



新

創新 Innovation

實

信實 Honesty

勤

勤快 Diligence

效

效益 Efficiency



# Chenta Company Profile

1 1960年本公司董事長陳茂正先生創設“成大機器廠”於高雄市自強二路，工廠取名“成大”乃本於其對母校成功大學機械系在機械專業知識教育養成之感恩及飲水思源之情。

2 成大機器廠成立後，專門從事汽車船舶引擎曲軸之研磨再生，汽缸搪缸及柴油引擎校正等機械加工工程，當時為南台灣之翹楚，由於技術精良服務親切，開業後旋即聞名遐邇，生意蓬勃。

3 1971年本於公司發展應有自主性產品，才能永續經營遂與日本減速機製造廠技術合作，開始生產製造自有品牌之成大齒輪減速機，發展至今，公司員工近90名，產品以自有之CHENTA品牌行銷全球。主要市場為台灣、亞洲、北美洲及中東，至今已執台灣業界之牛耳。並在海外設立美國分公司及中國上海分公司。

4 建廠以來，本公司即本著“結合一流人才，研發製造高品質的產品”為信念。產品政策以“品質保證”“交貨準確”“價格競爭”“生產合理”及“行銷國際”為追求目標。

5 累積50多年之機械製造經驗及誠信經營精神，本公司已自然形成一種優良的公司文化，此精神文化乃是公司最寶貴之資源，表諸文字即是“新”“實”“動”“效”，乃創新、信實、勤快、效益，之意也。

6 全體員工受此公司文化之薰陶，工作勤奮盡忠職守。在良好工作環境下，協力合作積極創新。使公司持續穩定發展，營造共同效益。

7 本公司將在現有資源文化基礎上，繼續秉持敬業精神，以客戶至上的服務態度，精益求精，生產高品質具競爭價位之齒輪減速機回饋國內外客戶，與客戶攜手成長，以臻永續經營之目標。

## 公司概要

公司名稱：成大精機工業股份有限公司

CHENTA PRECISION MACHINERY IND. INC.

成立：民國 60 年（1971 年）

職工人數：100 名

廠房面積：仁武廠 7000M<sup>2</sup>

上海廠 6800M<sup>2</sup>

蘇州廠 30000M<sup>2</sup>



# Chenta Company Profile

- 1 In 1960, Mr. Mao Cheng Chen, president of the company, and two colleagues in the department of Mechanical Engineering at Tainan Engineering College (predecessor of Cheng Kung University) established a company called "Chen Ta Machinery Works". It was named "Chen Ta" in honor of their Alma mater, Cheng Kung University (called Chen Ta in short).
- 2 Chen Ta Machinery Works specialized in machining jobs such as grinding/re-building of the crankshafts of automobile and vessel engines, cylinder overhaul, and diesel tuning. Due to the excellent technique and cordial service, the company name was soon well known and the business became prosperous.
- 3 In 1971, Chen Ta Machinery began a partnership with Mitaka Koki, and then Jen Wu Machinery Co., Ltd and CHENTA were established with a starting of manufacturing "CHENTA GEAR REDUCERS". Now CHENTA products are sold throughout worldwide. In Taiwan, CHENTA remains at the top of the field; also set an office in CA, USA and a plant in Shanghai, China.
- 4 Since the beginning, our conviction has been to "Gather excellent human resources, and research and manufacture high quality products". Our product policy is "Guaranteed Quality", "On Time Delivery", "Competitive Prices", "Rational Production", and "International Marketing".
- 5 The motto of our company is "INNOVATION", "HONESTY", "DILIGENCE", and "EFFICIENCY".
- 6 With our 50 years of experience in mechanical manufacturing and honest operation, a fine culture has grown inside the company. This spirit is our most precious resource.
- 7 Based on the company's existing cultural resources, we will maintain expertise in the field, serve our customers with respect and honesty, constantly discipline employees, and manufacture premium quality Gear Speed Reducers at a reasonable price for reaching the goal of our long term operation and expanding business over the world.

## Company Profile

Chenta Precision Machinery Ind. Inc.

Established: 1971

Employee: 100 persons

Plant Sizes: Jen Wu Plant: 7000M<sup>2</sup>

Shanghai Plant: 6800M<sup>2</sup>

Suzhou Plant: 30000M<sup>2</sup>



## 公司沿革

**1960** “成大機器廠”設立於高雄市自強二路，從事引擎之曲軸研磨，汽缸搪缸零件修理等工程。

**1971** 成立仁武機械股份有限公司，設廠於高雄縣仁武鄉，正式生產“成大牌”蝸輪減速機（由日本MITAKA KOKI 技術提供），資本額 150 萬元。

**1975** 購鳳山工業區內廠地，並著手興建鋼筋水泥標準廠房。

**1976** 減速機首度成功地外銷至美國芝加哥，開啟外銷市場。董事長陳茂正因公經營傑出，獲頒國立成功大學校友榮譽獎章。

**1977** 資本額增資至 300 萬元，鳳山工廠興建完成，仁武廠併入鳳山廠生產。

**1983** 資本額增資至 1000 萬元。

**1989** 開發成功全省最大馬力之 400 型蝸輪減速機，供應台糖公司。

**1990** 正式啟用電腦化連線管理作業及 AUTOCAD 電腦輔助設計。

**1991** 購置全省最大型之蝸桿螺牙磨床（研磨工件最大長度：1500MM）

**1992** 開發成功大馬力 500 型及 625 型蝸輪減速機，供鋼鐵公司使用。

**1993** 資本額增資為 2000 萬元。成立美國分公司—Channel power transmission Inc. 拓展美國市場。

**1994** 承製國連鋼鐵公司 800HP 軋鋼用齒輪箱，品質客戶滿意。

**1995** 與日本 MAKI-SHINKO 製作所技術交流，公司幹部赴日學習。

**1996** 推動執行工廠 5 S 運動—整理、整頓、清掃、清潔、修身。

**1997** 購置日本大阪精密公司之齒輪檢測儀。新產品螺旋齒輪減速機正式量產銷售。

**1998** 正式取得 ISO 9001 國際品保證。

**1999** 首度赴德國漢諾威 (HANNOVER MESSE) 參展減速機。

**2000** 建地面積 7000m<sup>2</sup> 之現代化新廠完成啟用。

**2001** 公司電腦管理系統，正式更新為視窗版 WORKFLOW-ERP (流程導向-企業資源規劃系統)。

**2002** 於上海嘉定區設立分公司—上海成奕精密機械有限公司，擴大並直接服務廣大之中國大陸客戶。與國立成功大學機械工程系合作，導入有限元素分析 (Finite Element Analysis - FEA)，進行產品之最佳化設計。

**2003** ISO 9002 品質保證系統轉昇為 ISO 9001 - 2000 年版。

**2004** 購置三次元檢驗設備，配合臥式綜合加工中心機，升級加工精度等級。

**2007** 設立美國西岸辦公室於加州橘郡。

**2008** 與中鋼公司簽約成為減速機維修承包商。

董事長陳茂正先生獲頒國立成功大學傑出校友成就獎。

**2009** 9月升級 ISO 9001:2008 年版國際品質認證。

11月經濟部中小企業處優質企業示範觀摩。

**2012** 5月水車式增氣機通過成功大學先進動力系統研究中心綠色產品檢測實驗室試驗節能合格，並獲漁業署專案採購補助。

# CHRONOLOGY

**1960**

"Chenta Machinery Works" was established at Tzu-Chlan 2nd Road, Kaohsiung City. We engaged in the business of engine crankshaft grinding, cylinder and engine overhaul.

**1971**

Jen Wu Machinery Co., Ltd. was founded and located on Jen Wu Village, Kaohsiung County with a start of manufacturing "CHENTA BRAND" Worm Gear Speed Reducers (techniques provided by Mitaka Koki, Japan). Capital \$1.5 million NT dollars.

**1975**

Bought a land in Feng Shan Industrial Zone for building a standard concrete plant in construction.

**1976**

Opened the exporting business by a successful delivery to Chicago, USA. Due to the excellent company performance, Chen Gong University awarded Mr. Mao-Cheng Chen as an eminent alumnus.

**1977**

Increased the capital to 3 million NT dollars. The Feng-Shan plant was completed and made a combination of production from Jen Wu plant and new Feng-Shan plant.

**1983**

Increased the capital to 10 million NT dollars.

**1989**

Successfully developed the largest horse power size 400 Worm Gear Reducer in Taiwan for a usage by Taiwan Sugar Mill Company.

**1990**

Started to computerize on-line operation and AutoCAD computer-aided design.

**1991**

Purchased the largest Worm-thread Grinder Machine in Taiwan. Maximum ability of length is 1500 mm.

**1992**

Successfully developed size 500 and size 625 large HP Worm Gear Reducers for steel mill application.

**1993**

Increased the capital to 20 million NT dollars and established USA branch office - GearKing, Inc. for developing USA market.

**1994**

Completed Kwo-Lian Steel Mill Company's 800 HP roller mill Gearbox. Customer was pleased with the quality.

**1995**

Techniques interchanged with Japan Makishinko. Sent company's cadre members to Japan for training.

**1996**

5-S Drive: Order, Reorganization, Sweep, Clean, Cultivation (pronounced in Japanese).

**1997**

Purchased gear tester from Osaka Seimitsu, Japan. Started manufacturing new product - Helical Gear Reducers.

**1998**

Awarded ISO 9002 international quality certification.

**1999**

Maiden exhibition of CHENTA speed reducers in the Hannover Messer, Germany.

**2000**

Completed and started operating in the 5000 M2 modern plant in Jen Wu.

**2001**

Updated the computer managing system to WORKFLOW-ERP (Enterprise Resource Planning) in windows 2000 version

**2002**

Located in Ja-Din Area, Shanghai, China, the branch office, CHENYI Machinery Co., was setup to serve customers in Mainland China. Cooperated with Department of Mechanical Engineering in National Cheng Kung University to import Finite Element Analysis-FEA technology to optimize the design of our gear products

**2003**

Converted ISO 9002 to ISO 9001-2000 version

**2004**

Having a new 3-Dimensions Inspection Equipment, with horizontal CNC machine, upgrade the accuracy of machining job.

**2007**

Established branch office in California, USA

**2008**

Becoming the CSC (China Steel Corp.) official contractor for gearboxes maintenance

The president Mr. M. C. Chen is awarded the most outstanding alumnus honor by National Cheng Kung University

**2009**

September: obtain ISO9001:2008 certificate

November: Appointed by Ministry of Economic Affairs R.O.C to be a demonstration factory for Medium and Small Sized Enterprises in the country

**2012**

May: Chenta Water Paddle Aerator passed the exam and gained a Green-Product certification by the Green-Product Certification Division at National Cheng Kung University.



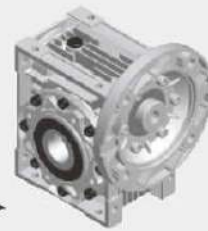
CHENTA

# 成大齒輪減速機

1. 蝸輪減速機  
(WORM GEAR REDUCERS)



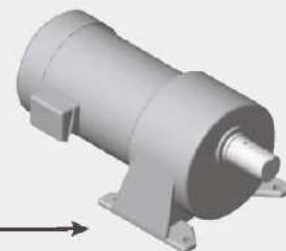
2. 鋁殼中空軸蝸輪減速機  
(ALUMINUM HOUSING WORM  
GEAR REDUCERS)



3. 強力型齒輪減速機  
(HELICAL GEAR REDUCERS)



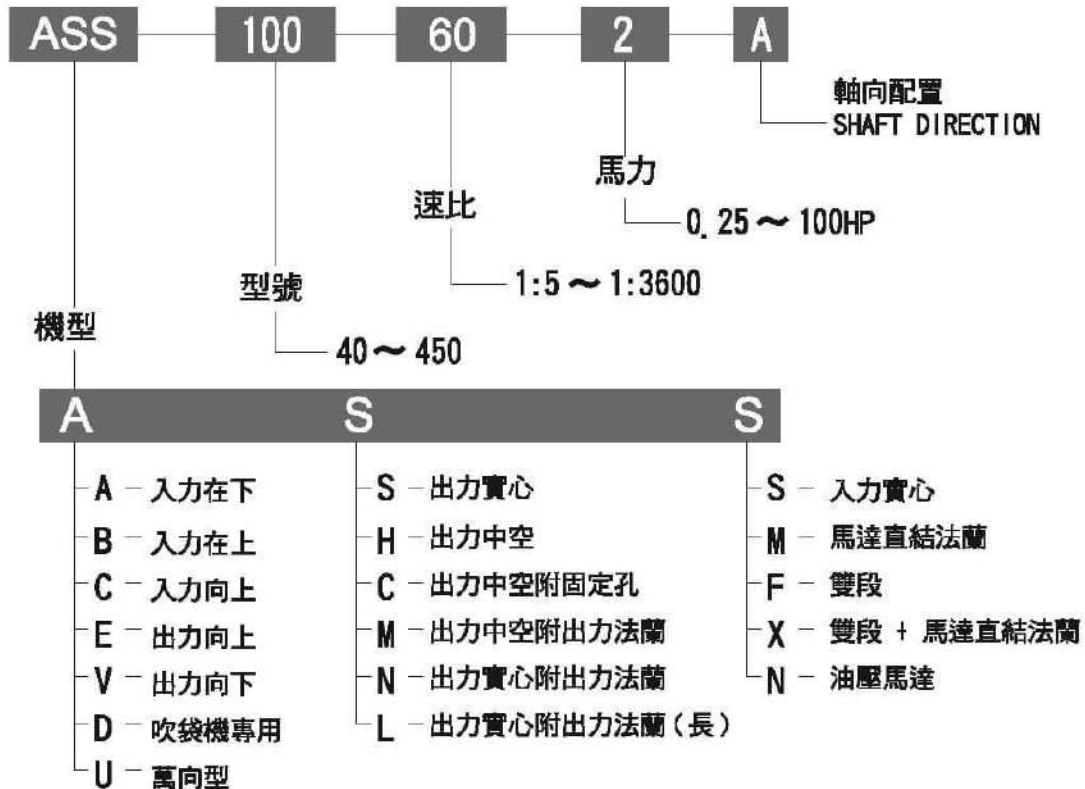
4. 小型齒輪減速馬達  
(COMPACT HELICAL GEAR MOTOR)



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### 蝸齒輪減速機之型號編碼說明:

