.04		165	163.22	120				118.76		50		48.62				
	90		90.14		170	166.57	35				35.16		60		60.13				
	100		100.75		180	179.54	40				40.56	319	20		150	152.33			
	120		120.90		190	189.52	50				51.78				175	175.64			
2	35	36.55	200		200.22	60	60.89				200				201.19				
	40	40.18	60	58.86	70	68.63	25・30	60			61.01								
	310	1	80	80.75	316	10		80			79.13		70		69.56				
			90	91.10				100			100.58		100		98.09				
100			99.83	120				118.76		40	40.20								
120			120.92	35				35.16		50	48.91								
140			136.07	40			40.56	60		61.01									
150			148.82	50		50.05	40	150		152.33									
160			161.23	60		60.89		175		175.64									
170			175.88	70		68.63		200		201.19									
180			178.59	80		79.13		60		61.01									
200			194.82	100		100.58		120		118.76	40	40.20							
312S		1	140	140.4	15	10	140	140.4	316	15	140	140.4	316	15	140	140.4			
			150	150.68			150	150.68			150	150.68			150	150.68	150	150.68	
	200		197.77	200			197.77	200			197.77	200			197.77	200	197.77	200	197.77

GEAR REDUCER SERIES

齒輪減速機系列

雙段式分解系統圖 2-Stage System Drawing

MODEL : H (V)



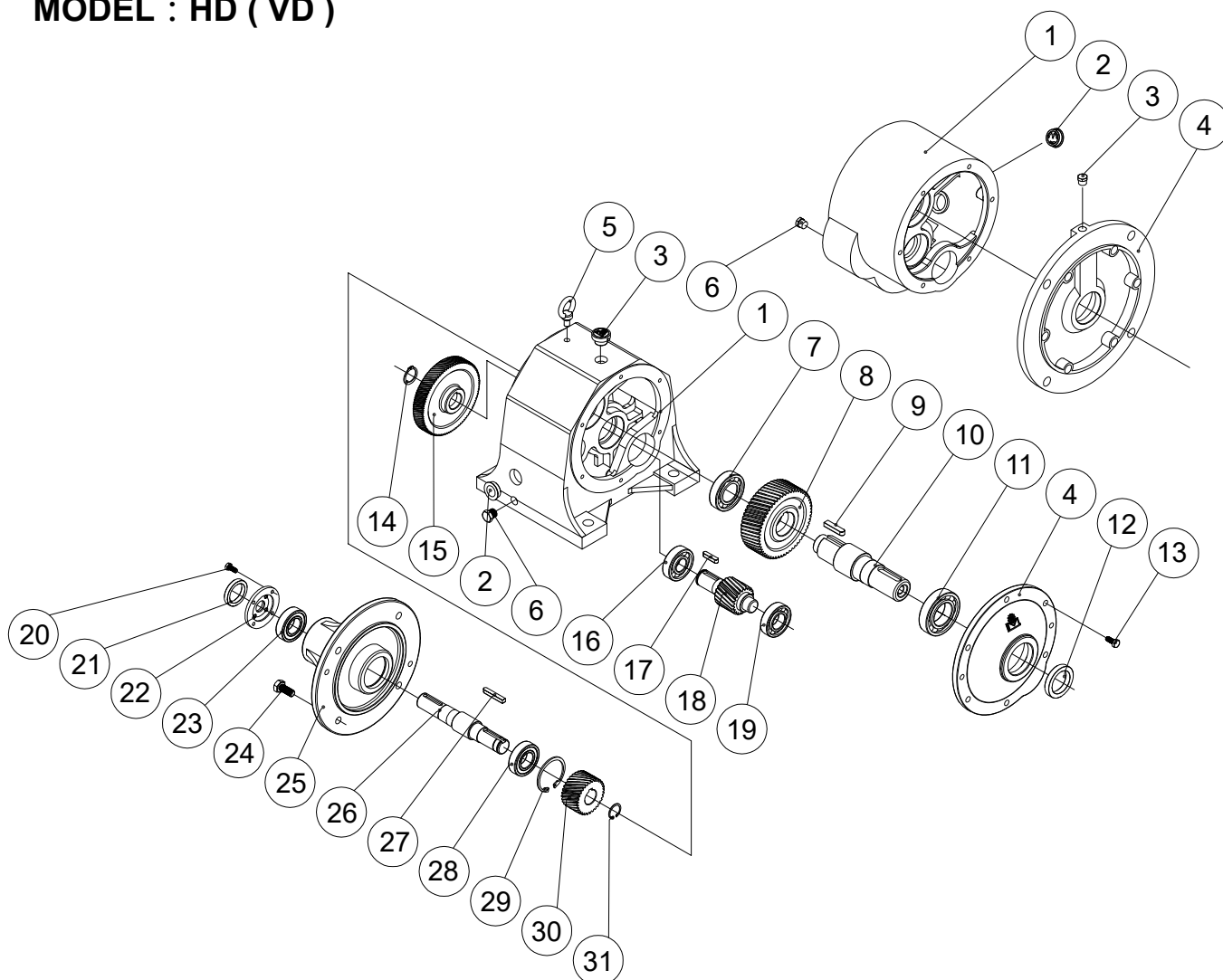
※ V-OD 立式 - 軸向下 Vertical Type - Shaft Downward
NO.3 排油栓 Drain Plug
NO.6 注油栓 Oil Plug

NO.	零件名稱	Name of Parts
1	本體	Outer Shell
2	油鏡	Oil Gauge
※3	注油栓	Oil Plug
4	前蓋	Front Cover
5	吊環	Hoisting Ring
※6	排油栓	Drain Plug
7	軸承	Bearing
8	D 齒輪	D Gear
9	鍵	Key
10	出力軸	Output Shaft
11	軸承	Bearing
12	油封	Oil Seal
13	立式：內六角螺絲 臥式：外六角螺絲	Vertical: Hex Socket Cap Screw Horizontal: Hex Head Cap Screw

NO.	零件名稱	Name of Parts
14	扣環	Snap Ring
15	B 齒輪	B Gear
16	軸承	Bearing
17	鍵	Key
18	C 齒輪軸	C Gear Shaft
19	軸承	Bearing
20	六角螺絲	Hexagon Head Bolt
21	馬達	Motor
22	鍵	Key
23	A 齒輪	A Gear
24	華司 (或扣環)	Washer (or Snap Ring)
25	六角螺絲	Hexagon Head Bolt

雙段式分解系統圖 2-Stage System Drawing

MODEL : HD (VD)



※ VD-OD 立式 - 軸向下 Vertical Type - Shaft Downward
 NO.3 排油栓 Drain Plug
 NO.6 注油栓 Oil Plug

NO.	零件名稱	Name of Parts
1	本體	Outer Shell
2	油鏡	Oil Gauge
※3	注油栓	Oil Plug
4	前蓋	Front Cover
5	吊環	Hoisting Ring
※6	排油栓	Drain Plug
7	軸承	Bearing
8	D 齒輪	D Gear
9	鍵	Key
10	出力軸	Output Shaft
11	軸承	Bearing
12	油封	Oil Seal
13	立式：內六角螺絲 臥式：外六角螺絲	Vertical: Hex Socket Cap Screw Horizontal: Hex Head Cap Screw
14	扣環	Snap Ring
15	B 齒輪	B Gear

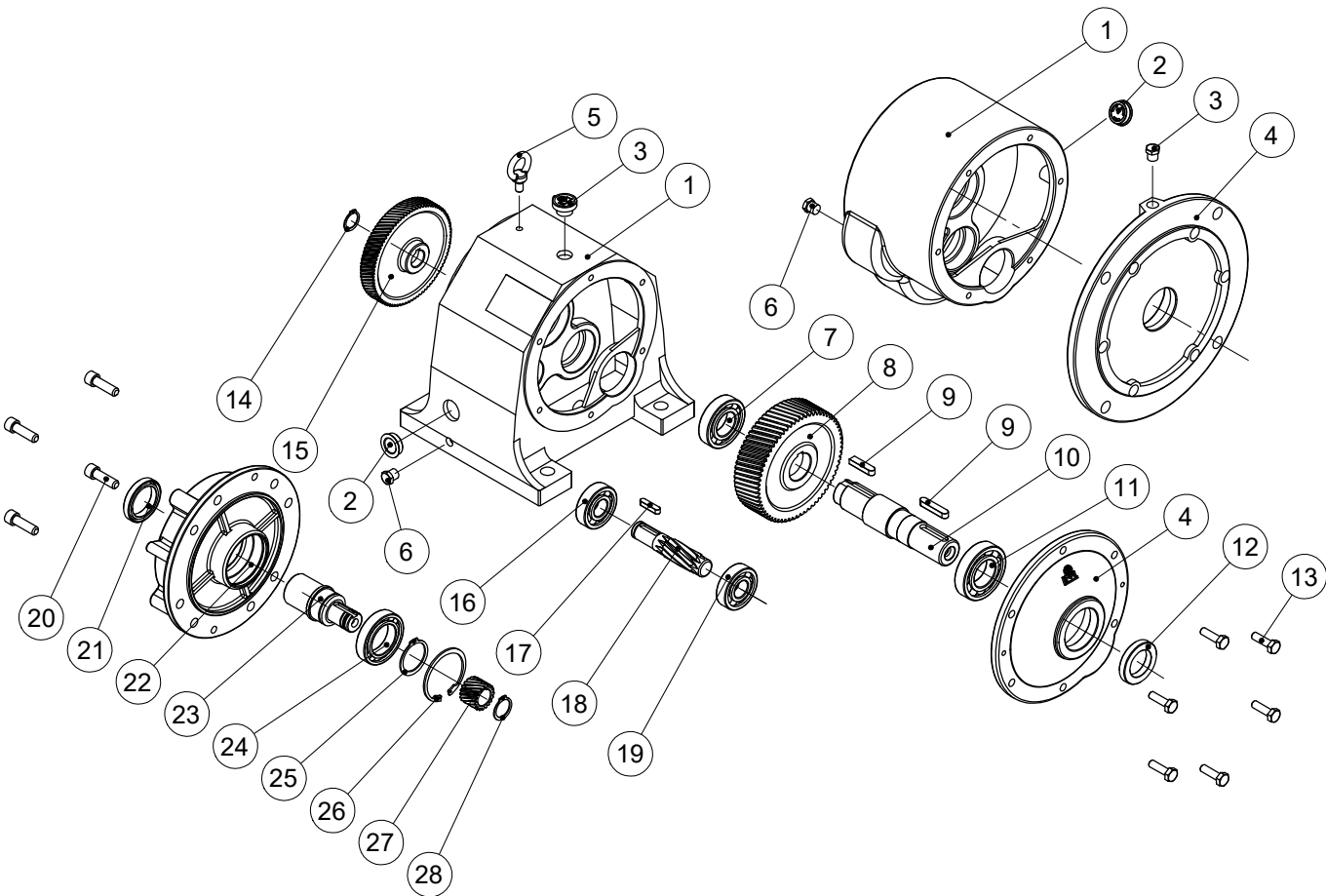
NO.	零件名稱	Name of Parts
16	軸承	Bearing
17	鍵	Key
18	C 齒輪軸	C Gear Shaft
19	軸承	Bearing
20	六角螺絲	Hexagon Head Bolt
21	油封	Oil Seal
22	小蓋 (71/2HP 以上使用)	Small Cover of 71/2 HP above
23	軸承	Bearing
24	六角螺絲	Hexagon Head Bolt
25	入力軸大蓋	Big Cover
26	入力軸	Input Shaft
27	鍵	Key
28	軸承	Bearing
29	扣環	Snap Ring
30	A 齒輪	A Gear
31	扣環	Snap Ring

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雙段式分解系統圖 2-Stage System Drawing

MODEL : HB (VB)



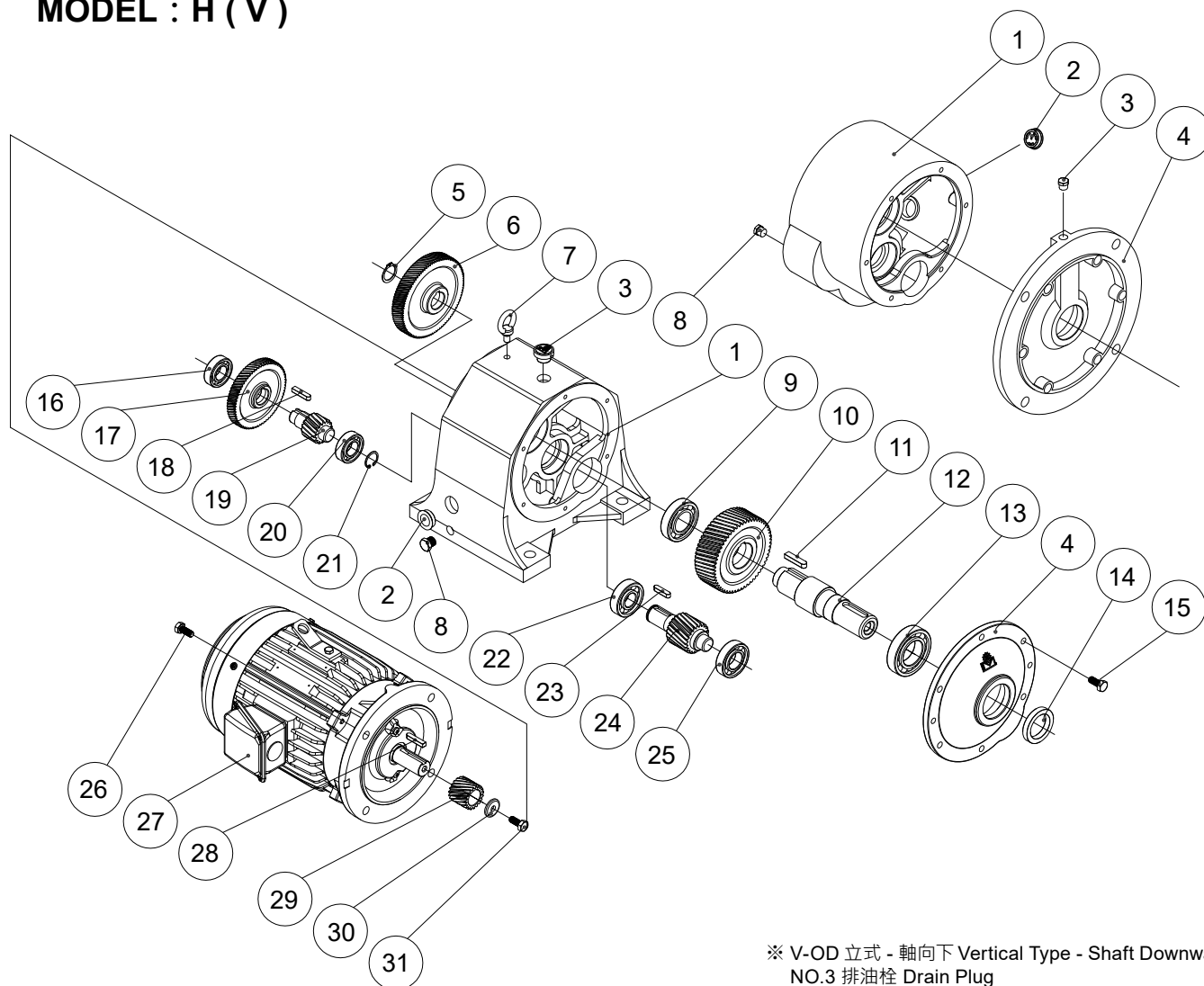
※ V-OD 立式 - 軸向下 Vertical Type - Shaft Downward
NO.3 排油栓 Drain Plug
NO.6 注油栓 Oil Plug

NO.	零件名稱	Name of Parts
1	本體	Outer Shell
2	油鏡	Oil Gauge
※3	注油栓	Oil Plug
4	前蓋	Front Cover
5	吊環	Hoisting Ring
※6	排油栓	Drain Plug
7	軸承	Bearing
8	D 齒輪	D Gear
9	鍵	Key
10	出力軸	Output Shaft
11	軸承	Bearing
12	油封	Oil Seal
13	立式：內六角螺絲 臥式：外六角螺絲	Vertical: Hex Socket Cap Screw Horizontal: Hex Head Cap Screw

NO.	零件名稱	Name of Parts
14	扣環	Snap Ring
15	B 齒輪	B Gear
16	軸承	Bearing
17	鍵	Key
18	C 齒輪軸	C Gear Shaft
19	軸承	Bearing
20	六角螺絲	Hexagon Head Bolt
21	油封	Oil Seal
22	馬達盤	Motor Flange
23	輔助軸心	Auxiliary shaft
24	軸承	Bearing
25	扣環	Snap Ring
26	R 扣環	R Snap Ring
27	A 齒輪	A Gear
28	扣環	Snap Ring

三段式分解系統圖 3-Stage System Drawing

MODEL : H (V)



※ V-OD 立式 - 軸向下 Vertical Type - Shaft Downward
 NO.3 排油栓 Drain Plug
 NO.8 注油栓 Oil Plug

NO.	零件名稱	Name of Parts
1	本體	Outer Shell
2	油鏡	Oil Gauge
※3	注油栓	Oil Plug
4	前蓋	Front Cover
5	扣環	Snap Ring
6	B'(F) 齒輪	B'(F) Gear
7	吊環	Hoisting Ring
※8	排油栓	Drain Plug
9	軸承	Bearing
10	D 齒輪	D Gear
11	鍵	Key
12	出力軸	Output Shaft
13	軸承	Bearing
14	油封	Oil Seal
15	立式：內六角螺絲 臥式：外六角螺絲	Vertical: Hex Socket Cap Screw Horizontal: Hex Head Cap Screw

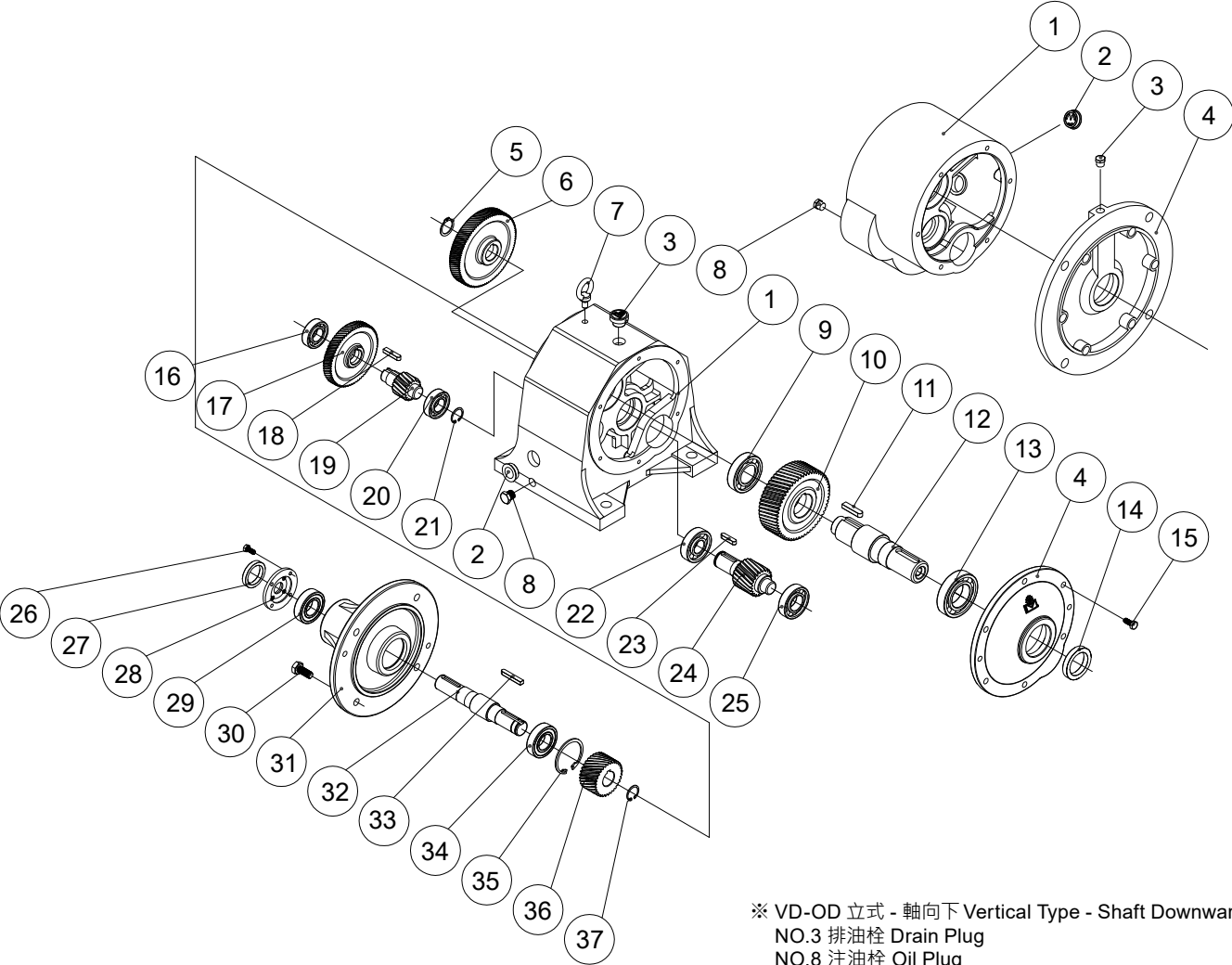
NO.	零件名稱	Name of Parts
16	軸承	Bearing
17	B 齒輪	B Gear
18	鍵	Key
19	A'(E) 齒輪軸	A'(E) Gear Shaft
20	軸承	Bearing
21	R 扣環	R Snap Ring
22	軸承	Bearing
23	鍵	Key
24	C 齒輪軸	C Gear Shaft
25	軸承	Bearing
26	六角螺絲	Hexagon Head Bolt
27	馬達	Motor
28	鍵	Key
29	A 齒輪	A Gear
30	華司 (或扣環)	Washer or Snap Ring
31	六角螺絲	Hexagon Head Bolt