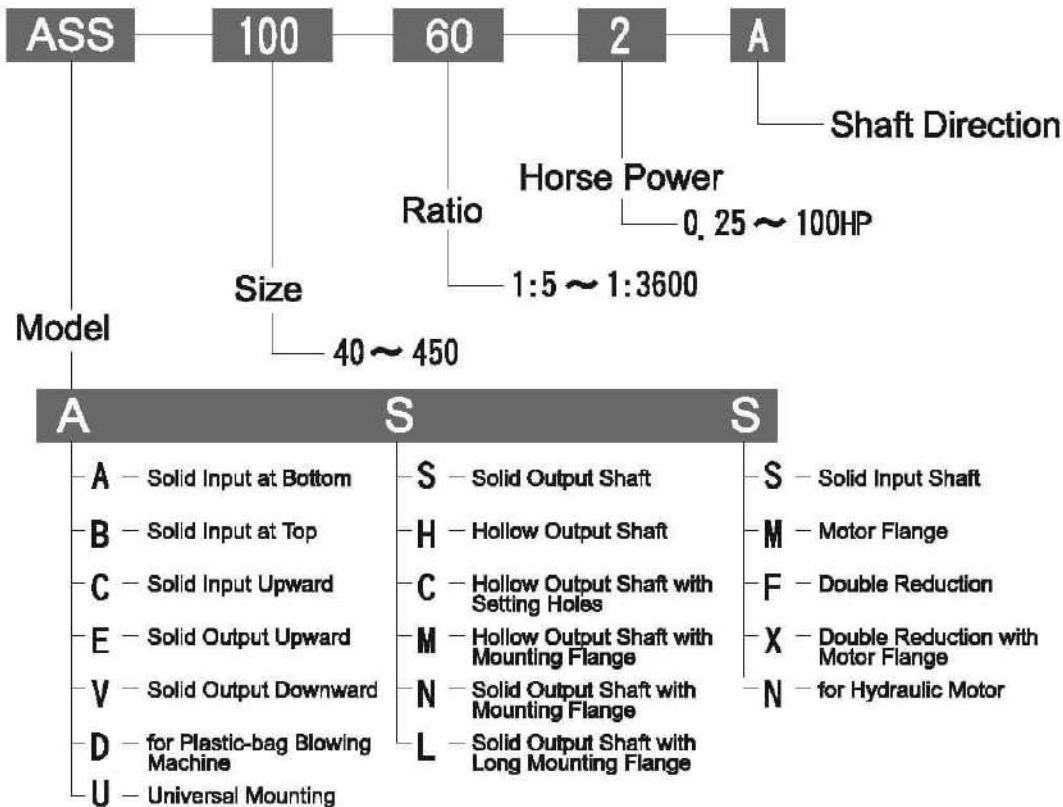


### CHENTA 蝸齒輪減速機特點

- 具有公制IEC及美制NEMA兩種馬達法蘭規格
- 減速比範圍5:1到3600:1
- 成大蝸輪減速機成品低背隙標準，可提供客戶諮詢選用
- 使用馬力範圍小從1/4HP大至100HP
- 使用高品質雙唇油封
- 蝸桿採用S45C中碳鋼經硬化熱處理後，牙面研磨齒形
- 300型(含)以上，蝸桿採用SCM440鉻鉬合金鋼，經調質高週波處理後，牙面齒形研磨
- 蝸輪材質採用高品質之ALBC3鋁青銅具最佳耐磨性
- 機體外殼採高強度之FC-20灰口鑄鐵
- 300型(含)以上機體外殼採更高強度之FCD45球狀石墨鑄鐵
- 入力軸承使用圓錐滾子軸承
- 萬向型具活動式底座
- 工業用重負載型使用壽命長
- 一年使用保固









## Numbering Systems for Worm Gear Reducers:













































### CHENTA Features of Worm Gear Reducers:

- Motor Flange: both IEC and NEMA flanges are available
- Range of Ratio: 5:1 ~ 3600:1
- Reduced Backlash Designs are available for Chenta Worm Gear Reducers.
- Range of Horse Power: 1/4HP ~ 100HP
- Oil Seals: premium quality double lips oil seals
- Worm Shaft:
  - Under size 300- in medium carbon steel (S45C) with harden heat-treatment and threads grounded
  - Size 300 to up- in Chromium Molybdenum Alloy Steel (SCM440) with high frequency heat-treatment and threads grounded
- Worm Wheel: in Aluminum Bronze (ALBC3) with the most durable feature
- Housing:
  - Under size 300- in Grey Iron (FC20) with higher strength
  - Size 300 to up- in Ductile Cast Iron (FCD45) with first-rate intensity
- Removable bases for universal mounting
- Enduring service life
- One year limited warranty

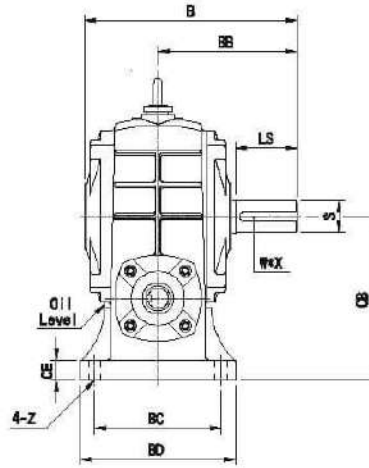
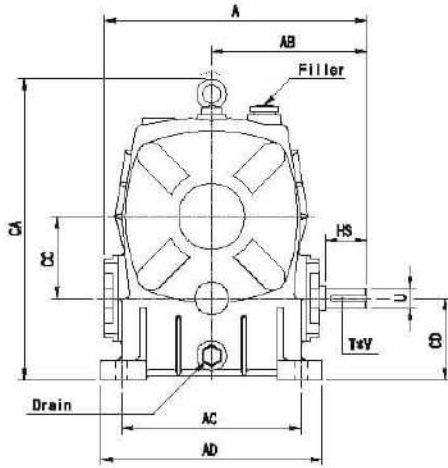
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	ASM/ASN 單 段 入力在下附法蘭	8/9		VSS 單 段 出力向下	37		UHM 出力中空軸 入力附法蘭	58
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	ASX 雙 段 入力附法蘭	13		VSF 雙 段 出力向下	42		UHX 雙段出力中空 入力附法蘭	60
	BSS 單 段 入力實心在上	15		VSX 雙段出力向下 入力附法蘭	45		UCS 單段出力中空 大蓋具固定孔	61
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	CSM 單 段 入力向上附法蘭	21		DLM 出力實心長法蘭 入力附法蘭	50		UCX 出力中空具固定孔 入力附法蘭	64
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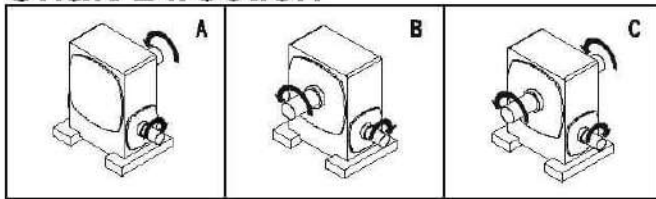
## Model Guide

Mode	Description	Page	Mode	Description	Page	Mode	Description	Page
	<b>ASS:</b> Single reduction, solid input at bottom	5		<b>ESX:</b> Double reduction, output upward in vertical, hollow input with motor flange	34		<b>UHS:</b> Single reduction, solid input, hollow output, universal mounting	57
	<b>ASM/ASN:</b> Single reduction, hollow input at bottom with motor flange	8/9		<b>VSS:</b> Single reduction, solid output downward in vertical	37		<b>UHM:</b> Single reduction, input motor flange, hollow output, universal mounting	58
	<b>ASF:</b> Double reduction, solid input and output shaft	10		<b>VSM:</b> Single reduction, output downward in vertical, input with motor flange	40		<b>UHF:</b> Double reduction, solid input, hollow output, universal mounting	59
	<b>ASX:</b> Double reduction, hollow input with motor flange	13		<b>VSF:</b> Double reduction, solid input and output downward in vertical	42		<b>UHX:</b> Double reduction, input motor flange, hollow output, universal mounting	60
	<b>BSS:</b> Single reduction, solid input at top	15		<b>VSX:</b> Double reduction, output downward in vertical, hollow input with motor flange	45		<b>UCM:</b> Hollow output, output cover with setting holes, input motor flange	61
	<b>BSM/BSN:</b> Single reduction, hollow input at top with motor flange	17/19		<b>DMM:</b> Hollow output with mounting flange, input with motor flange	48		<b>UCS:</b> Hollow output, output cover with setting holes	62
	<b>CSS:</b> Single reduction, solid input upward	20		<b>DNM:</b> Solid output with short mounting flange, input with motor flange	49		<b>UCF:</b> Double reduction, hollow output, output cover with setting holes	63
	<b>CSM:</b> Single reduction, hollow input upward with motor flange	21		<b>DLM:</b> Solid output with long mounting flange, input with motor flange	50		<b>UCS:</b> Double reduction, hollow output, output cover with setting holes, input motor flange	64
	<b>CHS:</b> Single reduction, hollow output, solid input vertical	22		<b>BCB:</b> Solid input with brake and clutch, solid output	51		<b>UMS:</b> Hollow output with mounting flange, solid input	65
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	<b>WSM:</b> Special for Paddle Wheel Aerator	24		<b>USS:</b> Single reduction, solid input and output, universal mounting	53		<b>UMF:</b> Double reduction, hollow output with mounting flange, solid input	67
	<b>ESS:</b> Single reduction, solid output upward in vertical	25		<b>USM:</b> Single reduction, input motor flange, universal mounting	54		<b>UMX:</b> Double reduction, hollow output with mounting flange, input motor flange	68
	<b>ESM/ESN:</b> Single reduction, output upward in vertical, input with motor flange	28/30		<b>USF:</b> Double reduction, solid input and output, universal mounting	55		<b>H-BASE:</b> H-shape base for universal type	69
	<b>ESF:</b> Double reduction, solid input and output upward in vertical	31		<b>USX:</b> Double reduction, input motor flange, universal mounting	56		<b>L-BASE:</b> L-shape base for universal type	69

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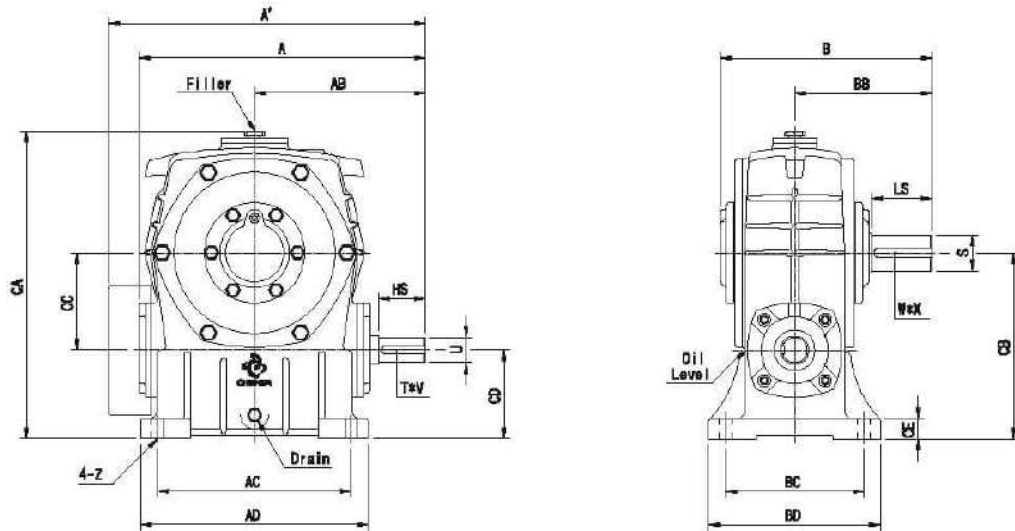
### Shaft Direction



Unit:mm

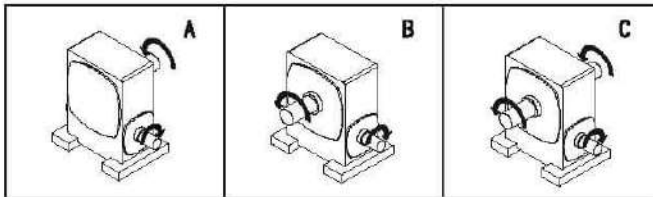
Size	Ratio	A	AB	AC	AD	B	BB	BC	BD	CA	CB	CC	CD	CE	Z
40	1/10	139	83	70	88	120	78	60	102	135	70	40	30	10	9
50		181	107	110	140	147	95	95	120	180	100	50	50	18	11
60	1/15	204	124	120	150	168	110	105	130	210	120	60	60	20	11
70	1/20	235	140	150	190	196	130	115	150	240	140	70	70	22	15
80	1/30	265	160	160	220	216	140	135	170	278	160	80	80	23	15
100	1/40	325	182	220	270	260	170	155	190	378	200	100	100	25	15
120	1/50	389	230	260	320	291	190	180	230	435	240	120	120	30	18
135	1/60	435	260	290	350	320	210	200	250	490	270	135	135	30	18

Size	Input Shaft			Output Shaft			Oil (l)	Weight (kg)
	HS	U	T * V	LS	S	W * X		
40	25	12	4 * 2.5	35	16	5 * 3	0.2	4.1
50	30	12	4 * 2.5	40	17	5 * 3	0.22	7
60	40	15	5 * 3	50	22	7 * 4	0.32	9.7
70	40	18	5 * 3	60	28	7 * 4	0.55	14.6
80	50	22	7 * 4	65	32	10 * 5	0.77	19.7
100	50	25	7 * 4	75	38	10 * 5	1.53	38.4
120	65	30	7 * 4	85	45	12 * 5	2.4	53.4
135	75	35	10 * 5	95	55	15 * 5	3.25	83.2



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### Shaft Direction



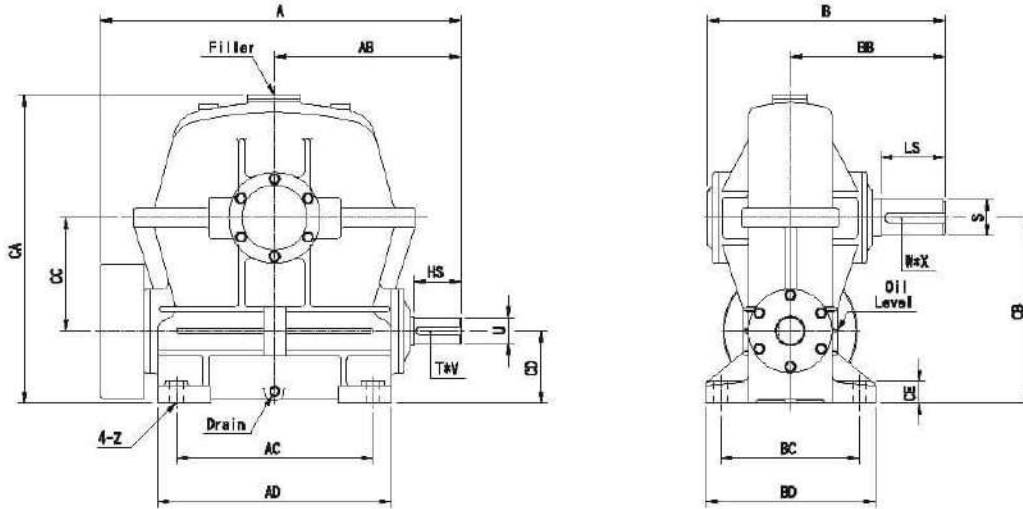
Unit:mm

Size	Ratio	A'	A	AB	AC	AD	B	BB	BC	BD	CA	CB	CC	CD	CE	Z
155	1/10	---	479	286	320	365	377	242	220	260	487	290	155	135	30	20
175	1/15	---	517	308	350	410	381	248	250	310	536	335	175	150	37	20
	1/20	---	517	308	350	410	381	248	250	310	536	335	175	150	37	20
200	1/30	697	---	357	350	420	479	305	280	350	637	390	200	190	35	22
225	1/40	720	---	361	390	470	530	345	330	410	670	415	225	190	45	27
	1/50	720	---	361	390	470	530	345	330	410	670	415	225	190	45	27
250	1/60	815	---	420	440	520	565	380	380	440	742	450	250	200	40	27