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三段式分解系統圖 3-Stage System Drawing

MODEL : HD (VD)



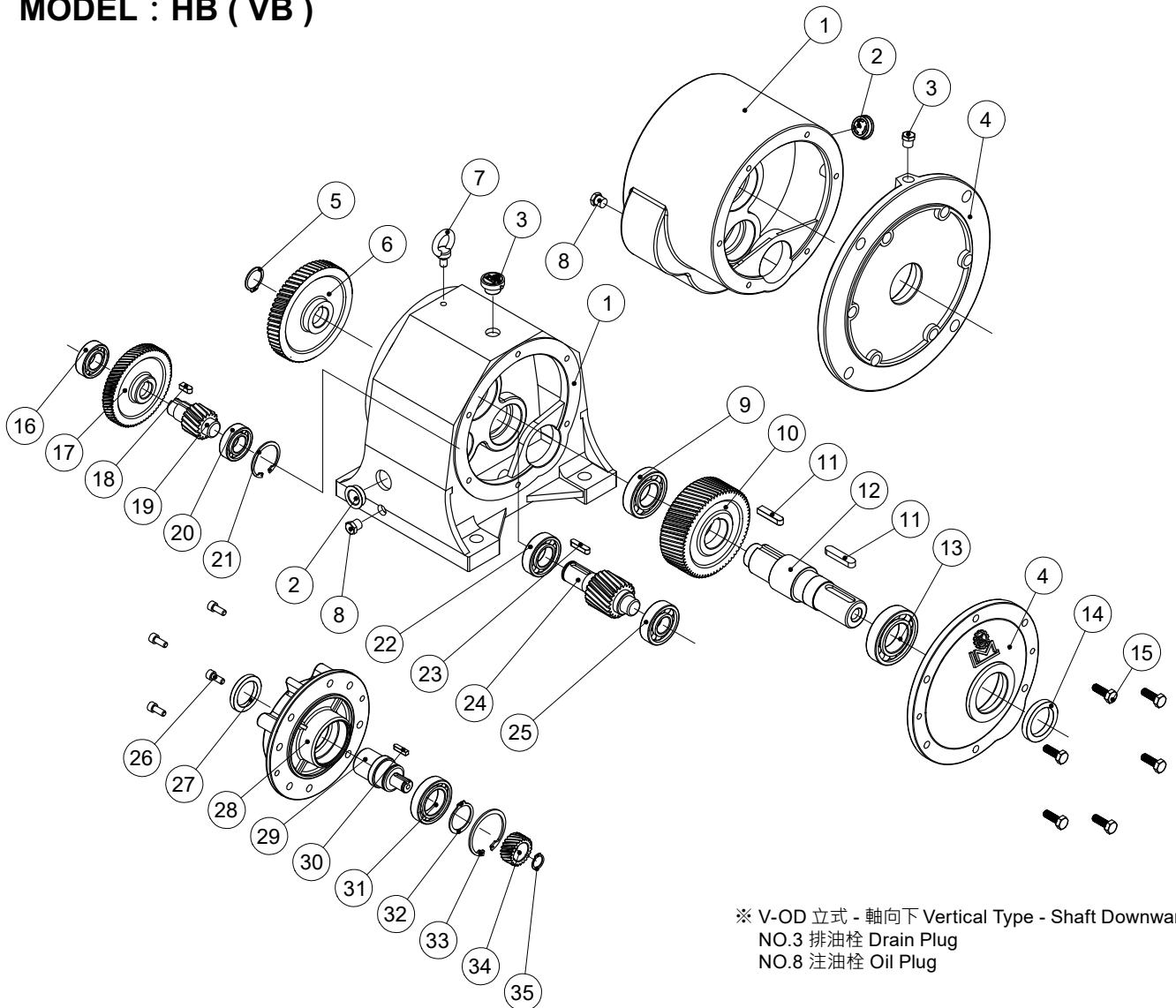
※ VD-OD 立式 - 軸向下 Vertical Type - Shaft Downward
NO.3 排油栓 Drain Plug
NO.8 注油栓 Oil Plug

NO.	零件名稱	Name of Parts
1	本體	Outer Shell
2	油鏡	Oil Gauge
※3	注油栓	Oil Plug
4	前蓋	Front Cover
5	扣環	Snap Ring
6	B'(F) 齒輪	B'(F) Gear
7	吊環	Hoisting Ring
※8	排油栓	Drain Plug
9	軸承	Bearing
10	D 齒輪	D Gear
11	鍵	Key
12	出力軸	Output Shaft
13	軸承	Bearing
14	油封	Oil Seal
15	立式 : 內六角螺絲 臥式 : 外六角螺絲	Vertical: Hex Socket Cap Screw Horizontal: Hex Head Cap Screw
16	軸承	Bearing
17	B 齒輪	B Gear
18	鍵	Key

NO.	零件名稱	Name of Parts
19	A'(E) 齒輪軸	A'(E) Gear Shaft
20	軸承	Bearing
21	扣環	Snap Ring
22	軸承	Bearing
23	鍵	Key
24	C 齒輪軸	C Gear Shaft
25	軸承	Bearing
26	六角螺絲	Hexagon Head Bolt
27	油封	Oil Seal
28	小蓋 (71/2HP 以上使用)	Small Cover of 71/2 HP above
29	軸承	Bearing
30	六角螺絲	Hexagon Head Bolt
31	入力軸大蓋	Big Cover
32	入力軸	Input Shaft
33	鍵	Key
34	軸承	Bearing
35	扣環	Snap Ring
36	A 齒輪	A Gear
37	扣環	Snap Ring

三段式分解系統圖 3-Stage System Drawing

MODEL : HB (VB)



NO.	零件名稱	Name of Parts
1	本體	Outer Shell
2	油鏡	Oil Gauge
※3	注油栓	Oil Plug
4	前蓋	Front Cover
5	扣環	Snap Ring
6	B'(F) 齒輪	B'(F) Gear
7	吊環	Hoisting Ring
※8	排油栓	Drain Plug
9	軸承	Bearing
10	D 齒輪	D Gear
11	鍵	Key
12	出力軸	Output Shaft
13	軸承	Bearing
14	油封	Oil Seal
15	立式：內六角螺絲 臥式：外六角螺絲	Vertical: Hex Socket Cap Screw Horizontal: Hex Head Cap Screw
16	軸承	Bearing
17	B 齒輪	B Gear

NO.	零件名稱	Name of Parts
18	鍵	Key
19	A'(E) 齒輪軸	A'(E) Gear Shaft
20	軸承	Bearing
21	R 扣環	R Snap Ring
22	軸承	Bearing
23	鍵	Key
24	C 齒輪軸	C Gear Shaft
25	軸承	Bearing
26	六角螺絲	Hexagon Head Bolt
27	油封	Oil Seal
28	馬達盤	Motor Flange
29	輔助軸心	Auxiliary shaft
30	鍵	Key
31	軸承	Bearing
32	扣環	Snap Ring
33	R 扣環	R Snap Ring
34	A 齒輪	A Gear
35	扣環	Snap Ring

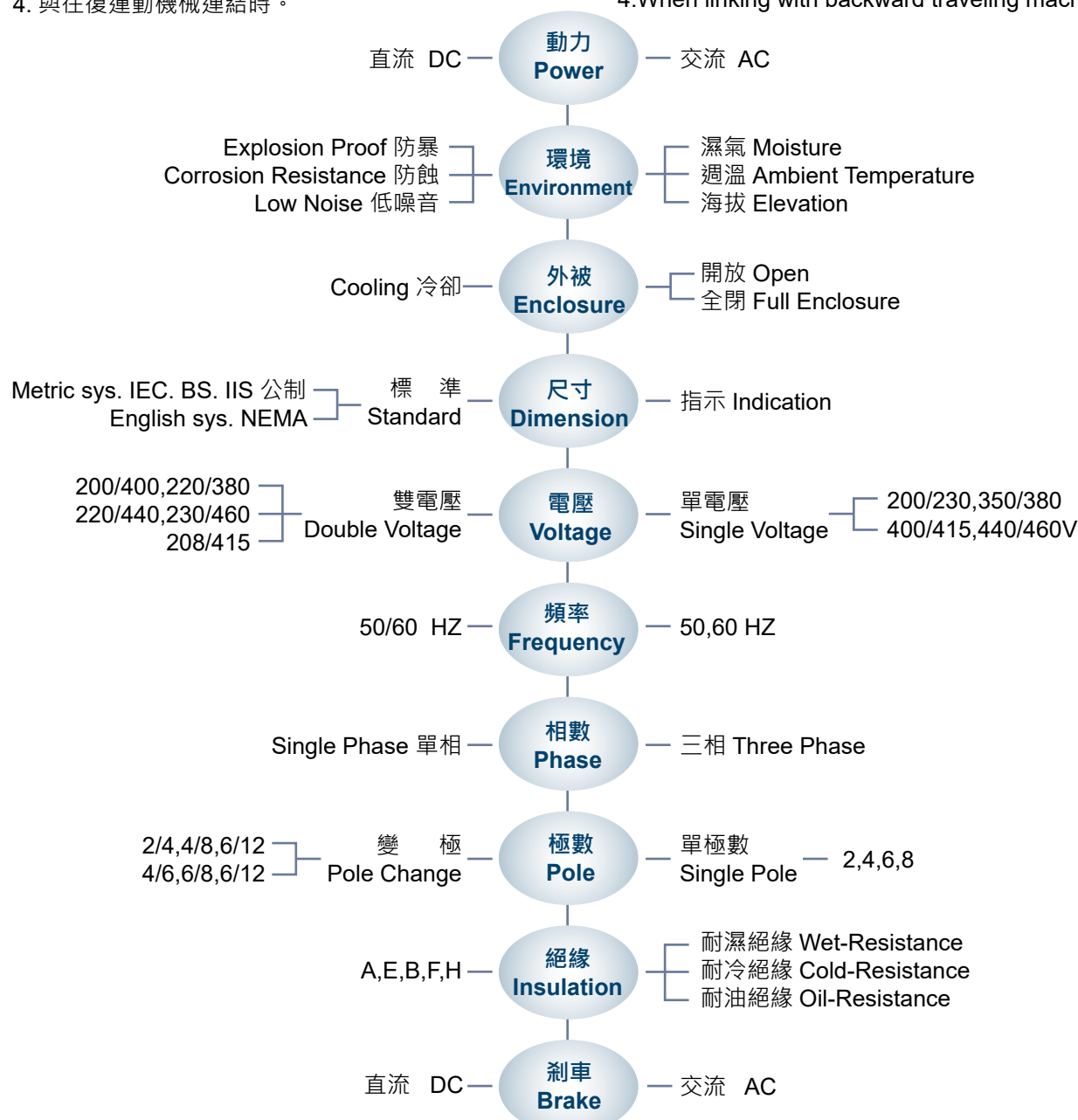
馬達選擇 Selection of Motor

一般注意事項

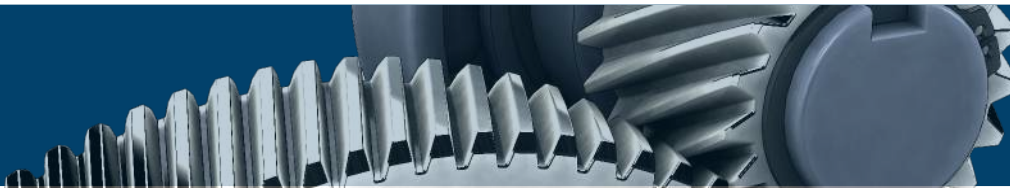
- ◆電源：單相、三相、電壓週率、變壓器容量等。
- ◆負載機械：所需馬力數，負載轉矩特性。
- ◆特殊使用條件：
 1. 急速逆轉或停止。
 2. 啟動停止頻繁。
 3. 需特別大之啟動轉矩。
 4. 與往復運動機械連結時。

General Notices

- ◆Electricity: Single phase, 3 phase, voltage frequency, capacity of transformer, etc.
- ◆Loading machine: Required horsepower, load torque characteristics.
- ◆Special Conditions of Use:
 1. Rush reverse or stop.
 2. Frequent start-up or stop.
 3. Specially large Start-up torque required.
 4. When linking with backward traveling machinery.



- ◆齒輪減速機之標準品使用低壓、三相感應馬達、IEC 尺寸、全封閉外扇鼠籠型轉子。
Standard gear reducers use low voltage, 3 phase induction motor, IEC dimension, full-enclosed outer fan cage rotor.
- ◆馬達尺寸請參考「IEC 標準馬達尺寸參考表」(第 W1 頁)。
Reference page W1 for IEC flange motor dimension.



■ 減速機安裝 Usage and Installation

使用前請檢查

- ◆ 檢查機種、型號、馬力、軸方向、減速比回轉方向及入力軸出力軸回轉數是否符合。
- ◆ 注意檢查注油情況，先確定是否有油，並保持油量在油面計一半以上。
- ◆ 使用前請拔掉加油蓋上的插梢。

場所

- ◆ 須裝置於平且堅固的底部。
- ◆ 安裝之環境須乾燥且通風良好，周圍溫度 0°C ~40°C 異常高溫或低溫時請註明。

連結方式

- ◆ 當聯接器用以聯接入力或出力軸時，須確實固定並務使兩軸平行，底座須以適當螺栓，確保鎖固緊密。
- ◆ 所有配備均應輕裝於軸上，勿使用鐵鎚，並避免裝配過緊而引起軸承損壞。
- ◆ 滑輪、鏈輪或齒輪在裝配時應盡量靠近軸承以減少彎曲應力。使用適當大小（在出力軸徑的 6 倍以內）與出力軸連接之鍊輪，皮帶輪等請配合 H7 公差使用，可避免發出異聲與軸面受損。
- ◆ VB、HB 型入力孔可加添適當黃油，避免孔徑過度磨損及發出異聲。
- ◆ 軸面可塗上防鏽塗料避免生鏽。

馬達

- ◆ 電源電壓變動大於 10% 時，馬達會有燒燬之虞，並使出力軸扭力降低或異常。
- ◆ 馬達超負荷使用有燒燬之虞。
- ◆ 馬達結線錯誤會導致馬達燒燬。
- ◆ 濕氣過重的環境會使剎車馬達的剎車器產生鏽蝕失去剎車功能。
- ◆ 搭配變頻器使用時，如常使用於低頻，請使用變頻專用馬達。或變更比數改 HB(VB)，請電洽。

Check Before Operating

- ◆ Check if the type, model No., horsepower, shaft direction, reduction ratio, revolution direction and input/output shaft revolutions are in accordance with the standard.
- ◆ Check carefully the oil level to make sure that the oil volume is sufficient and maintain above the middle of oil gauge.
- ◆ Please pull the pin out of the plug lid before use.

Place

- ◆ A flat and solid base is one of the requirements for installation.
- ◆ The environment for installation shall be dry and well ventilated, with ambient temperature at 0°C to 40°C. Abnormal high or low temperature shall be dedicated.

Connecting Method

- ◆ If coupler is used to connect input or output shaft, make sure they are firmly fixed and paralleled. The base seat shall be anchored with proper bolts.
- ◆ All of the components shall be properly assembled to the shaft. Avoid hammering and over-tight assembly which could damage the bearing.
- ◆ The pulley, chain pulley and gear shall be assembled as close to the bearing as possible to minimize the curving stress. The chain pulley and belt pulley used to connect the output shaft shall be properly chosen (within 6 times as large as the diameter of output shaft) and used in accordance with H7 tolerance so as to keep out of abnormal noise and harm to the shaft surface.
- ◆ Proper amount of grease can be applied to VB and HB input hole to ensure the hole against over-wearing and making abnormal noise.
- ◆ The application of anti-rust paint can keep the shaft from rusting.

Motor

- ◆ The voltage variation over 10% could cause motor to burn out and reduce the torque of output shaft.
- ◆ Motor is subject to damage due to overload.
- ◆ Improper connection could cause motor to burn out.
- ◆ High-moisture environment could cause the brake of motor rusted and disabled.
- ◆ An appropriate motor shall be applied with the frequency converter while the low frequency is required in usual condition.

■ 安裝方向 Installation Direction

● 油面計
Oil Indicator

▼ 注油栓
Oil Plug

△ 排油栓
Oil Drain Plug

◆ 正常的使用方向可以使減速機保持較高的壽命。
The life time of gear reducer can be prolonged in proper direction.

◆ 安裝時請注意油面計、注油栓及排油栓的位置以便日後維護。
Please note the positions of oil gauge, oil filling plug and oil drain plug to facilitate the maintenance afterwards.

◆ 減速機使用方向特殊時，請與我們連繫。
For special installation direction, please contact us.

Type	軸向下 Shaft Downward	軸向上 Shaft Upward	軸水平 Shaft Horizontal
臥式 Horizontal	H-OD 	H-OU 	H-OH
立式 Vertical	V-OD 	V-OU 	V-OH
Type	倒吊安裝 Inverse Installation	左側壁 On Left Side Wall	右側壁 On Right Side Wall
臥式 Horizontal	H-OS 	H-OL 	H-OR

◆ 正常的使用方向可使減速機保持較高的壽命，非不得已的情況下盡量不要採用 H-OU 的方式，因入力軸端的油封在高速運轉下，較出力軸端的油封容易損壞，而導致潤滑油由油封滲出，如須採用請註明，以特別處理。

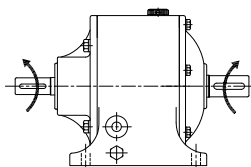
The life time of gear reducer can be prolong with proper operation. Unless otherwise specified, H-OU types of operation shall be avoid as much as possible, because the oil seal of input shaft could be damaged more easily than output shaft and thus result in leakage.

◆ 建議 H-OD、H-OU、H-OS 使用潤滑油脂，加潤滑油時因型號不同請另購加油彎管，否則產生油量過多會造成漏油之疑慮。

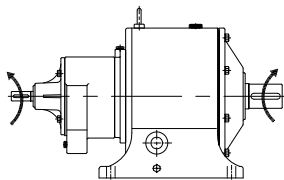
◆ 線盒標準是面向出力軸盒在左方，如有特殊時，請電洽。

出力軸迴轉方向

雙段式齒輪減速機的迴轉方向與入力的方向相同，
三段式齒輪減速機的迴轉方向與入力的方向相反。
多速比以配齒設計後，確認段數為準。



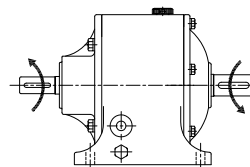
雙段式 (2-Stage) 1/3~1/30



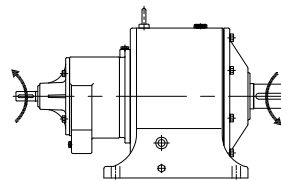
四段式 (4-Stage)
六段式 (6-Stage)

Revolving Direction of Output Shaft

2-stage gear reducer revolves in the same direction
as the input shaft, while 3-stage gear reducer does
in the opposite direction.