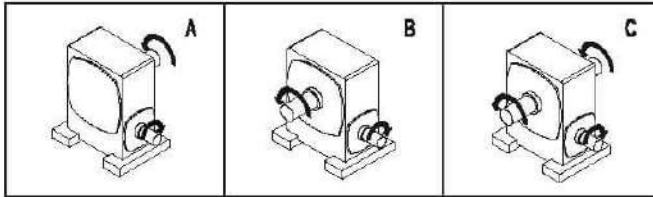
Size	Input Shaft			Output Shaft			Oil (l)	Weight (kg)
	HS	U	T * V	LS	S	W * X		
155	85	40	10 * 5	100	60	15 * 5	4.1	115.3
175	85	45	12 * 5	110	65	16 * 6	5.8	158.3
200	95	50	12 * 5	125	70	20 * 7	8.5	210
225	95	55	15 * 5	140	80	20 * 7	7	282
250	110	60	15 * 5	145	90	24 * 8	9	337

註：風扇罩裝置於 200 型以上。

\*cooling fan is set for size 200 to up



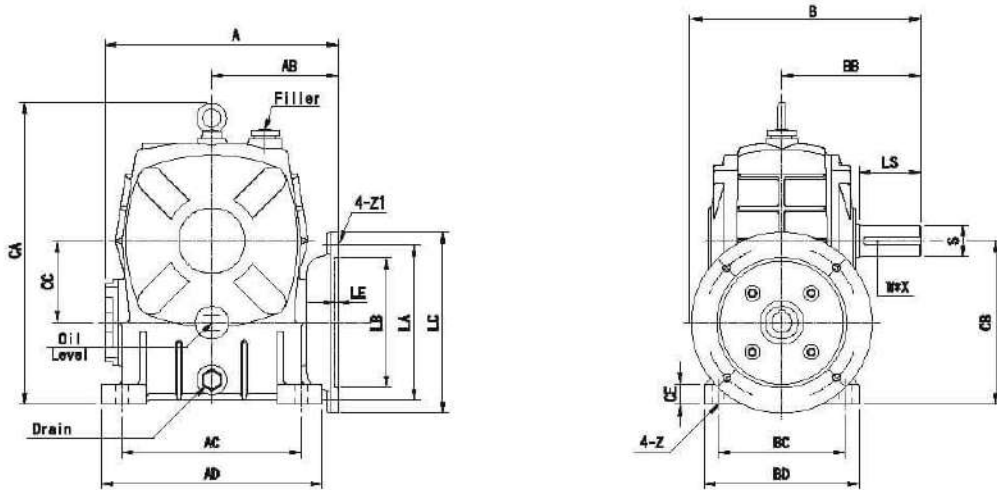
### Shaft Direction



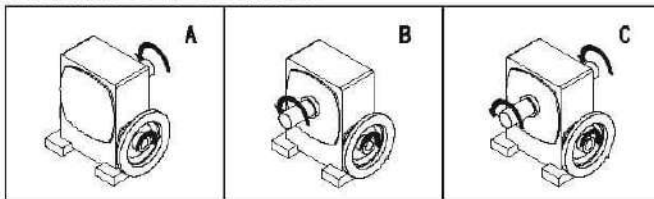
Unit:mm

Size	Ratio	A	AB	AC	AD	B	BB	BC	BD	CA	CB	CC	CD	CE	Z
300	1/10 1/40	968	495	520	620	828	410	388	450	815	490	300	180	55	38
350	1/15 1/50	1068	570	597	700	748	480	432	520	940	585	350	215	55	43
400	1/20 1/60	1160	620	660	780	775	500	470	580	1070	650	400	250	55	43
450	1/30 1/80	1359	695	762	880	860	545	508	620	1190	705	450	255	40	43

Size	Input Shaft			Output Shaft			Oil (l)	Weight (kg)
	HS	U	T * V	LS	S	W * X		
300	125	70	18 * 6	170	95	24 * 8	21	496
350	145	80	20 * 7	190	115	32 * 10	30	673
400	150	85	24 * 8	205	130	35 * 11	41	1006
450	180	85	24 * 8	205	140	35 * 11	50	1330



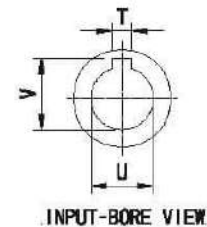
Shaft Direction



Unit:mm

Size	Ratio	A	AB	AC	AD	B	BB	BC	BD	CA	CB	CC	CE	Z	Input Bore		
															U	T	V
50	1/10	174	97	110	140	175	95	95	120	180	100	50	18	11	11 14	4 5	12.8 16
60	1/15	177	97	120	150	190	110	105	130	210	120	80	20	11	11 14	4 5	12.8 16
70	1/20	213 223	118 120	150	190	210 230	130	115	150	240	140	70	22	15	14 19	5 6	16 21.8
80	1/30	234	130	180	220	240	140	135	170	278	160	80	23	15	19 24	5 6	21.8 27.3
100	1/40	273 295	140 165	220	270	270 295	170	155	190	378	200	100	25	15	24 28	6 8	27.3 31.3
120	1/50	335	180	260	320	315	190	180	230	435	240	120	30	18	28	8	31.3
135	1/60	370 390	195 218	290	350	335 360	210	200	250	490	270	135	30	18	28 38	8 10	31.3 41.3

Size	Output Shaft			Flange					HP	Oil (l)	Weight (kg)
	LS	S	W*X	LA	LB	LC	LE	Z1			
50	40	17	5 * 3	130	110	160	4	M8	1/4 1/2	0.22	7.2
60	50	22	7 * 4	130	110	160	4	M8	1/4 1/2	0.32	10
70	60	28	7 * 4	130 165	110 130	160 200	4 5	M8 M10	1/2 1	0.56	15
80	65	32	10 * 5	165	130	200	4	M10	1 2	0.77	20.2
100	75	38	10 * 5	165 215	130 180	200 250	5	M10 M12	2 3	1.53	39.5
120	85	45	12 * 5	215	180	250	5	M12	3 5	2.4	65
135	95	55	15 * 5	215 265	180 230	250 300	5	M12 15	5 7.5	3.25	85.2



INPUT-BORE VIEW



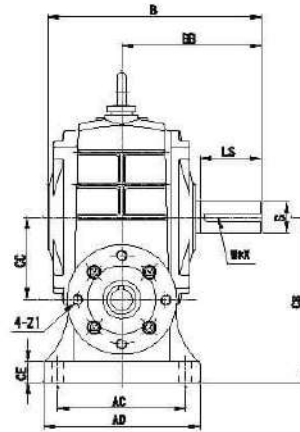
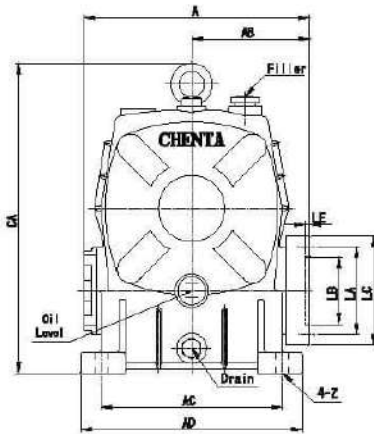
配油壓馬達

Model : ASN

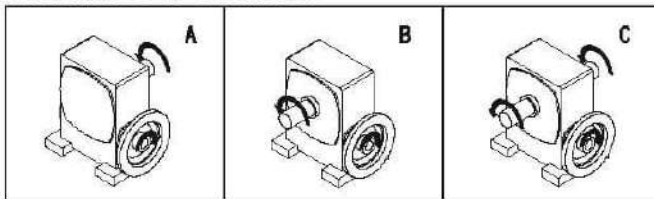
成大齒輪減速機

Size : 100~135

9



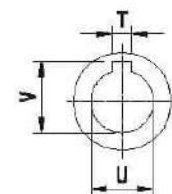
### Shaft Direction



Unit:mm

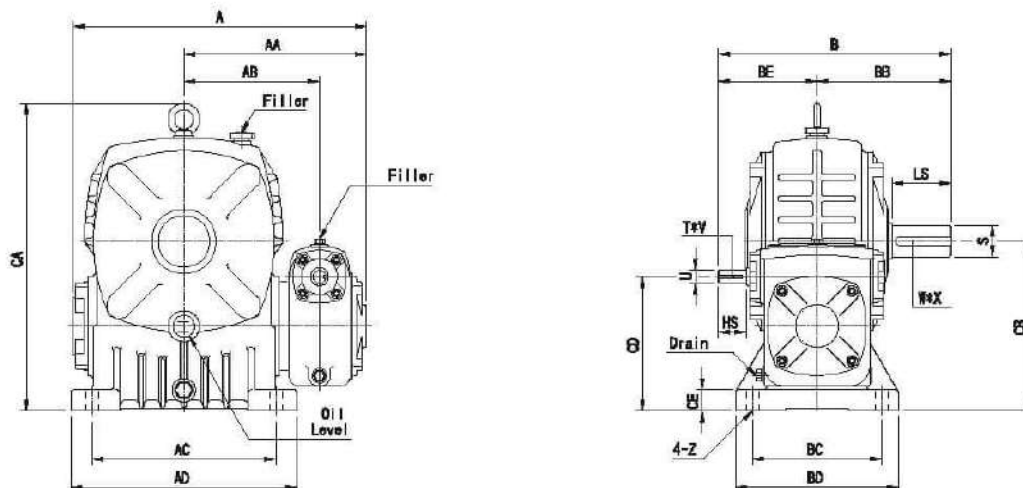
Size	Ratio	A	AB	AC	AD	B	BB	BC	BD	CA	CB	CC	CE	Z	Input Bore		
															U	T	V
100	1/10 1/40	275	143,5	220	270	260	170	155	190	376	200	100	25	15	25,4	6,35	28,5
120	1/15 1/50	311	155	260	320	291	190	180	230	435	240	120	30	18	25,4	6,35	28,5
	1/20														25,4	6,35	28,5
135	1/30 1/80	348	178	290	350	320	210	200	250	490	270	135	30	18	25,4	6,35	28,5
															31,75	7,94	35,5

Size	Output Shaft			Flange				
	LS	S	W*X	LA	LB	LC	LE	Z1
100	75	38	10 * 5	107	82,55	133	5	M12
120	85	45	12 * 5	107	82,55	145	7	M12
135	95	55	15 * 5	107	82,55	153	10	M12

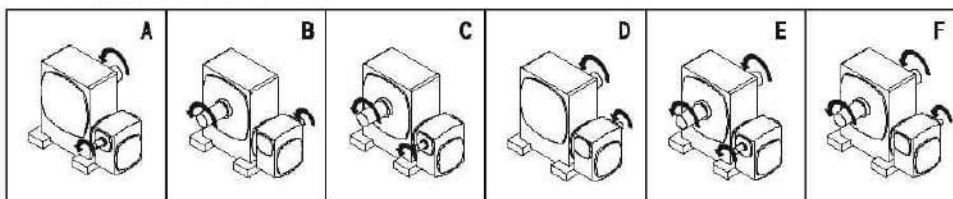


INPUT-BORE VIEW





### Shaft Direction



Unit:mm

Size	Ratio	A	AA	AB	AC	AD	B	BB	BC	BD	BE	CA	CB	CD	CE	Z
50-80	1/100	286	184	132	180	220	247	140	135	170	107	278	160	130	23	15
60-100		352	219	161	220	270	294	170	155	190	124	372	200	180	25	15
70-120	1/3600	417	258	192	260	320	330	190	180	230	140	430	240	190	30	18
80-135		463	287	211	290	360	370	210	200	250	160	491	270	215	30	18

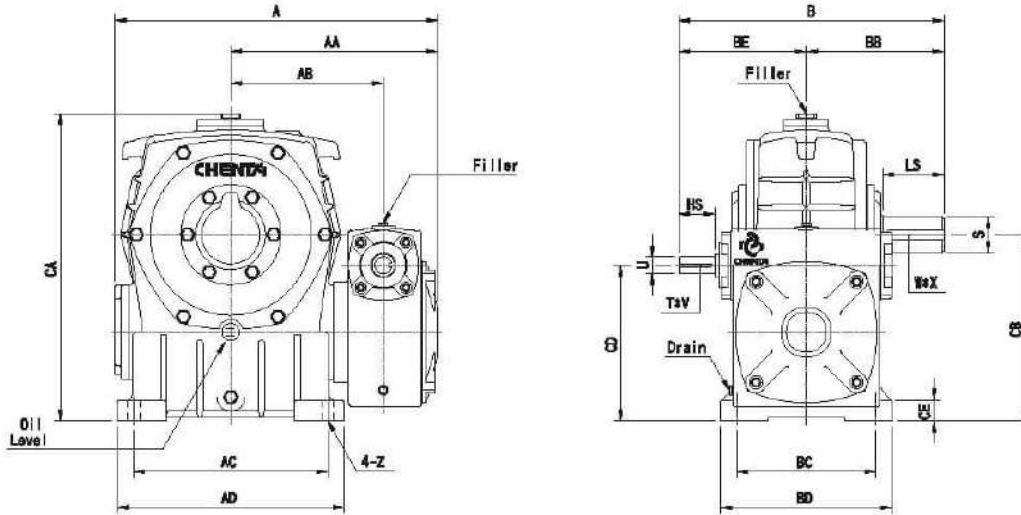
Size	Input Shaft			Output Shaft			Oil (l)	Weight (kg)
	HS	U	T*V	LS	S	W*X		
50-80	30	12	4*2.5	65	32	10*5	1.2	23.8
60-100	40	15	5*3	75	38	10*5	2.2	46.6
70-120	40	18	5*3	85	45	12*5	3.2	73.5
80-135	50	22	7*4	95	55	15*5	4.3	97.7