三段式 (3-Stage) 1/40~1/200



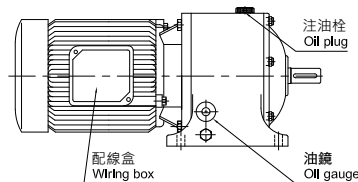
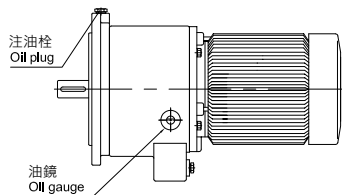
五段式 (5-Stage)

馬達配線盒位置

安裝方向注意潤滑油加油便利，油量計可看見且配線容易，正常情況下，附馬達之減速機其配線盒位置、油鏡及注油栓位置如下圖，如有不同時，請註明。

◆ 標準配線盒、油鏡及加油口位置

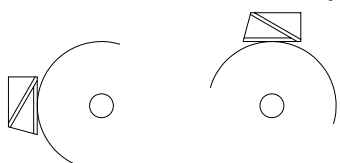
Standard positions of wiring box, oil gauge, and oil filling entrance.



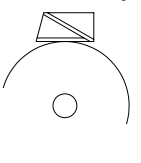
◆ 馬達配線盒之選擇 (以面向出力軸為準)

Selection of motor wiring box (based on output shaft)

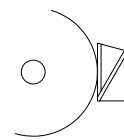
◆ 訂購時，請註明。For any order, please specify your need clearly.



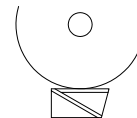
M1 左 (Left)
標準 Standard



M2 上 (Up)
側壁 Side



M3 右 (Right)



M4 下 (Down)

■ 潤滑油之選定 Selection of Lubricant Oil

適當潤滑油的黏度，須使齒輪磨擦容易，遇高負荷及衝擊負荷時，減速機才能充分發揮其機能。下表即 "利明牌" 減速機潤滑油的選定：

Proper viscosity of lubricant is contributive to ease the friction of gears, so the speed reducer can fully apply its function in the case of high load or impact load. The table below shows the selection of lubricants for LIMING speed reducers:

荷 重 (Load)	中國石油國光牌極壓機油 CPC E.P. LUBRICANT					SHELL OIL	MOBIL OIL	ISO VG
	Grade No.	黏 度 (Cst) Viscosity		流動點 Pour Point	閃火點 Flash Point			
		40℃	100℃					
普通荷重 Common Load	HD-150	143.6	14.38	-18℃	264℃	OMALA OIL 150	MOBIL GEAR 629	ISO VG EP 150
	HD-320	310.5	23.7	-18℃	290℃	OMALA OIL 320	MOBIL GEAR 632	ISO VG EP 320
	HD-460	440.4	29.8	-18℃	310℃	OMALA OIL 460	MOBIL GEAR 634	ISO VG EP 460
超 荷 重 Heavy Load	HD-320	310.5	23.7	-18℃	290℃	OMALA OIL 320	MOBIL GEAR 632	ISO VG EP 320
	HD-460	440.4	29.8	-18℃	310℃	OMALA OIL 460	MOBIL GEAR 634	ISO VG EP 460
	HD-680	656.2	38.68	-12℃	316℃	OMALA OIL 680	MOBIL GEAR 636	ISO VG EP 680

注意事項

- ◆ 本公司出廠減速機，使用 ISO VG 460 的極壓機油。
- ◆ 最初使用 300 小時後，洗淨內部、換上新油以後每 2500 小時換油。
- ◆ 在高速、高溫、低速、重荷重、強制潤滑等特殊情況下使用場合，請與本公司洽商。
- ◆ 潤滑油不足可能導致噪音和齒輪快速磨損。
- ◆ 潤滑油過多可能導致漏油。
- ◆ 請加入適當潤滑油至油量計一半以上 (請參考油量表)。
- ◆ 請檢視油鏡，如油品已經變黑混濁或異味，請更換油品。

Notice

- ◆ LI MING speed reducers use ISO VG 460 lubricant oil.
- ◆ After initial 300 hours of use, clean the internal part and replace with new lubricant; then, do it every 2500 hours.
- ◆ If use in the special conditions of high speed, high temperature, low speed, heavy load, and forced lubrication, please contact the company.
- ◆ Could cause noise and fast abrasion of gears.
- ◆ Excessive lubricant could result in leakage.
- ◆ Please feed proper lubricant above half of the oil meter (see oil gauge).
- ◆ Refill the lubricant if it is deteriorated.

■ 油量表 Oil Capacities (unit: ℓ)

Type	V		VD		VB	
Dirction Model	OH	OD	OH	OD	OH	OD
201	0.3	0.5	0.3	0.5	0.3	0.5
202	0.3	0.5	0.3	0.5	0.3	0.5
203	0.5	1	0.5	1	0.5	1
205	1	2	1	2	1	2
206	1	2	1	2	1	2
207	1.5	3	1.5	3	1.5	3
208	1.5	3	1.5	3	1.5	3
209・209S	2	4	2	4	2	4
210・210S	2	4	2	4	2	4
211	3	8	3	8	3	8
211S	2	4	2	4	2	4
212	3	8	3	8	3	8
213・213S	5	12	5	12	5	12
214・214S	5	12	5	12	5	12
215	8	20	8	20	8	20
216	8	20	8	20	8	20
217	10	24	10	24	10	24
218	12	30	12	30	12	30
219	32	55	32	55	32	55
304	0.5	1	0.5	1	0.5	1
306	1	2	1	2	1	2
308	1.5	3	1.5	3	1.5	3
310・310S	2	4	2	4	2	4
312	3	8	3	8	3	8
312S	2	4	2	4	2	4
314・314S	5	12	5	12	5	12
315	8	20	8	20	8	20
316	8	20	8	20	8	20
317	10	24	10	24	10	24
318	12	30	12	30	12	30
319	32	55	32	55	32	55

Type	LSV				LSVD			
Dirction Model	OH		OD		OH		OD	
	LSV1	LSV2	LSV1	LSV2	LSV1	LSV2	LSV1	LSV2
406	0.8	0.3	2	0.5	1	0.3	2	0.5
408	1.5	0.5	3	1	1.5	0.5	3	1
410・410S	2	1	4	2	2	1	4	2
412	3	1	8	2	3	1	8	2
412S	2	1	4	2	2	1	4	2
414・414S	5	2	12	4	5	2	12	4
416	8	2	20	4	8	2	20	4
417	10	3	24	8	10	3	24	8
418	12	3	30	8	12	3	30	8
508	1.5	0.5	3	1	1.5	0.5	3	1
510・510S	2	1	4	2	2	1	4	2
512	3	1	8	2	3	1	8	2
512S	2	1	4	2	2	1	4	2
514・514S	5	1	12	3	5	1	12	3
516	8	2	20	4	8	2	20	4
517	10	3	24	8	10	3	24	8
518	12	3	30	8	12	3	30	8
610・610S	2	1	4	1	2	1	4	1
612	3	1	8	2	3	1	8	2
612S	2	1	4	1	2	1	4	2
614・614S	5	1	12	3	5	1	12	3
616	8	2	20	4	8	2	20	4
617	10	3	24	8	10	3	24	8
618	12	3	30	8	12	3	30	8

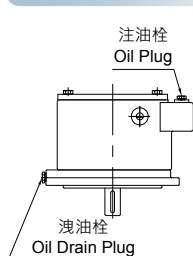
◆ 立式減速機依使用方向的不同而使用不同的油量，而油鏡及洩油孔位置亦不同，訂貨時請註明使用方向。

The capacity of lubricant oil and the positions of oil gauge and drain hole for the vertical speed reducers are based on use direction. Please indicate the intended use direction when ordering.

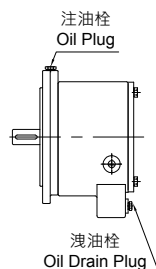
◆ 臥式減速機之油量請參閱尺寸表。

Please refer to the table below for the lubricant oil.