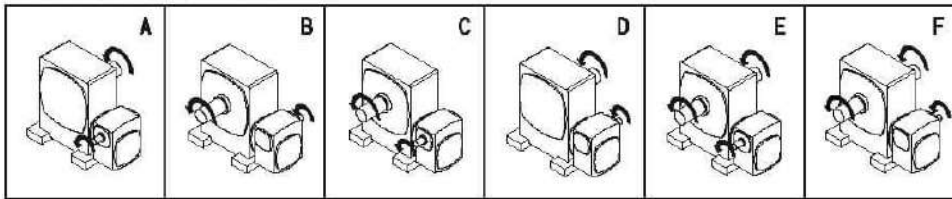
Model : ASF

成大齒輪減速機

Size : 100/155~155/250



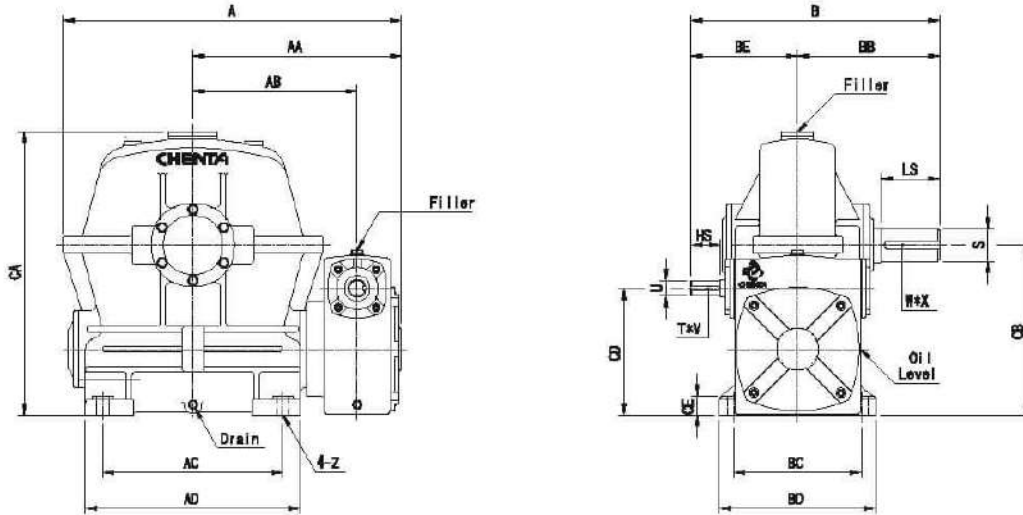
### Shaft Direction



Unit:mm

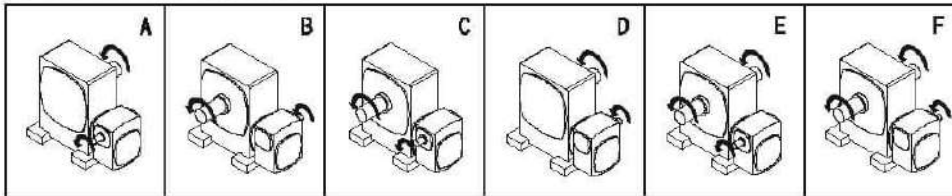
Size	Ratio	A	AA	AB	AC	AD	B	BB	BC	BD	BE	CA	CB	CD	CE	Z
100-155	1/100	540	340	257	320	385	434	242	220	260	192	487	290	235	30	20
120-175		585	376	275	350	410	478	248	250	310	230	553	335	290	37	20
120-200	1/3600	660	414	312.5	350	420	535	305	280	360	230	637	390	310	36	22
135-225		672	425	315	390	470	605	345	330	410	290	680	415	325	45	27
155-250		760	483	395	440	520	646	390	380	440	296	742	450	355	40	27

Size	Input Shaft			Output Shaft			Oil (l)	Weight (kg)
	HS	U	T×V	LS	S	W×X		
100-155	50	25	7×4	100	60	15×5	6.1	135.5
120-175	65	30	7×4	110	65	18×6	9.2	195.8
120-200	65	30	7×4	125	70	20×7	14.7	258
135-225	75	35	10×5	140	80	20×7	17.2	397
155-250	85	40	10×5	145	90	24×8	22	426



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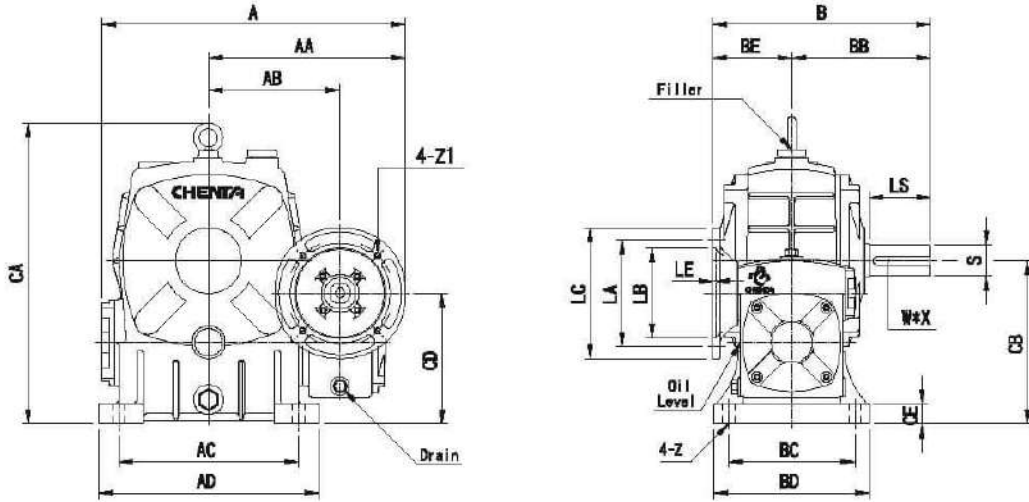
### Shaft Direction



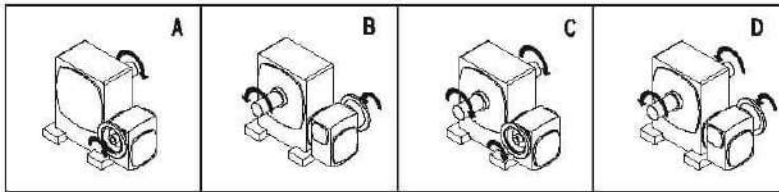
Unit:mm

Size	Ratio	A	AA	AB	AC	AD	B	BB	BC	BD	BE	CA	CB	CD	CE	Z
175-300	1/100	980	601	473	520	620	718	410	368	450	308	840	490	365	55	36
200-350	?	1060	630	525	597	700	830	480	432	520	350	940	565	415	55	43
225-400	1/3600	1252	777	620	660	780	875	500	470	580	375	1120	650	475	55	43

Size	Input Shaft			Output Shaft			Oil (l)	Weight kg
	HS	U	T×V	LS	S	W×X		
175-300	85	45	12×5	170	95	24 × 8	60	580
200-350	95	50	12×5	190	115	32×10	80	880
225-400	95	55	15×5	205	130	35×11	110	1215



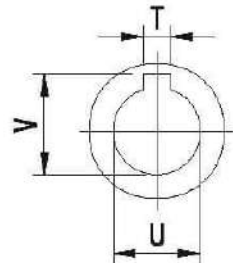
### Shaft Direction



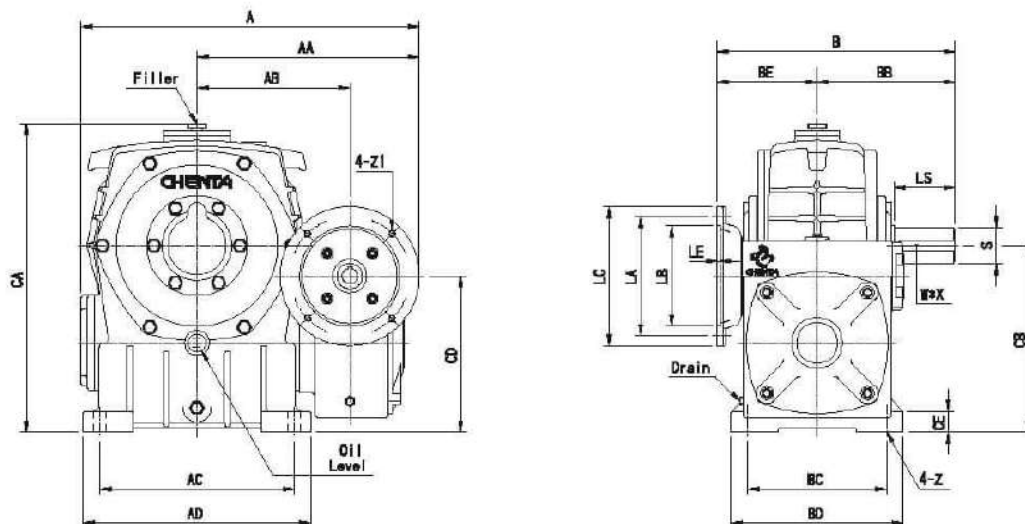
Unit:mm

Size	Ratio	A	AA	AB	AC	AD	B	BB	BC	BD	BE	CA	CB	CD	CE	Z	Input Bore		
																	U	T	V
50-80	1/100	316	212	132	180	220	237	140	135	170	96	271	160	130	23	16	11	4	12.8
60-100		372	241	161	220	270	257	170	155	190	97	372	200	160	25	15	11	4	12.8
70-120	1/3600	428	272	192	260	320	308	190	180	230	118	435	240	190	30	18	14	5	18
80-135		448	292	211	290	350	340	210	200	250	130	490	270	215	30	18	19	6	21.8

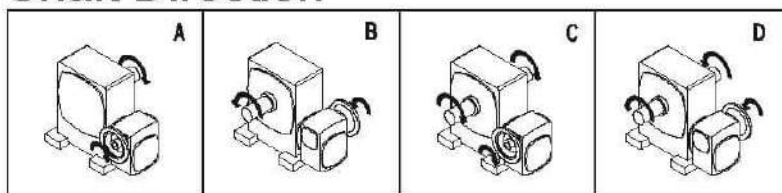
Size	Output Shaft			Flange					HP	Oil (l)	Weight (kg)
	LS	S	W*X	LA	LB	LC	LE	Z1			
50-80	65	32	10*5	130	110	180	4	M8	1/4 1/2	1, 2	24, 9
60-100	75	38	10*5	130	110	180	4	M8	1/4 1/2	2, 2	48, 1
70-120	85	45	12*5	130	110	180	4	M8 M10	1/2 1	3, 2	75, 5
80-135	95	55	15*5	165	130	200	5	M10	1 2	4, 3	100, 2



INPUT-BORE VIEW



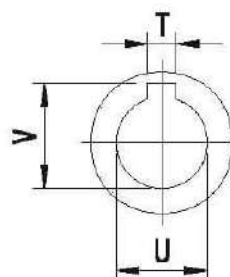
Shaft Direction



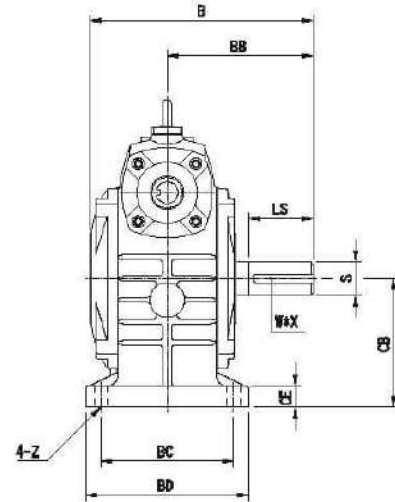
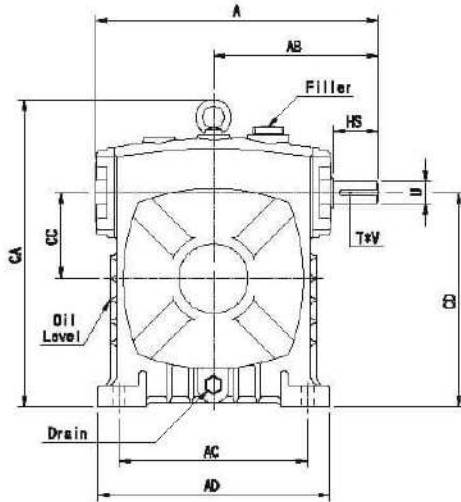
Unit:mm

Size	Ratio	A	AA	AB	AC	AD	B	BB	BC	BD	BE	CA	CB	CD	CE	Z	Input Bore		
																	U	T	V
100-155	1/100	545 574	357 382	257	320	385	382 407	242	220	280	140 165	487	290	235	32	20	24 26	8 8	27.3 31.3
120-175		608	400	275	350	410	426	248	250	310	180	553	335	280	37	20	26	8	31.3
120-200		687	437	312.5	350	420	485	305	280	350	180	637	380	310	35	22	28	8	31.3
135-225	1/3600	692 717	440 465	315	390	470	540 563	345	330	410	195 218	680	415	325	45	27	26 28	8 10	31.3 41.3
155-250		817	515	365	440	520	596	360	380	440	238	742	450	355	40	27	36	10	41.3

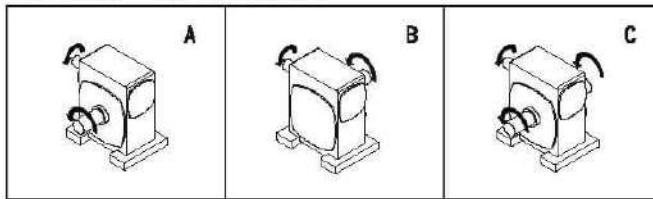
Size	Output Shaft			Flange					IP	Oil (l)	Weight (kg)
	LS	S	WxX	LA	LB	LC	LE	Z1			
100-155	100	80	15x5	165 215	130 180	200 250	5	M10 M12	2 3	6.1	138.7
120-175	110	85	18x6	215	180	250	5	M12	3 5	9.2	199.6
120-200	125	70	20x7	215	180	250	5	9	5	15	281
135-225	140	80	20x7	215 265	180 230	250 300	5	M12 15	5 7.5	17	365
155-250	145	90	24x8	265	230	300	5	15	10	22	425



INPUT-BORE VIEW



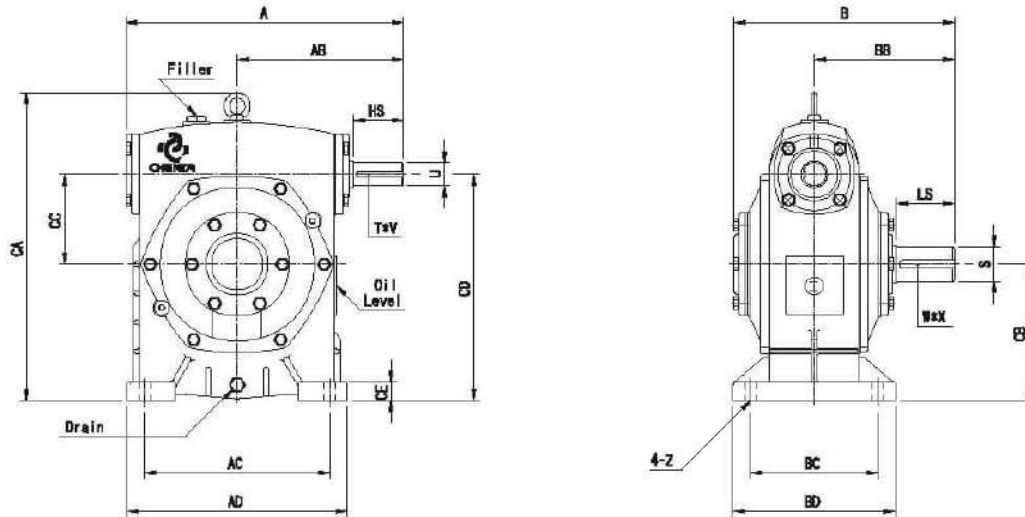
### Shaft Direction



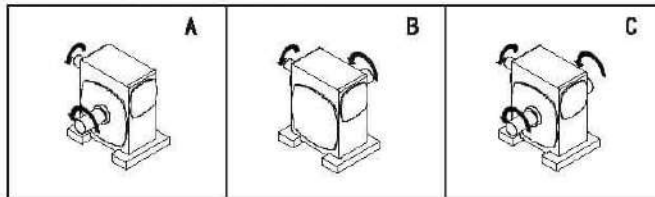
Unit:mm

Size	Ratio	A	AB	AC	AD	B	BB	BC	BD	CA	CB	CC	CD	CE	Z
40	1/10	139	83	70	98	118	78	80	102	140	80	40	100	10	9
50		181	107	110	140	147	95	95	120	175	80	50	130	15	11
60	1/15	204	124	120	150	168	110	105	130	200	90	60	150	18	11
70		235	140	150	190	196	130	115	150	235	105	70	175	20	15
80	1/30	265	160	180	220	216	140	135	170	260	120	80	200	20	15
100	1/40	328	192	220	270	262	170	155	190	359	150	100	250	25	15
120	1/50	389	230	260	320	288	190	180	230	425	180	120	300	30	18
135	1/60	435	260	290	350	320	210	200	250	478	215	135	350	30	18

Size	Input Shaft			Output Shaft			Oil (l)	Weight (kg)
	HS	U	T * V	LS	S	W * X		
40	24.5	12	4 * 2.5	35	16	5 * 3	0.2	4.7
50	30	12	4 * 2.5	40	17	5 * 3	0.4	6.5
60	40	15	5 * 3	50	22	7 * 4	0.5	8.5
70	40	18	5 * 3	60	28	7 * 4	0.8	14
80	50	22	7 * 4	65	32	10 * 5	1.2	19
100	50	25	7 * 4	75	38	10 * 5	2.2	38
120	65	30	7 * 4	85	45	12 * 5	4.2	64
135	75	35	10 * 5	95	55	15 * 5	6	85



### Shaft Direction



Unit:mm

Size	Ratio	A	AB	AC	AD	B	BB	BC	BD	CA	CB	CC	CD	CE	Z
155	1/10 1/40	479	286	320	380	381	242	220	280	536	235	155	390	32	20
175		517	308	350	410	381	248	250	310	587	260	175	435	35	20
200	1/20 1/50	697	357	350	420	479	305	290	350	650	290	200	490	35	22
225	1/30 1/60	709	381	340	456	495	345	240	330	656	320	225	545	40	26.5

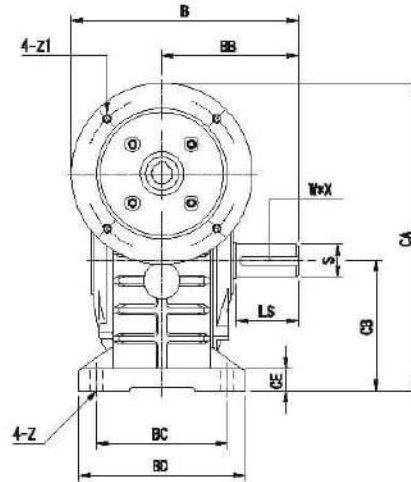
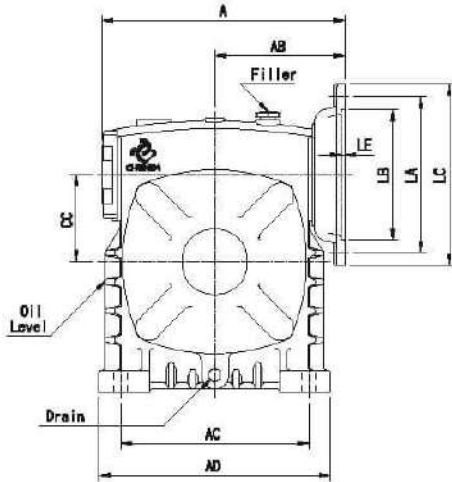
Size	Input Shaft			Output Shaft			Oil (l)	Weight (kg)
	HS	U	T * V	LS	S	W * X		
155	85	40	10 * 5	100	60	15 * 5	7.4	115
175	85	45	12 * 5	110	65	18 * 6	11.5	160
200	95	50	12 * 5	120	70	20 * 7	15	235
225	95	55	15 * 5	140	80	20 * 7	21	375



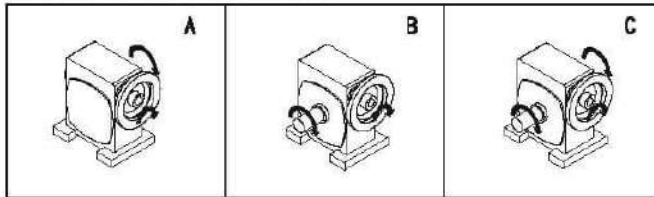
Model : BSM

成大齒輪減速機

Size : 50~135



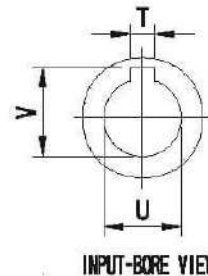
### Shaft Direction



Unit:mm

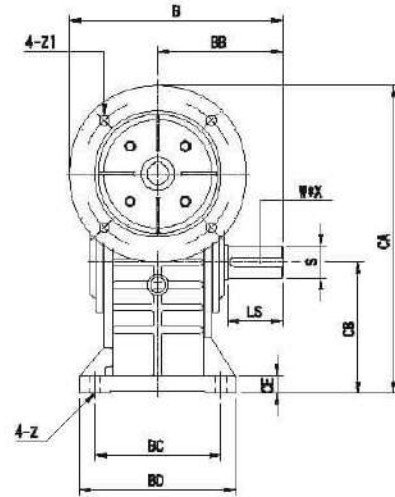
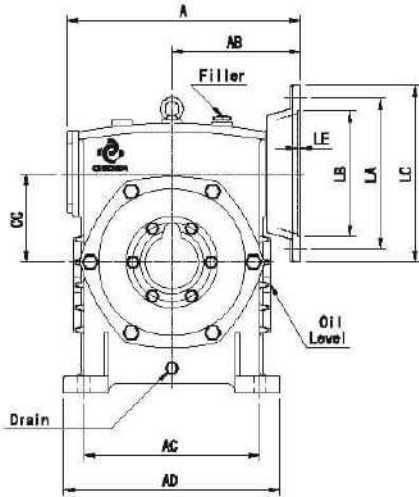
Size	Ratio	A	AB	AC	AD	B	BB	BC	BD	CA	CB	CC	CE	Z	Input Bore		
															U	T	V
50	1/10	173	98	110	140	175	95	95	120	210	80	90	18	11	11 14	4 5	12.8 16
60	1/15	177	97	120	150	190	110	105	130	230	90	90	20	11	11 14	4 5	12.8 16
70	1/20	213 223	118 120	150	190	210 230	130	115	150	255 275	105	70	22	15	14 19	5 8	16 21.8
80	1/30	234	130	180	220	240	140	135	170	300	120	80	20	15	19 24	6 8	21.8 27.3
100	1/40	273 278	140 142	220	270	270 295	170	155	190	350 375	150	100	25	15	24 28	8 8	27.3 31.3
120	1/50	334	180	260	320	315	190	180	230	425	180	120	30	18	28	8	31.3
135	1/60	370 390	195 218	290	350	335 360	210	200	250	475 500	215	135	30	18	28 38	8 10	31.3 41.3

Size	Output Shaft			Flange				HP	Oil (l)	Weight (kg)	
	LS	S	W * X	LA	LB	LC	LE				Z1
50	40	17	5 * 3	130	110	180	4	M8	1/4 1/2	0.22	7.2
60	50	22	7 * 4	130	110	180	4	M8	1/4 1/2	0.32	10
70	60	28	7 * 4	165	130	200	4	M8 M10	1/2	0.55	15
80	65	32	10 * 5	165	130	200	4	M10	1/2	0.77	20.2
100	75	38	10 * 5	195	130 180	200 250	5	M10 M12	2/3	1.53	39.5
120	85	45	12 * 5	215	180	250	5	M12	3/5	2.4	65
135	95	55	15 * 5	215 265	180 230	250 300	5	M12 15	5 7.5	3.25	85.2

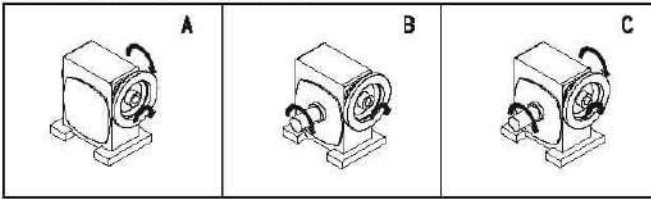


INPUT-BORE VIEW





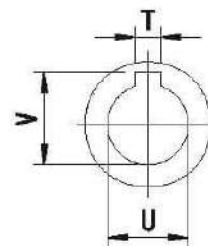
### Shaft Direction



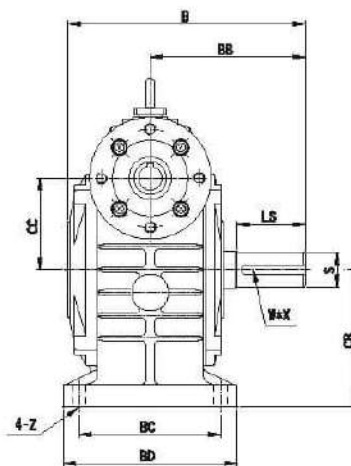
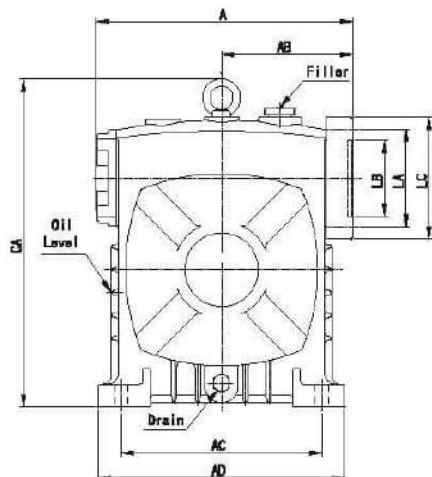
Unit:mm

Size	Ratio	A	AB	AC	AD	B	BB	BC	BD	CA	CB	CC	CE	Z	Input Bore		
															U	T	V
155	1/10	430	236	320	380	392	242	220	280	540	235	155	32	20	38	10	41.3
	1/15														10	41.3	
175	1/20	420	212	350	410	398	248	250	310	585	260	175	35	20	38	10	41.3
	1/30														42	12	45.3

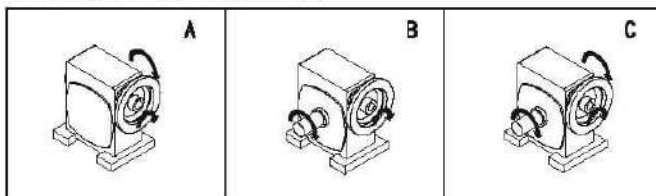
Size	Output Shaft			Flange					HP	Oil (l)	Weight (kg)
	LS	S	W * X	LA	LB	LC	LE	Z1			
155	100	60	15 * 5	265	230	300	4.5	15	7.5 10	11.5	115
175	110	65	18 * 6	295	250	350	5	12 19	10 15	7.4	160



INPUT-BORE VIEW



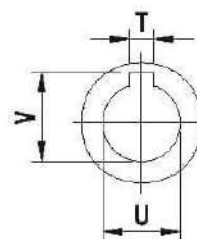
### Shaft Direction



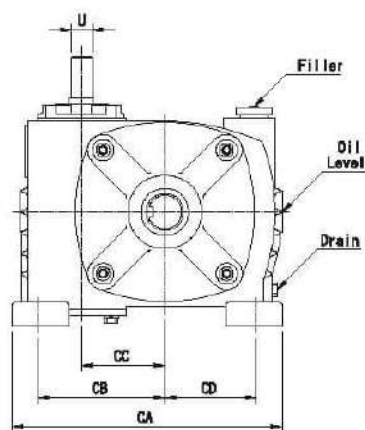
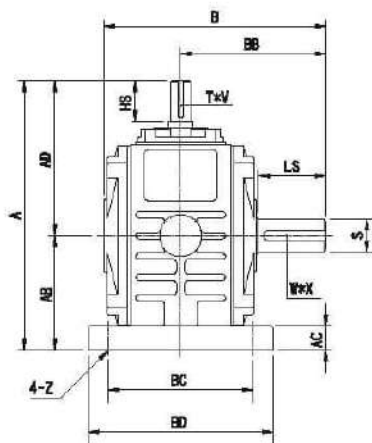
Unit:mm

Size	Ratio	A	AB	AC	AD	B	BB	BC	BD	CA	CB	CC	CE	Z	Input Bore		
															U	T	V
100	1/10 1/40	280	144	220	270	262	170	155	190	359	150	100	25	15	25,4	6,35	28,5
120	1/15	311	155	260	320	288	190	180	230	425	180	120	30	18	25,4	6,35	28,5
	1/20																
135	1/30 1/60	350	178	290	350	320	210	200	250	478	215	135	30	18	25,4 31,75	6,35 7,94	28,5 35,5

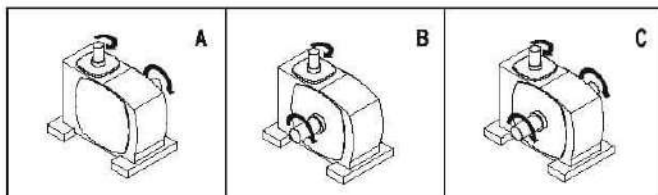
Size	Output Shaft			Flange				Z1
	LS	S	W * X	LA	LB	LC	LE	
100	75	38	10 * 5	107	82,55	133	5	M12
120	85	45	12 * 5	107	82,55	145	7	M12
135	95	55	15 * 5	107	82,55	153	10	M12



INPUT-BORE VIEW



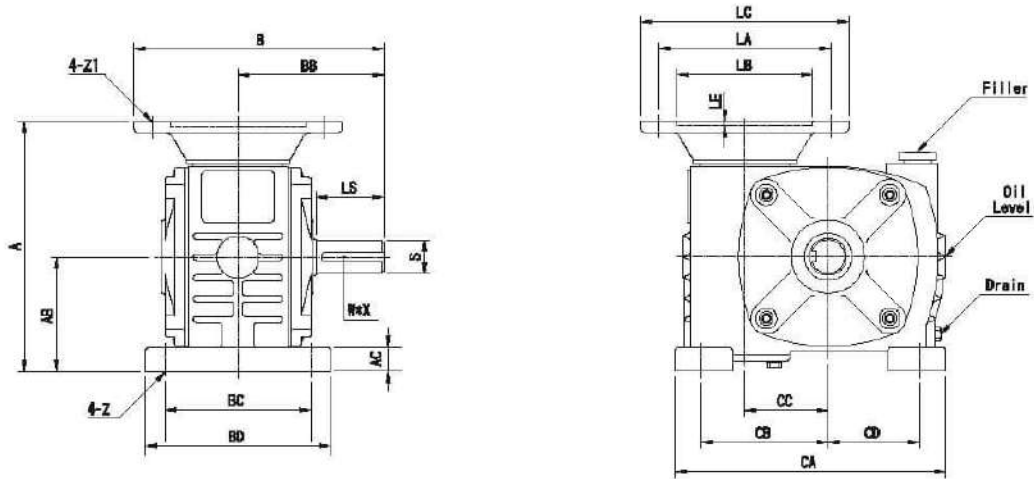
### Shaft Direction



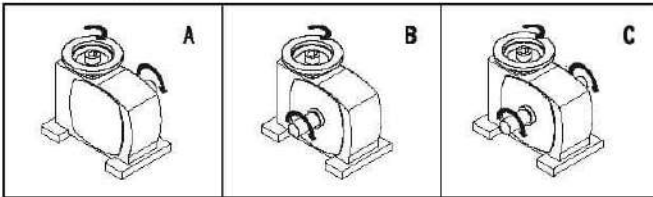
Unit:mm

Size	Ratio	A	AB	AC	AD	B	BB	BC	BD	CA	CB	CC	CD	Z
50	1/10	177	79	15	107	147	95	100	125	161	77	50	53	11
60	1/15	214	90	20	124	168	110	105	136	205	98	60	67	11
70	1/20	250	110	20	140	196	130	120	155	196	100	70	56	15
80	1/30	265	105	20	160	216	140	125	160	264	125	80	90	15
100	1/40	327	135	25	192	260	170	170	205	320	157	100	115	15
120	1/50	385	155	30	230	288	190	180	230	352	170	120	120	18
135	1/60	430	170	30	260	320	210	200	250	390	200	135	130	18