立式 Vertical

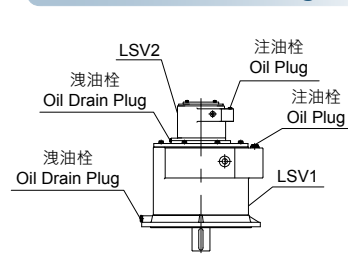


V-OD 立式 - 軸向下
Vertical Type - Shaft Downward

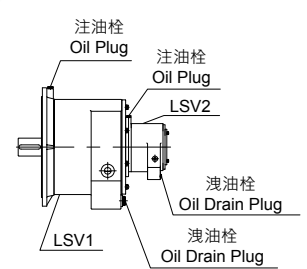


V-OH 立式 - 軸水平
Vertical Type - Shaft Horizontal

立式連結式 Multi-Stage



V-OD 立式 - 軸向下
Vertical Type - Shaft Downward

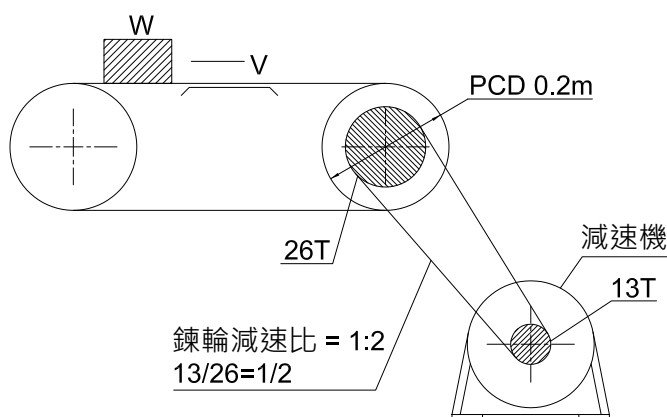


V-OH 立式 - 軸水平
Vertical Type - Shaft Horizontal

GEAR REDUCER SERIES

齒輪減速機系列

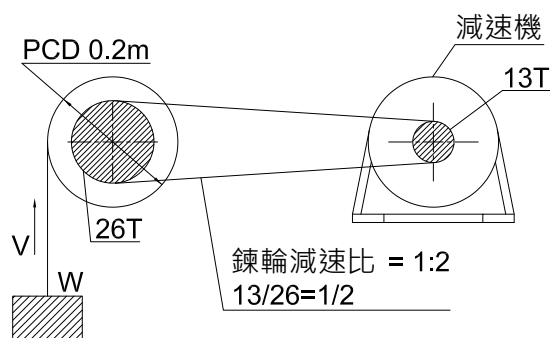
選型計算範例一 Example 1



- ◆搬運物總重量 Total Weight of Cargo:
W=600kg
- ◆搬送速度 Carrying Speed:
V=9.5m/min
- ◆與導軌之摩擦係數 Friction Coefficient to Guiding Rail:
 $\mu=0.15$
- ◆鍊輪傳動效率 Chain Pulley Transmission Coefficient:
 $\eta_1=0.95$
- ◆減速機傳動效率 Gear Reducer Transmission Coefficient:
 $\eta_2=0.9$
- ◆運轉時間 Operation Time:
8 小時 / 日 8 hours / day
- ◆啟動次數 Start Frequency:
1 回 / 分, 中衝擊 1 time/min., medium shock
- ◆使用電源 Power:
三相 220V, 60Hz 3 phase 220V, 60Hz

減速比 Ratio	選定之注意事項 Notices Calculation Example	計算範例 Load Condition Notices Calculation Example																											
	藉由必要的入力軸回轉數及出力軸回轉數來選定減速比 1. 先求出輸送帶滾輪回轉數 (N1) N1= 搬送速度 / (滾輪直徑 x π) 2. 再求出減速機出力軸回轉數 (N2) N2 = N1x (鍊輪齒數 / 減速機齒數) 3. 以 3 ϕ , 60Hz 之馬達計算減速比 (τ) τ = 出力軸回轉數 / 入力軸回轉數 (馬達轉速 N) Reduction Ratio Notices Calculation Example The reduction ratio is based on input/output shaft revolutions. 1.Find the revolution of conveyer pulley (N1) first N1=carrying speed / (pulley D x π) 2.Find the output shaft revolution of gear reducer (N2) N2= N1x (chain pulley speed/gear number of reducer) 3.Calculate reduction ratio (τ) based on 3 ϕ , 60Hz motor τ = output shaft revolution/input shaft revolution (motor RPM N)	1.N1 = V / (D x π) = 9.5 / (0.2x3.14) = 15 r/min (RPM) 2.N2 = N1 x (26 / 13) = 15 x 2/1 = 30 r/min (RPM) 3. τ = N2 / N = 30 / 1800 = 1/60 (馬達轉速 , motor RPM , input RPM)																											
扭力 Torque	選定之注意事項 Notices Calculation Example	計算範例 Load Condition Notices Calculation Example																											
	決定減速比後 , 由使用機械之條件換算其扭力 1. 先算出輸送帶滾輪之扭力 (T1) T1= (μ x 荷重 x 滾輪半徑) / η₁ 2. 再換算成減速機出力軸所須扭力 (T2) T2 = (T1 x 鍊輪減速比) / η₂ After reduction ratio is decided, calcuate the torque by the pulley reducers radius condition of the machine used. 1.Find the torque of conveyer pulley (T1) T1 = (μ x load x pulley radius) / η₁ 2.Find the torque needed from the output shaft of reducer (T2) T2 = (T1 x reduction ratio of chain pulley) / η₂	1.T1 = μ x W (D / 2) / η₁ = 0.15 x 600 x (0.2 / 2) / 0.95 = 9.5 kgf·m 2.T2 = (T1 x (1/2)) / η₂ = (9.5 x 1/2) / 0.9 = 5.28 kgf·m																											
負荷條件 Load conditions	選定之注意事項 Notices Calculation Example	計算範例 Load Condition Notices Calculation Example																											
	<table><tr><td rowspan="2">原動機 Prime Mover</td><td>傳動機負荷等級 Driven machine Load Classification</td><td colspan="4">每日使用時間 Duration of Service Per Day</td></tr><tr><td></td><td>0.50 hrs</td><td>2 hrs</td><td>8-10 hrs</td><td>10-24 hrs</td></tr><tr><td rowspan="3">電動機 Electric Motor</td><td>均一負荷 Uniform</td><td>0.80</td><td>0.90</td><td>1.00</td><td>1.25</td></tr><tr><td>中衝擊 Medium Shock</td><td>0.90</td><td>1.00</td><td>1.25</td><td>1.50</td></tr><tr><td>重衝擊 Heavy Shock</td><td>1.00</td><td>1.25</td><td>1.50</td><td>1.75</td></tr></table> 補正扭力 = 減速機出力軸扭力 x 系數 Corrective torque = reducer shaft torque x coefficient	原動機 Prime Mover	傳動機負荷等級 Driven machine Load Classification	每日使用時間 Duration of Service Per Day					0.50 hrs	2 hrs	8-10 hrs	10-24 hrs	電動機 Electric Motor	均一負荷 Uniform	0.80	0.90	1.00	1.25	中衝擊 Medium Shock	0.90	1.00	1.25	1.50	重衝擊 Heavy Shock	1.00	1.25	1.50	1.75	T3 = T2 x K = 5.28 x 1.25 = 6.6 kgf·m
原動機 Prime Mover	傳動機負荷等級 Driven machine Load Classification		每日使用時間 Duration of Service Per Day																										
		0.50 hrs	2 hrs	8-10 hrs	10-24 hrs																								
電動機 Electric Motor	均一負荷 Uniform	0.80	0.90	1.00	1.25																								
	中衝擊 Medium Shock	0.90	1.00	1.25	1.50																								
	重衝擊 Heavy Shock	1.00	1.25	1.50	1.75																								
馬力 Horse Power	選定之注意事項 Notices Calculation Example	計算範例 Load Condition Notices Calculation Example																											
	最後換算成馬力 (HP) HP = (補正扭力 x 出力軸轉數) / 716.2 Find horse power (HP) HP = (corrective torque x revolution of output shaft) / 716.2	HP = (T3 x N2) / 716.2 = (6.6 x 30) / 716.2 = 0.27 1/2HP 馬達適用 (For 1/2 HP motor)																											
型號選定 Model Selected	根據本目錄之型號速比對照表 1/2HP、減速比 1/60、型號 306 適用。 According to the model-reduction ratio reference table, model 306, 1/2 HP, reduction ratio 1/60 are selected.																												

選型計算範例二 Example 2



- ◆ 搬運物總重量 Total Weight of Cargo:
W=600kg
- ◆ 搬送速度 Carrying Speed:
V=9.5m/min
- ◆ 鍊輪傳動效率 Chain Pulley Transmission Coefficient:
 $\eta_1=0.95$
- ◆ 減速機傳動效率 Gear Reducer Transmission Coefficient:
 $\eta_2=0.9$
- ◆ 運轉時間 Operation Time:
8 小時 / 日 8 hours / day
- ◆ 啟動次數 Start Frequency:
1 回 / 分, 中衝擊 1 time/min., medium shock
- ◆ 使用電源 Power:
三相 220V, 60Hz 3 phase 220V, 60Hz

減速比 Ratio	選定之注意事項 Notices Calculation Example	計算範例 Load Condition Notices Calculation Example
	藉由必要之輸入軸回轉數及輸出軸回轉數來選定減速比 1. 先求出輸送帶滾輪回轉數 (N1) $N1 = \text{搬送速度} / (\text{滾輪直徑} \times \pi)$ 2. 再求出減速機出力軸回轉數 (N2) $N2 = N1 \times \text{鍊輪齒數減速比}$ 3. 以 3ϕ, 60Hz 之馬達計算減速比 (τ) $\tau = \text{出力軸回轉數} / \text{入力軸回轉數} (\text{馬達轉速 } N)$ Reduction Ratio Notices Calculation Example The reduction ratio is based on input/output shaft revolutions. 1. Find the revolution of conveyer pulley (N1) first $N1 = \text{carrying speed} / (\text{pulley } D \times \pi)$ 2. Find the output shaft revolution of gear reducer (N2) $N2 = N1 \times (\text{chain pulley speed/gear number of reducer})$ 3. Calculate reduction ratio (τ) based on 3ϕ, 60Hz motor $\tau = \text{output shaft revolution} / \text{input shaft revolution} (\text{motor RPM } N)$	$1. N1 = V / (D \times \pi)$ $= 9.5 / (0.2 \times 3.14)$ $= 15 \text{ r/min (RPM)}$ $2. N2 = N1 \times i$ $= 15 \times (2/1)$ $= 30 \text{ r/min}$ $3. \tau = \text{出力軸回轉數} / \text{入力軸回轉數}$ $= 30 / 1800 = 1/60$ (馬達轉速, motor RPM, input RPM)
扭力 Torque	選定之注意事項 Notices Calculation Example	計算範例 Load Condition Notices Calculation Example
	決定減速比後, 由使用機械之條件換算其扭力 1. 先算出輸送帶滾輪之扭力 (T1) $T1 = (\mu \times \text{荷重} \times \text{滾輪半徑}) / \eta_1$ 2. 再換算成減速機出力軸所須扭力 (T2) $T2 = (T1 \times \text{鍊輪減速比}) / \eta_2$ Torque Notices Calculation Example After reduction ratio is decided, calculate the torque by the pulley reducers radius condition of the machine used. 1. Find the torque of conveyer pulley (T1) $T1 = (\mu \times \text{load} \times \text{pulley radius}) / \eta_1$ 2. Find the torque needed from the output shaft of reducer (T2) $T2 = (T1 \times \text{reduction ratio of chain pulley}) / \eta_2$	$1. T1 = \mu \times W (D / 2) / \eta_1$ $= 600 \times (0.2 / 2)$ $= 60 \text{ Kg-m}$ $2. T2 = T1 \times 1/2 \times 1 / \eta_2$ $= 60 \times 1/2 \times 1 / 0.9$ $= 33.3 \text{ Kg-m}$
負荷條件 Load conditions	選定之注意事項 Notices Calculation Example	計算範例 Load Condition Notices Calculation Example
	根據運轉條件算出補正扭力 (T3) $T3 = T2 \times \text{運轉條件} (\text{係數 } K)$ Find corrective torque (T3) according to operation condition $T3 = T2 \times \text{operation condition} (\text{coefficient } K)$	$T3 = T2 \times K$ $= 33.3 \times 1 = 33.3 \text{ kgf-m}$
馬力 Horse Power	選定之注意事項 Notices Calculation Example	計算範例 Load Condition Notices Calculation Example
	最後換算成馬力 (HP) $HP = (T \times N2) / 716.2$ Find horse power (HP) $HP = (T \times N2) / 716.2$	$HP = (T \times N2) / 716.2$ $= (33.3 \times 30) / 716.2 = 1.39 \dots (2HP)$
型號選定 Model Selected	根據本目錄之型號速比對照表 2HP、減速比 1/60、型號 310 適用。 According to the model-reduction ratio reference table, model 310, 2 HP, reduction ratio 1/60 are selected.	