Size	Input Shaft			Output Shaft			Oil (l)	Weight (kg)
	HS	U	T * V	LS	S	W * X		
50	30	12	4 * 2.5	40	17	5 * 3	0.3	7
60	40	15	5 * 3	50	22	7 * 4	0.5	11
70	40	18	5 * 3	60	28	7 * 4	1	14
80	50	22	7 * 4	65	32	10 * 5	1.2	19
100	50	25	7 * 4	75	38	10 * 5	2.8	36
120	65	30	7 * 4	85	45	12 * 5	4	55
135	75	35	10 * 5	95	55	15 * 5	5.5	65



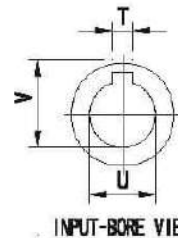
### Shaft Direction



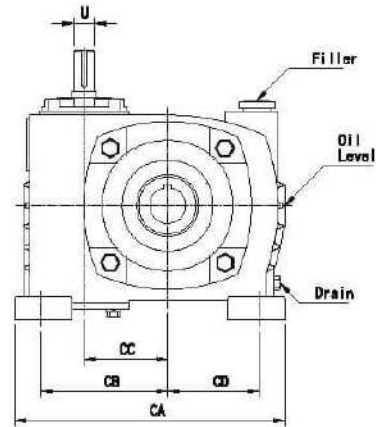
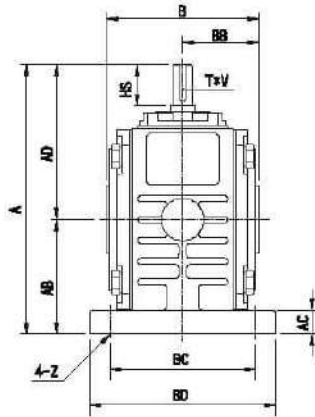
Unit:mm

Size	Ratio	A	AB	AC	B	BB	BC	BD	CA	CB	CC	CD	Z	Input Bore		
														U	T	V
50	1/10	182	70	15	175	95	100	125	181	77	50	53	11	11.4	4.5	12.8
60	1/15	187	90	20	190	110	105	136	205	88	60	67	10	11.4	4.5	12.8
70	1/20	228 230	110	20	210 230	130	120	155	198	100	70	55	15	14.8	5.6	18.3
80	1/30	235	105	20	240	140	125	180	284	125	80	90	15	19.24	6.8	21.8
100	1/40	277 279	135	25	270 295	170	170	205	320	157	100	115	15	24.28	8.8	27.3
120	1/50	335	185	30	315	190	180	230	352	170	120	120	18	28	6	31.3
135	1/60	385 388	170	30	335 380	210	200	250	390	200	135	130	18	28.36	8.10	31.3

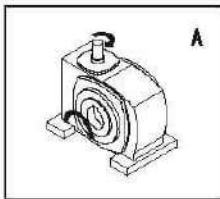
Size	Output Shaft			Flange				HP	Oil (l)	Weight (kg)	
	LS	S	W * X	LA	LB	LC	LE				Z1
50	40	17	5 * 3	130	110	160	4	M8	1/4 1/2	0.3	9
60	50	22	7 * 4	130	110	160	4	M8	1/4 1/2	0.5	13
70	60	28	7 * 4	130 185	110 130	160 200	4 5	M8 M10	1/2 1	1	16
80	65	32	10 * 5	185	130	200	5	M10	1 2	1.2	23
100	75	38	10 * 5	185 215	130 180	200 250	5	M10 M12	2 3	2.8	40
120	85	48	12 * 5	215	180	250	5	M12	3 5	4	58
135	95	55	15 * 5	215 265	180 230	250 300	5	M12 15	5 7.5	5.5	70



INPUT-BORE VIEW



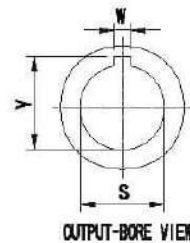
Shaft Direction



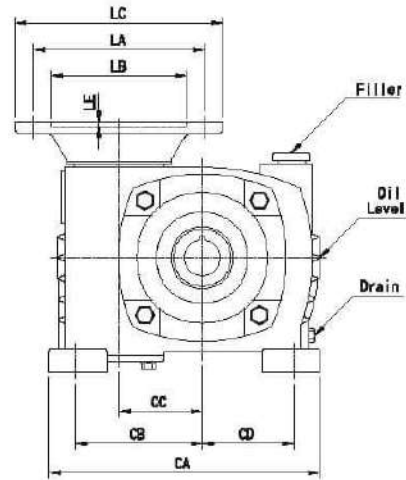
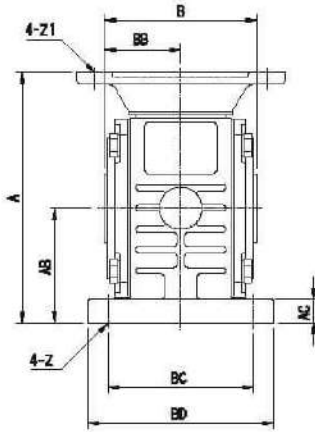
Unit:mm

Size	Ratio	A	AB	AC	AD	B	BB	BC	BD	CA	CB	CC	CD	Z
50	1/10	177	70	15	107	110	55	100	125	161	77	50	53	11
60	1/15	214	90	20	124	117	58,5	105	136	205	98	60	67	11
70	1/20	250	110	20	140	130	65	120	155	196	100	70	65	15
80	1/30	285	105	20	160	144	72	125	160	264	125	80	90	15
100	1/40	327	135	25	192	175	87,5	170	205	320	157	100	115	15
120	1/50	385	155	30	230	200	100	180	230	352	170	120	120	18
135	1/60	430	170	30	260	230	115	200	250	390	200	135	130	18

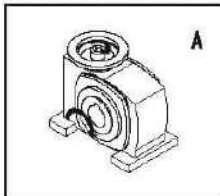
Size	Input Shaft			Output Bore			Oil (l)	Weight (kg)
	HS	U	T * V	S	W	Y		
50	30	12	4 * 2,5	20	5	22,3	0,3	7
60	40	15	5 * 3	25	7	28	0,5	11
70	40	18	5 * 3	30	8	33,3	1	14
80	50	22	7 * 4	35	10	38,5	1,2	19
100	50	25	7 * 4	40	12	43,5	2,8	36
120	65	30	7 * 4	45	12	48,5	4	53
135	75	35	10 * 5	60	15	65	5,5	65



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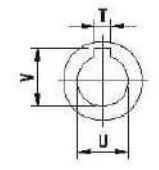
Shaft Direction



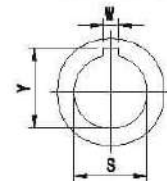
Unit:mm

Size	Ratio	A	AB	AC	B	BB	BC	BD	CA	CB	CC	CD	Z	Input Bore		
														U	T	V
50	1/10	182	70	15	110	55	100	125	161	77	50	53	11	11 14	4 5	12.8 16.3
60	1/15	187	90	20	117	58.5	105	136	205	98	60	67	10	11 14	4 5	12.8 16.3
70	1/20	228 230	110	20	130	65	120	155	199	100	70	55	15	14 19	5 6	16.3 21.8
80	1/30	235	105	20	144	72	125	180	264	125	80	90	15	19 24	6 8	21.8 27.3
100	1/40	277 279	135	25	175	87.5	170	205	320	157	100	115	15	24 28	8 8	27.3 31.3
120	1/50	310	155	30	200	100	180	230	352	170	120	120	18	28	8	31.3
135	1/60	365 388	170	30	230	115	200	250	390	200	135	130	18	28 38	8 10	31.3 41.5

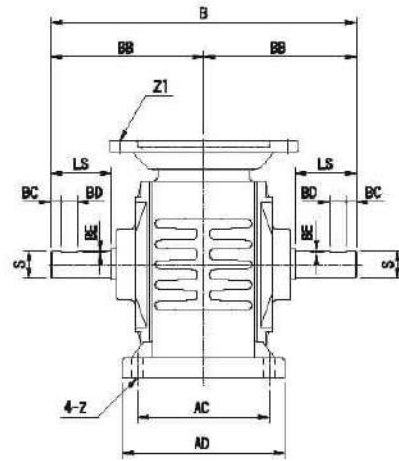
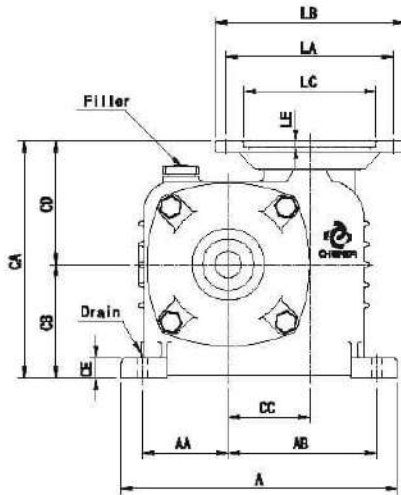
Size	Output Bore			Flange					HP	Oil (l)	Weight (kg)
	S	W	Y	LA	LB	LC	LE	Z1			
50	20	5	22.3	130	110	160	4	M8	1/4 1/2	0.3	9
60	25	7	28	130	110	160	4	M8	1/4 1/2	0.5	13
70	30	8	33.3	130 185	110 130	160 200	4 5	M8 M10	1/2 1	1	16
80	35	10	38.5	165	130	200	5	M10	1 2	1.2	23
100	40	12	43.5	165 215	130 180	200 250	5	M10 M12	2 3	2.8	40
120	45	12	48.5	215	180	250	5	M12	3 5	4	58
135	60	15	65	215 265	180 230	250 300	5	M12 15	5 7.5	5.5	70



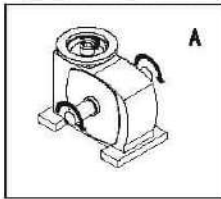
INPUT-BORE VIEW



OUTPUT-BORE VIEW



Shaft Direction

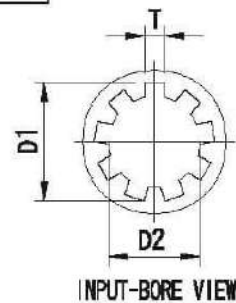


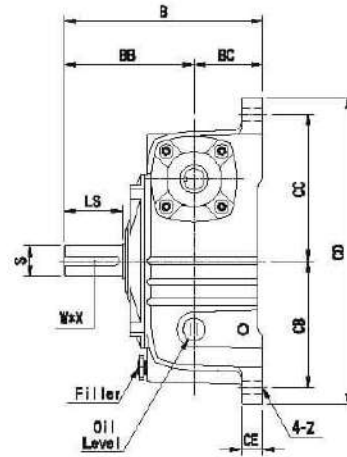
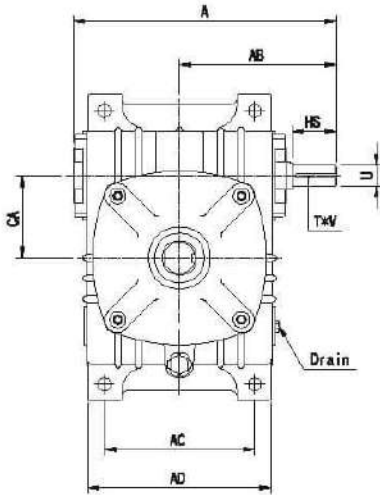
Unit:mm

Size	Ratio	A	AA	AB	AC	AD	B	BB	CA	CB	CC	CD	CE	Z	Input Bore		
															D1	D2	T
W80	1/15	285	85	145	130	155	300	155	232	112	80	120	17	1/2"	25	19	4.2

Size	Output Shaft					Flange					HP	Oil (l)	Weight (kg)
	LS	S	BC	BD	BE	LA	LB	LC	LE	Z1			
W80	60	25.4	10	16	0.9	165	185	130	6	3/8" UNC	1/2	1.2	25

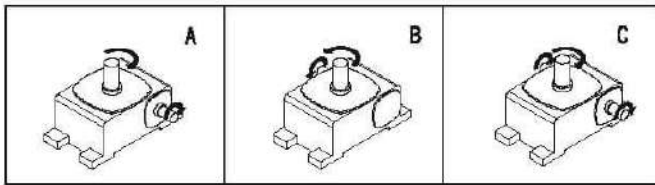
註：螺絲及出力軸皆採用 SUS304  
 \*SUS304 for output shaft and screws





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### Shaft Direction

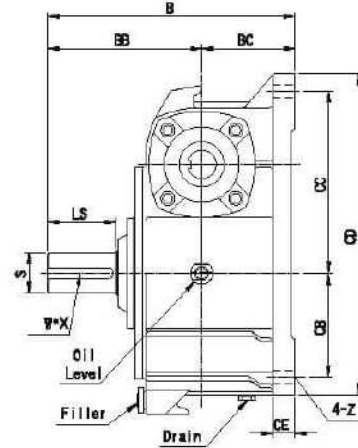
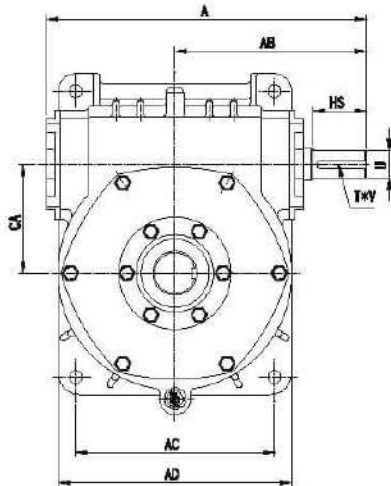


Unit:mm

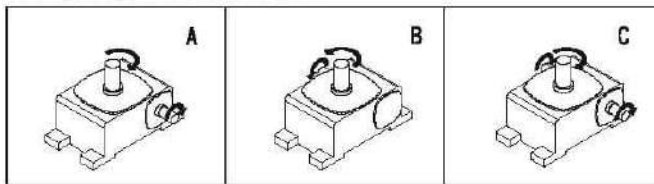
Size	Ratio	A	AB	AC	AD	B	BB	BC	CA	CB	CC	CD	CE	Z
40	1/10	140	83	70	95	120	78	42	40	65	85	160	14	9
50	1/15	179	107	90	118	145	95	50	50	93	102	220	16	11
60	1/20	201	124	100	128	165	110	55	60	105	120	260	20	11
70	1/30	235	140	120	156	195	130	65	70	120	135	295	20	15
80	1/40	265	160	140	178	213	140	73	80	130	150	320	20	15
100	1/50	325	190	190	228	260	170	90	100	155	160	375	30	15
120	1/60	389	230	220	268	290	190	100	120	185	215	450	30	18
135	1/60	430	260	260	295	320	210	110	135	210	235	495	30	18

Size	Input Shaft			Output Shaft			Oil (l)	Weight (kg)
	HS	U	T * V	LS	S	W * X		
40	25	12	4 * 2.5	35	16	5 * 3	0.2	4.1
50	30	12	4 * 2.5	40	17	5 * 3	0.4	6.5
60	40	15	5 * 3	50	22	7 * 4	0.6	9
70	40	18	5 * 3	60	28	7 * 4	1.1	13
80	50	22	7 * 4	65	32	10 * 5	1.5	18
100	50	25	7 * 4	78	38	10 * 5	3.0	42
120	65	30	7 * 4	85	45	12 * 5	5.0	66
135	75	35	10 * 5	95	55	15 * 5	7.5	90





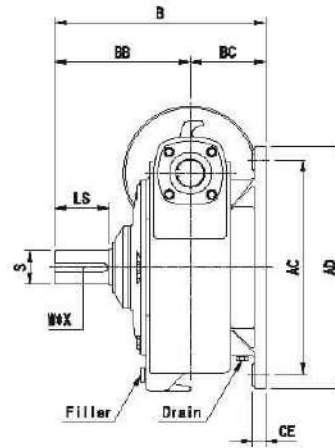
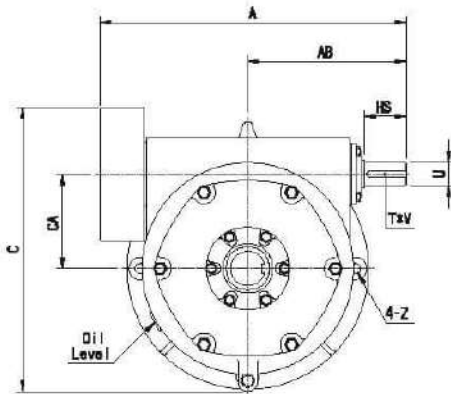
### Shaft Direction



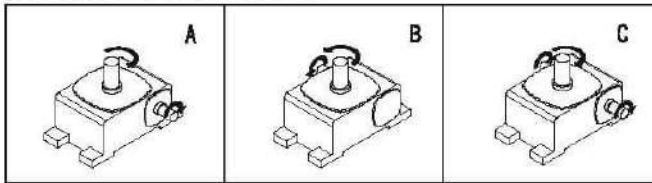
Unit:mm

Size	Ratio	A	AB	AC	AD	B	BB	BC	CA	CB	CC	CD	CE	Z
155	1/10	479	288	290	338	382	242	149	155	145	265	456	30	20
	1/15													
	1/40													
175	1/20	515	308	320	375	398	248	159	175	167	293	516	35	20
	1/30													
	1/60													

Size	Input Shaft			Output Shaft			Oil (l)	Weight (kg)
	HS	U	T * V	LS	S	W * X		
155	85	40	10 ± 5	100	60	15 ± 5	9,2	115
175	85	45	12 ± 5	110	85	18 ± 6	10,5	155



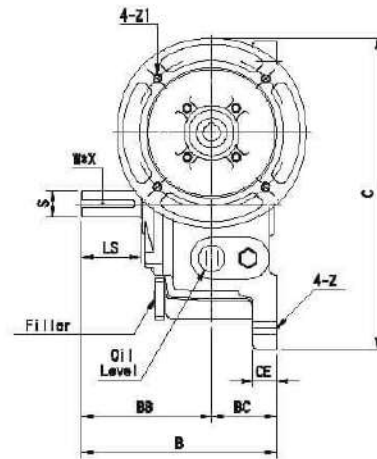
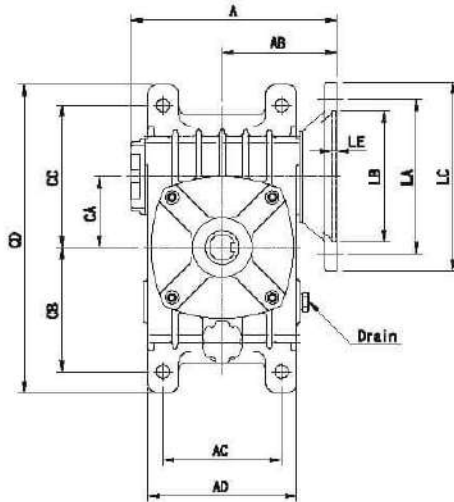
### Shaft Direction



Unit:mm

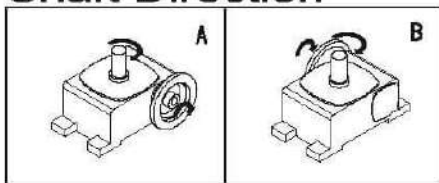
Size	Ratio	A	AB	AC	AD	B	BB	BC	C	CA	CE	Z
200	1/10 1/40	698	357	450	510	495	305	190	643	200	30	22
225	1/15	709	361	510	560	545	345	200	700	225	35	27
250	1/20 1/50	813	420	570	640	560	360	200	754	250	35	27
300	1/30 1/60	943	485	660	750	645	410	235	853	300	42	36

Size	Input Shaft			Output Shaft			Oil (l)	Weight (kg)
	HS	U	T * V	LS	S	W * X		
200	95	50	12 * 5	125	70	20 * 7	12	220
225	95	55	15 * 5	140	80	20 * 7	17	315
250	110	80	15 * 5	145	90	24 * 8	23	365
300	125	70	18 * 6	170	95	24 * 8	45	520



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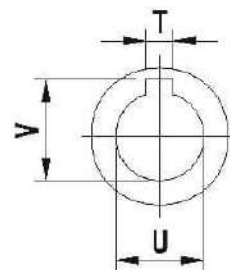
### Shaft Direction



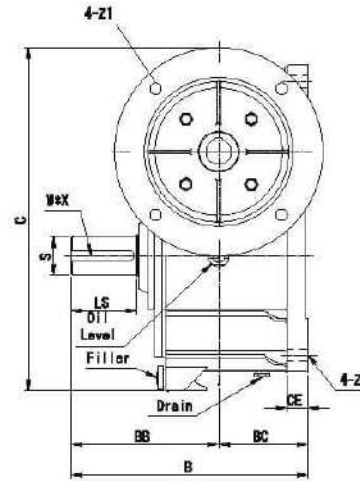
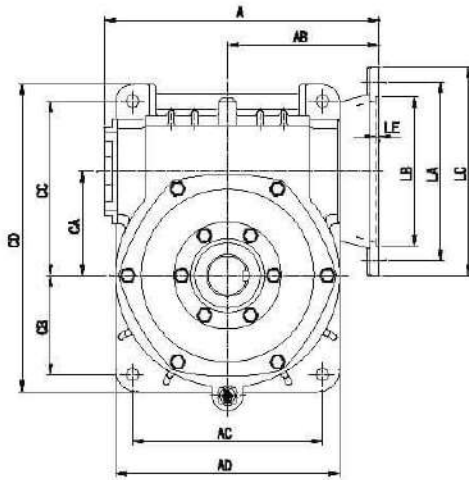
Unit:mm

Size	Ratio	A	AB	AC	AD	B	BB	BC	C	CA	CB	CC	CD	CE	Z	Input Bore		
																U	T	V
50	1/10	170	97	90	116	145	95	50	236	50	93	102	220	18	11	11 14	4 5	12.6 15
60	1/15	177	97	100	126	165	110	55	263	60	105	120	260	20	11	11 14	4 5	12.6 15
70	1/20	213	118	120	166	195	130	65	290	70	120	135	295	20	15	14	5	15
		223														120		
80	1/30	235	130	140	176	213	140	73	330	80	130	150	320	20	15	19 24	6 8	21.6 27.3
100	1/40	273	140	142	190	228	260	170	375	100	155	180	375	30	15	24	8	27.3
		278														142		
120	1/50	339	180	220	266	290	190	100	455	120	185	215	450	30	18	26	8	31.3
135	1/60	370	195	260	306	320	210	110	495	135	210	235	495	30	18	28	8	31.3
		378														218		

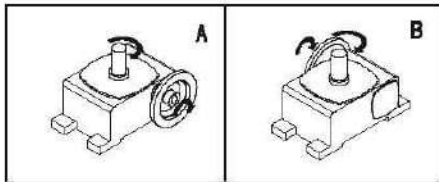
Size	Output Shaft			Flange					HP	Oil (l)	Weight (kg)
	LS	S	W * X	LA	LB	LC	LE	ZI			
50	40	17	5 * 3	130	110	160	5	M8	1/4 1/2	0.4	6.5
60	50	22	7 * 4	130	110	160	4	M8	1/4 1/2	0.6	9
70	60	28	7 * 4	130	110	160	4	M8	1/2	1.1	13
				185		200					
80	65	32	10 * 5	165	130	200	4	M10	1/2	1.5	16
100	75	38	10 * 5	165	130	200	5	M10	2/3	3	42
				215		250					
120	85	45	12 * 5	215	180	250	5	M12	3/5	5	66
135	95	55	15 * 5	215	180	250	5	M12	5/7.5	7.5	90
				265		300					



INPUT-BORE VIEW



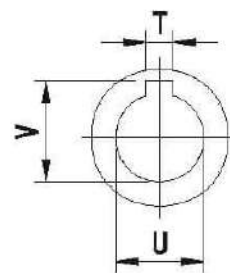
### Shaft Direction



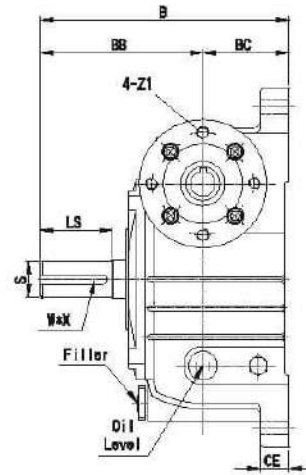
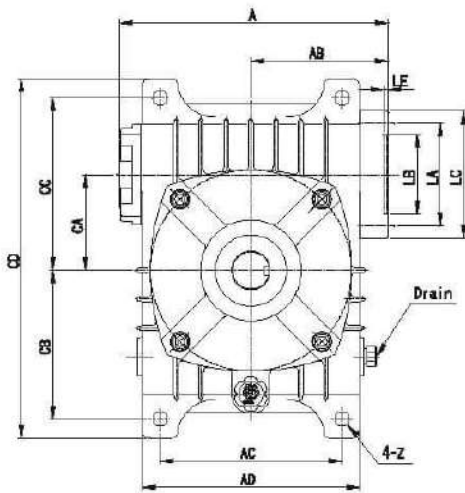
Unit:mm

Size	Ratio	A	AB	AC	AD	B	BB	BC	C	CA	CB	CC	CD	CE	Z	Input Bore		
																U	T	V
155	1/10	430	238	260	338	382	242	140	821	155	145	285	456	30	20	38	10	41,3
	1/15															38	10	41,3
	1/20															38	10	41,3
175	1/15	420	212	320	375	398	248	150	862	175	167	293	516	35	20	38	10	41,3
	1/20															38	10	41,3
	1/30															42	12	45,3

Size	Output Shaft			Flange					HP	Oil (l)	Weight (kg)
	LS	S	W * X	LA	LB	LC	LE	Z1			
155	100	60	15 * 5	265	230	300	4,5	15	7,5 10	8,2	115
175	110	65	18 * 6	265 300	230 250	300 350	5 6	M12 19	10 15	10,5	155

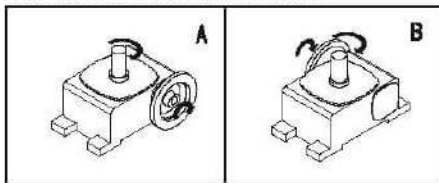


INPUT-BORE VIEW



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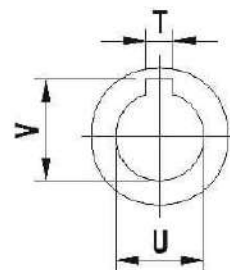
### Shaft Direction



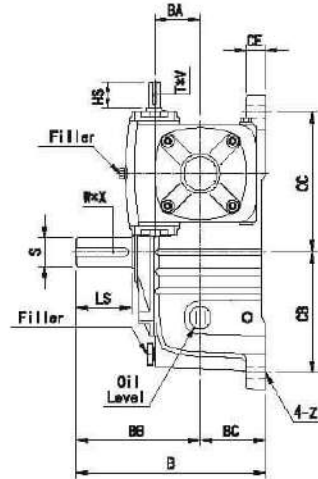
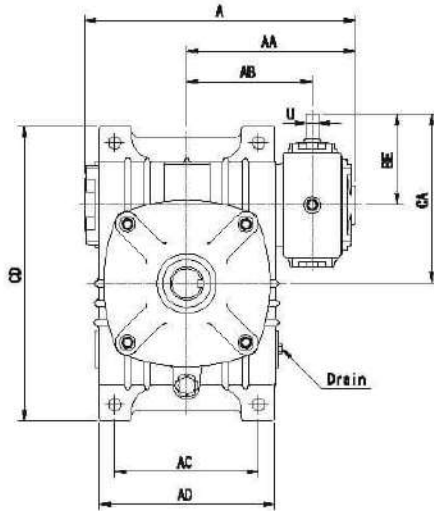
Unit:mm

Size	Ratio	A	AB	AC	AD	B	BB	BC	BD	CA	CB	CC	CE	Z	Input Bore		
															U	T	V
100	1/10 1/40	280	144	190	226	280	170	90	100	165	180	375	30	15	25.4	6.35	28.5
120	1/15 1/50	311	155	220	268	290	190	100	120	185	215	450	30	18	25.4	6.35	28.5
135	1/30 1/60	350	178	260	295	320	210	110	135	210	235	495	30	18	25.4 31.75	6.35 7.94	28.5 35.5

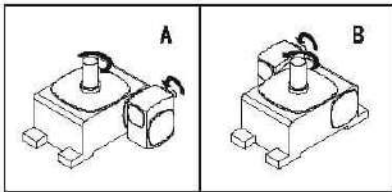
Size	Output Shaft			Flange				
	LS	S	W * X	LA	LB	LC	LE	Z1
100	75	38	10 * 5	107	82.55	133	5	M12
120	85	45	12 * 5	107	82.55	145	7	M12
135	95	55	15 * 5	107	82.55	153	10	M12



INPUT-BORE VIEW



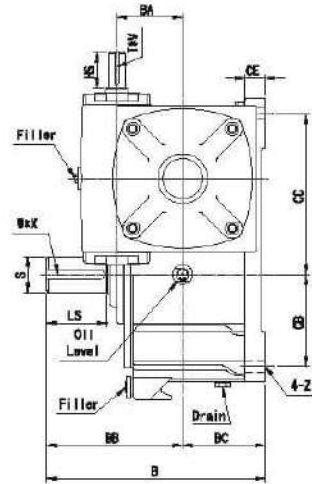
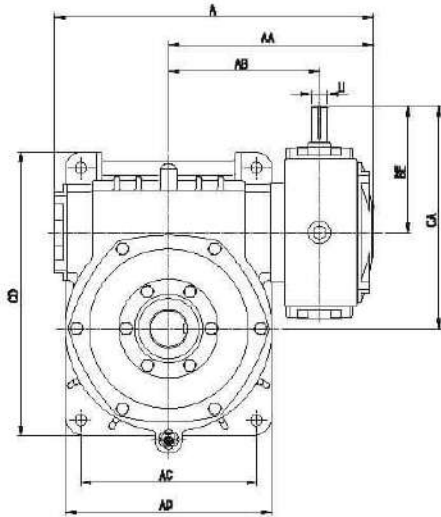
### Shaft Direction