常用的公式集 Frequently Used Formula

欲知的條件 Intended Conditions	已知的條件 Known Conditions	公式 Formula
扭力 (Torque)	T	動力 (F) 與半徑 (R) / 馬力 (HP) 與回轉數 (N)(RPM)
扭力 (Torque)	T	動力 (Kw) 與回轉數 (N)(RPM) / 扭力 (T) 與回轉數 (N)(RPM)
扭力 (Torque)	T	扭力 (T) 與回轉數 (N)(RPM) / 重力 (F) 與速度 (V)(m/sec)
馬力 (Horse Power)	HP	重力 (F) 與速度 (V)(m/sec) / 齒輪、皮帶輪等的直徑 (D) 與回轉數 (N)(RPM)
動力 (Power)	kW	入力回轉數 (N1) 與出力回轉數 (N2)
馬力 (Horse Power)	HP	Power (F) & Radius (R) Horse power (HP) & Revolution(N)(RPM)
動力 (Power)	kW	Power (Kw) & Revolution(N)(RPM) / Torque (T) & Revolution(N)(RPM)
速度 (Velocity)	V	Torque (T) & Revolution(N)(RPM) / Gravity (F) & Velocity (V) (m/sec)
減速比 (Reduction Ratio)	i	Gravity (F) & Velocity (V) (m/sec)
		Diameter (D) of gear and belt pulley & revolution
		(N) (RPM) Input Shaft revolution (N1) & Output / shaft revolution (N2)
		$T = F \times R$ (kgf-m)
		$T = (716 \times \text{HP}) / N$ (kgf-m)
		$T = (974 \times \text{kW}) / N$ (kgf-m)
		$HP = (T \times N) / 716.2$ (馬力)
		$kW = (T \times N) / 974$ (千瓦)
		$HP = (F \times V) / 75$ (馬力)
		$kW = (F \times V) / 102$ (千瓦)
		$V = (\pi \times D \times N) / 60$ (m/sec)
		$i = N1 / N2$

GEAR REDUCER SERIES

齒輪減速機系列

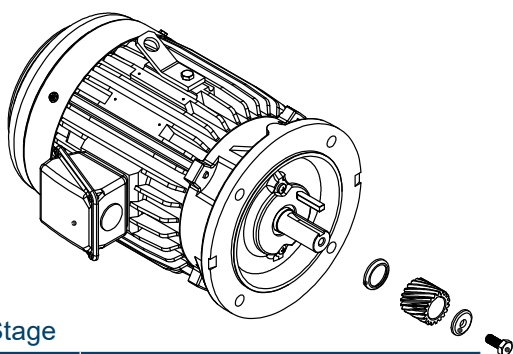
螺旋齒輪減速機 H、V 系列與電機搭配注意事項：

1. 搭配本公司電機可達最佳效率，實現機電一體化。
2. 在馬達軸心上安裝傳動齒輪，可彈性搭配各種 IEC 標準法蘭電機。
3. 馬達軸心處，必須有油封，防止潤滑油從齒箱洩漏至電機。
4. 下列規格需要修改馬達軸心尺寸或加裝 S 扣環：

Cautions:

Assemble Motor To Helical Gear Reducer H, V Series:

1. With our motor to achieve the best efficiency and achieve mechatronics.
2. Flexibly installation various IEC standard motor by Install the transmission gear on the motor shaft.
3. At the motor shaft, there must be an oil seal to prevent oil from leaking from the gear box to the motor.
4. The following specifications require modification of the motor dimension or machining for S ring:



雙段 2-Stage

型號 Model	馬力 HP(4P)	速比 Ratio	
		修改馬達軸心 Modification of the Motor Dimension	加裝 S 扣環 Machining S Ring
206	2	-	3~10
208	3	-	3~10
209	2	35~40	-
	3	30	-
209S	3	20~30	-
211	3	35~40	-
212	7 1/2、10	-	3~10
213 213S	7 1/2	20~30	-
	15	3~15	3~10
	20	3~15	3~10
214 214S	10	20~30	-
215	15	25~30	3~30
216	20	25~30	11~30
	25	-	3~10
217	25、30	25~30	-
218	40	30	-
	50	3~10	-
219	50、60	20~30	-
220	75	30	-

三段 3-Stage

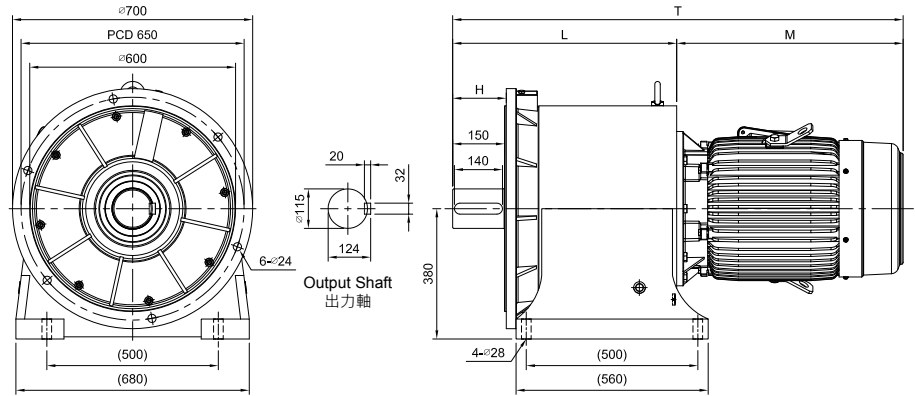
型號 Model	馬力 HP(4P)	速比 Ratio	
		修改馬達軸心 Modification of the Motor Dimension	加裝 S 扣環 Machining S Ring
308	1	-	40~120
310	2	170~200	-
310S	3	-	40~90
312	2	170~200	-
	3	90~120	40~120
	5	-	31~50
312S	2	120~200	-
314 314S	3	160~200	-
	7 1/2	-	31~60
315	5	160~200	110~150
	7 1/2	120	60~120
316	10	120	60~120
	15	-	31~60
317	7 1/2	121~200	-
	15	120	40~120
	20	-	40~50
318	10	150~200	120~150
	15	-	60~100
	20	120	60~100
	25、30	-	40~50
319	20	175~200	121~200
	25、30	110~120	60~90
	40	-	40~60

219 & 319 立式外觀圖 Dimension of Model 219, 319 :

MODEL : V

unit: mm

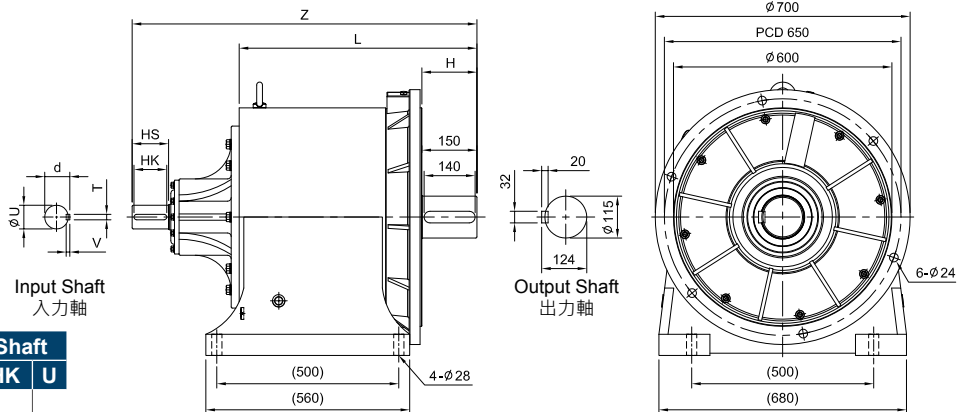
型號 Model	馬力 HP (4P)	減速比 Ratio	M	L	T	H
219	50	11~30	660		1,313	
	60	11~30	660	653	1,313	156
	75	5~10	676		1,329	
319	20	121~200	542		1,218	
	25~30	70~90	562	676	1,238	156
	40	40~60	600		1,276	



MODEL : VD

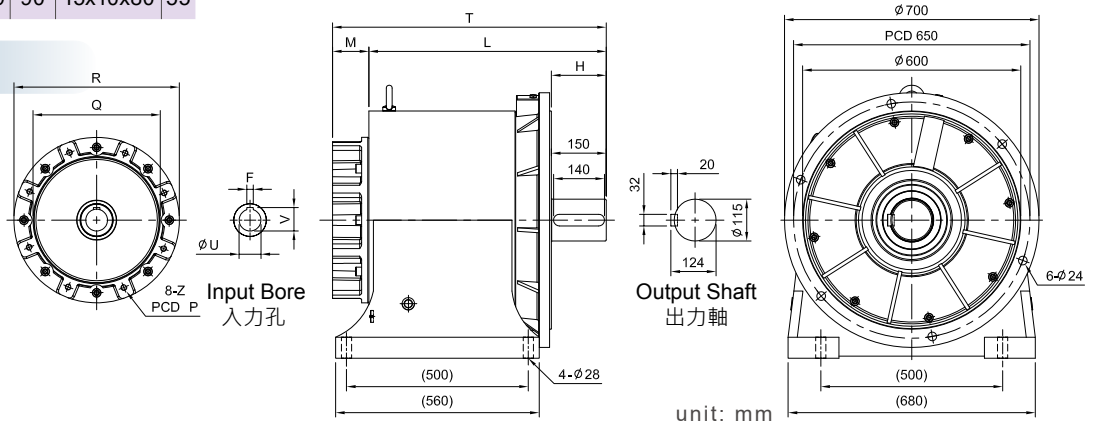
unit: mm

型號 Model	馬力 HP (4P)	減速比 Ratio	L	Z	H
219	50	10~30	653	953	156
	60				
319	20	121~200	676	964	156
	25~30	70~90			
	40	40~60			



型號 Model	馬力 HP (4P)	減速比 Ratio	入力軸 Input Shaft			
			d	HS	TxVxHK	U
219	50	10~30	69	100	15x10x90	65
	60					
319	20	121~200	51	80	12x8x70	48
	25~30	70~90	51	80	12x8x70	48
	40	40~60	59	90	15x10x80	55

MODEL : VB



unit: mm

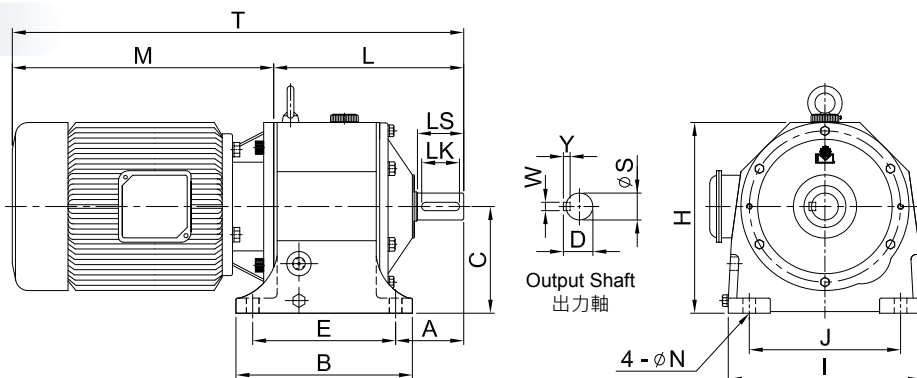
型號 Model	馬力 HP (4P)	減速比 Ratio	T	L	H	馬達盤 IEC Motor Flange					入力孔 Input Bore		
						M	P	Q	R	Z	U	F	V
219	50	10~30	754	653	156	100	400	350	450	M16	60	18	64.3
	60												
319	20	121~200	764	676	156	88	300	250	350	M16	42	12	45.3
	25~30	70~90	785	698			350	300	400		48	14	51.8
	40	40~60	785	698			350	300	400		55	16	59.3

GEAR REDUCER SERIES

齒輪減速機系列

MODEL : H

臥式減速機 Horizontal Type Reducer
RATIO : 1/3~1/30 (雙段 2-Stage)



unit: mm

型號 Model	馬力 HP (4P)	減速比 Ratio	M	L	T	H	C	A	腳座 Foot Stock					出力軸 Output Shaft				重量 Weight (kg)	油量 Oil (ℓ)
									E	J	B	I	N	D	LS	S	WxYxLK		
201	1/4	3~30	225	165	390	170	90	54	125	140	155	180	10	21	38	19	5x5x30	8	0.5
202	1/2	3~10	248	171	419	170	90	60	125	140	155	180	10	27	45	24	7x7x35	8	0.5
203	1/4	31~50	225	178	405	190	110	62	135	145	170	190	13	27	45	24	7x7x35	10.5	0.7
	1/2	11~30	248		426														
205	1/2	31~50	248	231	479	227	127	77	170	180	210	230	15	31	50	28	7x7x40	18.5	1
	1	3~30	242	222	464														
206	2	3~10	322	226	548	227	127	81	170	180	210	230	15	35	55	32	10x8x45	18.5	1
207	1 2	31~40 11~30	242 322	254	496 576	253	145	80	205	195	240	260	15	35	55	32	10x8x45	25.5	1.4
208	3	3~10	315	259	574	265	145	87	205	195	240	260	15	41	60	38	10x8x50	28	1.4
209	2 3	31~40 11~30	322 315	290 279	612 594	289	164	88	215	215	265	295	19	41	60	38	10x8x50	34	2
	209S	2 3	31~40 15~30	322 315	279 268													601 583	
210		5	3~10	371	283 273	654 644	289 286	164	92	215	215	265	295 280	19	45	65	42	12x8x55	
211	3 5	31~40 11~30	315	325	640 696	332	192	109	250	270	295	345	19	51	75	48	12x8x65	56	
	211S	5	11~30		371													298	669
212	7 1/2 10	3~10 3~10	374 412	325	669 737	332	192	109	250	270	295	345	19	51	75	48	12x8x65	56	3
	213	7 1/2 15	11~30 3~10		374 498													385	
213S		7 1/2 15	11~30 3~10	374 498	382	756 892	377	210	125	310	310	370	390	22	60	80	56		15x10x70
214	10	11~30	412	390 387		802 799												385 377	
215	15 20	11~30 3~10	498 542	471	970 1,013	445	245	157	360	360	430	450	25	76.5	100	72	20x12x90	149	10
	216	20 25	11~30 5~10		542 562													471	
217		25 30	11~30 4~30	562	508	1,070 1,108	505	280	172	380	420	460	530	25	84.5	110	80		20x12x100
	218	40 50	11~30 5~10	600		608												1,208 1,268	
219		50 60	11~30	660	676		1,336 1,352	670	380	214	540	500	635	670	28	124	150	115	32x20x140
	75	5~10	676	792		1,468	782												

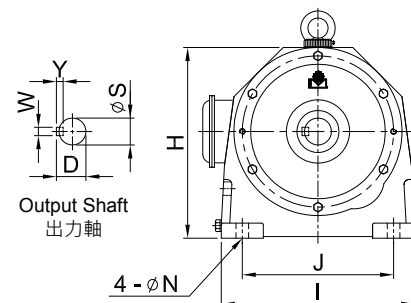
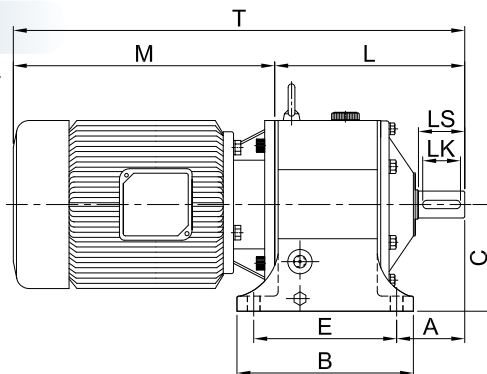
1. 表中 S 表示新尺寸。"S" means new dimension.

2. H213(含) 以上有雙油鏡雙排油孔。The model above H213 have dual oil gauges & drain plugs.

3. 重量不含馬達及潤滑油。The weight does not include motor and lubricant.

MODEL : H

臥式減速機 Horizontal Type Reducer
RATIO : 1/31~1/200 (三段 3-Stage)



unit: mm

型號 Model	馬力 HP (4P)	減速比 Ratio	M	L	T	H	C	A	腳座 Foot Stock					出力軸 Output Shaft				重量 Weight (kg)	油量 Oil (ℓ)
									E	J	B	I	N	D	LS	S	WxYxLK		
304	1/4	51~120	225	194	419	190	110	68	135	145	170	190	13	31	50	28	7x7x40	12	0.7
306	1/4	121~200	225	236	461	227	127	81	170	180	210	230	15	35	55	32	10x8x45	20.5	1
	1/2	51~120	248		484														
308	1/2	121~200	248	268	516														
	1	40~120	242	259	501	253	145	85	205	195	240	260	15	41	60	38	10x8x50	28	1.4
310	2	31~40	322		581														
	1	121~200	242	306	548													39	
310S	2	51~120	322		628	289													
	3	31~60	315	295	610		164	92	215	215	265	295	19	45	65	42	12x8x55	37	2
312	1	121~200	242	297	538	286													
	2	60~120	322		618														
312S	2	121~200	322	348	670														
	3	41~120	315	337	652	332	192	109	250	270	295	345	19	51	75	48	12x8x65	61	3
314	5	31~60	371		708														
	1	121~200	242	323	565	289	164	105	215	215	265	295						53	2.5
314S	2	51~120	322		645														
	3	121~200	315	413	728													105	
315	5	60~120	371		784	385													
	7 1/2	31~50	374	402	776														
314S	3	121~200	315	410	725		210	130	310	310	370	400	22	66	85	62	15x10x75	103	6.5
	5	60~120	371		781	377													
315	7 1/2	31~50	374	399	773														
	5	121~200	371	487	858														
316	7 1/2	60~120	374		866	445	245	157	360	360	430	450	25	76.5	100	72	20x12x90	169	10
	10	31~50	412	492	904														
317	10	60~120	412		904	445	245	157	360	360	430	450	25	80.5	100	76	20x12x90	169	10
	15	31~50	498	492	990														
318	7 1/2	121~200	374	539	913														
	15	40~120	498		1,021	505	280	172	380	420	460	530	25	84.5	110	80	20x12x100	220	15
319	20	40~50	542	523	1,065														
	10	150~200	412		1,040														
318	15	121~200	498		1,126														
	20	60~120	542	628	1,170	565	310	196	480	480	570	600	28	106.5	130	100	24x16x120	366	24
319	25	60	562		1,190														
	30	40~50																	
319	20	121~200	542		1,238														
	25~30	70~90	565	696	1,261	670	380	214	540	500	635	670	28	124	150	115	32x20x140	529	32
319	40	40~60	603		1,299														

1. 表中 S 表示新尺寸。"S" means new dimension.

2. H314(含)以上有雙油鏡雙排油孔。The model above H314 have dual oil gauges & drain plugs.

3. 重量不含馬達及潤滑油。The weight does not include motor and lubricant.