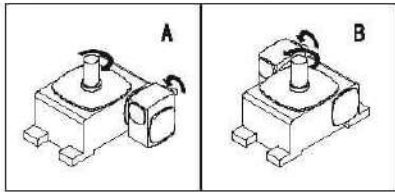
Unit:mm

Size	Ratio	A	AA	AB	AC	AD	B	BA	BB	BC	BE	CA	CB	CC	CD	CE	Z
50-80	1/100 1/3600	289	184	132	140	176	213	50	140	73	107	187	130	150	320	20	15
60-100		352	219	161	190	226	260	60	170	90	124	224	156	180	375	30	15
70-120		417	258	192	220	266	290	70	190	100	140	260	185	215	450	30	18
80-135		462	287	211	260	295	320	80	210	110	160	295	210	235	495	30	18

Size	Input Shaft			Output Shaft			Oil (l)	Weight (kg)
	HS	U	T * V	LS	S	W * X		
50-80	30	12	4 * 2.5	65	32	10 * 5	1.8	24
60-100	40	15	5 * 3	75	38	10 * 5	3.8	52
70-120	40	18	5 * 3	85	45	12 * 5	6	75
80-135	50	22	7 * 4	95	55	15 * 5	8.5	105



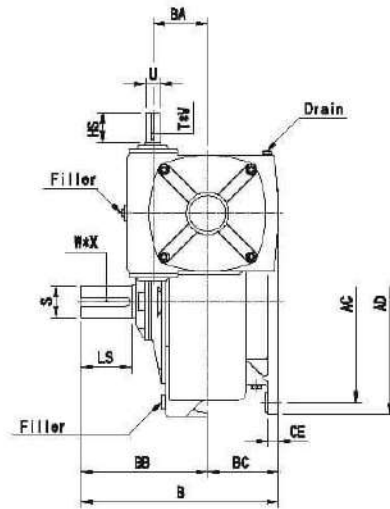
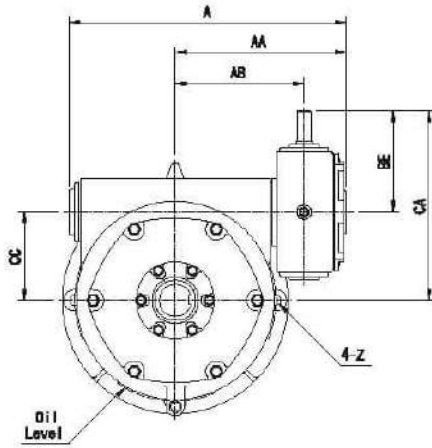
### Shaft Direction



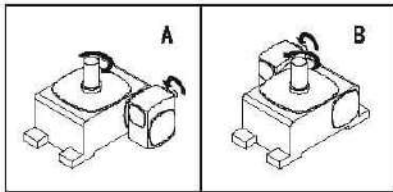
Unit:mm

Size	Ratio	A	AA	AB	AC	AD	B	BA	BB	BC	BE	CA	CB	CC	CD	CE	Z
100-155	1/100 2	540	340	257	290	336	382	100	242	140	192	347	145	265	456	30	20
120-175	1/3600	585	376	275	320	376	398	120	248	150	230	405	157	293	516	35	20

Size	Input Shaft			Output Shaft			Oil (l)	Weight (kg)
	HS	U	T * V	LS	S	W * X		
100-155	50	25	7 * 4	100	60	15 * 5	12	135
120-175	65	30	7 * 4	110	65	18 * 6	15	192



### Shaft Direction

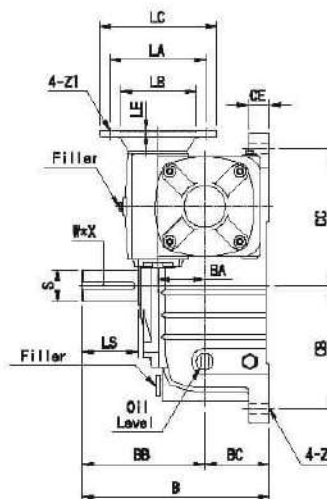
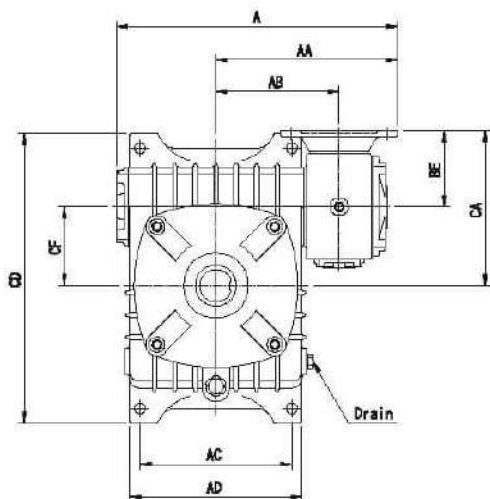


Unit:mm

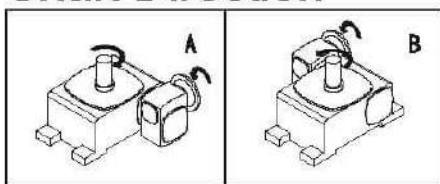
Size	Ratio	A	AA	AB	AC	AD	B	BA	BB	BC	BE	CA	CC	CE	Z
120-200	1/100 1/3600	653	414	312.5	450	510	495	120	305	190	230	430	200	30	22
135-225		672	425	315	510	580	545	135	345	200	260	485	225	35	27
155-250		766	483	365	570	640	560	155	360	200	280	536	250	35	27
175-300		982	601	473	660	750	645	175	410	235	308	608	300	42	36

Size	Input Shaft			Output Shaft			Oil (l)	Weight (kg)
	HS	U	T * V	LS	S	W * X		
120-200	85	30	7 * 4	125	70	20 * 7	19	270
135-225	75	35	10 * 5	140	80	20 * 7	24	375
155-250	85	40	10 * 5	145	90	24 * 8	32	430
175-300	85	45	12 * 5	170	95	24 * 8	55	584





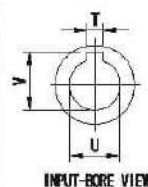
### Shaft Direction



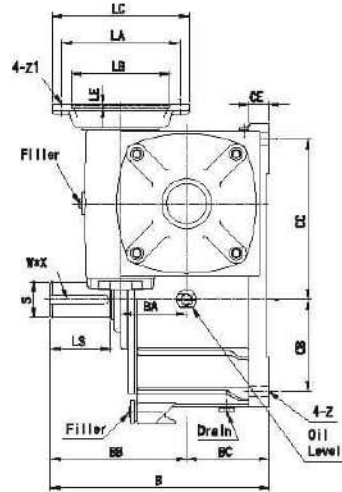
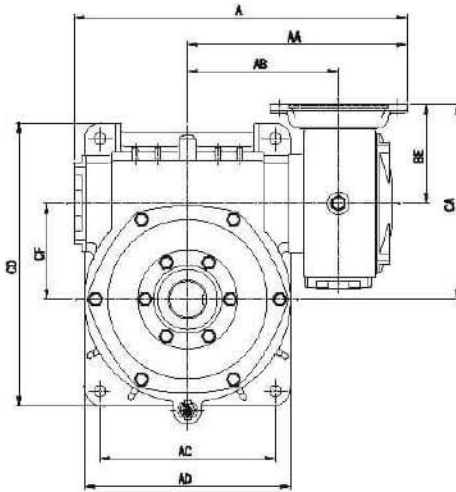
Unit:mm

Size	Ratio	A	AA	AB	AC	AD	B	BA	BB	BC	BE	CA	CB	CC	CD	CE	CF	Z
50-80	1/100	317	212	132	140	176	213	50	140	73	96	176	130	150	320	20	80	15
60-100		378	241	161	190	226	280	80	170	90	97	197	155	180	375	30	100	15
70-120	1/3600	428	272	192	220	266	290	70	190	100	118	238	185	215	450	30	120	18
80-135		448	292	211	260	295	320	80	210	110	130	265	210	235	495	30	135	18

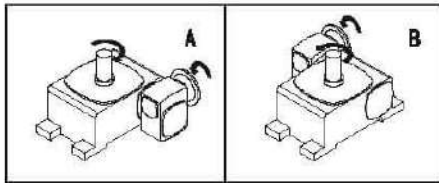
Size	Input Bore			Output Shaft			Flange					HP	Oil (l)	Weight (kg)
	U	T	V	LS	S	W * X	LA	LB	LC	LE	Z1			
50-80	11/14	4/5	12.8/16	85	32	10 * 5	130	110	160	4	M8	1/4 1/2	1.8	24
60-100	11/14	4/5	12.8/16	75	38	10 * 5	130	110	160	4	M8	1/4 1/2	3.8	52
70-120	14/19	5/6	16/21.8	85	46	12 * 5	130 165	110 130	160 200	4 5	M8 M10	1/2 1	6	75
80-135	19/24	6/8	21.8/27.3	95	55	15 * 5	165	130	200	5	M10	1/2	8.5	105



INPUT-BORE VIEW



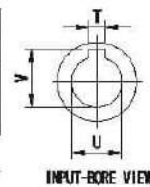
### Shaft Direction

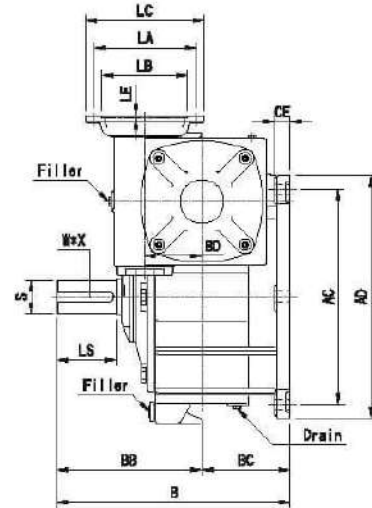
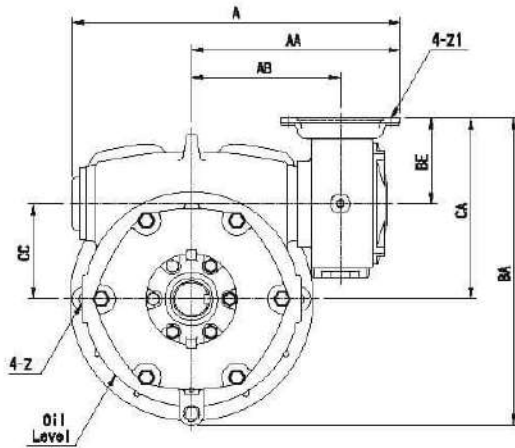


Unit:mm

Size	Ratio	A	AA	AB	AC	AD	B	BA	BB	BC	BE	CA	CB	CC	CD	CE	CF	Z
100-155	1/100 2	550	357	257	290	336	382	100	190	140	140	277	145	265	458	30	155	20
		574	382								142							
120-175	1/3600	607	400	275	320	376	398	120	248	150	180	355	167	293	516	35	175	20

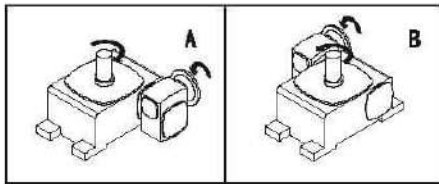
Size	Input Bore			Output Shaft			Flange					HP	Oil (l)	Weight (kg)
	U	T	V	LS	S	W * X	LA	LB	LC	LE	Z1			
100-155	24	8	27.3	100	80	15 * 5	165	130	200	5	M10 M12	2 3	12	135
	28	8	31.3				215	180	250					
120-175	28	8	31.3	110	85	18 * 6	215	180	250	5	M12	3 5	15	192





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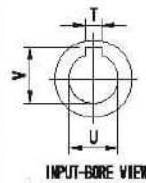
### Shaft Direction



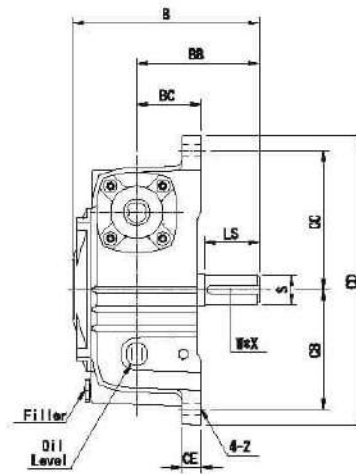
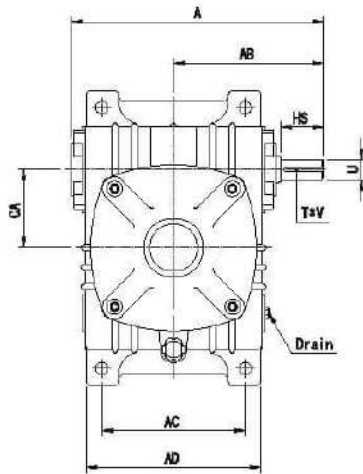
Unit:mm

Size	Ratio	A	AA	AB	AC	AD	B	BA	BB	BC	BD	BE	CA	CC	CE	Z
120-200	1/100	687	437	312	450	510	495	645	305	190	120	180	380	200	30	22
135-225		692	440	315	510	580	545	719	345	200	135	195	420	225	35	27
155-250	1/3600	817	515	365	570	640	560	812	360	200	155	238	486	250	35	27
175-300		983	623	473	660	750	645	890	410	235	175	215	515	300	42	36
		1008	648					930				295	555			

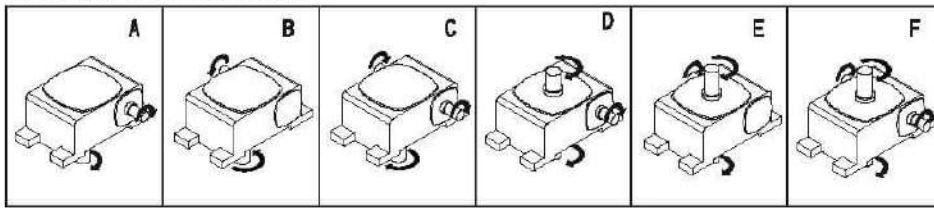
Size	Input Bore			Output Shaft			Flange					HP	Oil (l)	Weight (kg)
	U	T	V	LS	S	W * X	LA	LB	LC	LE	Z1			
120-200	28	8	31.3	125	70	20 * 7	215	180	250	5	M12	3.5	19	270
135-225	28 38	8 10	31.3 41.3	140	90	20 * 7	215 265	180 230	250 300	5	M12 15	5 7.5	24	375
155-250	38	10	41.3	145	90	24 * 8	265	230	300	5	15	7.5 10	32	430
175-300	38 42	10 12	41.3 45.3	170	95	24 * 8	265 300	230 250	300 350	5 8	M12 19	10 15	55	584



INPUT-BORE VIEW



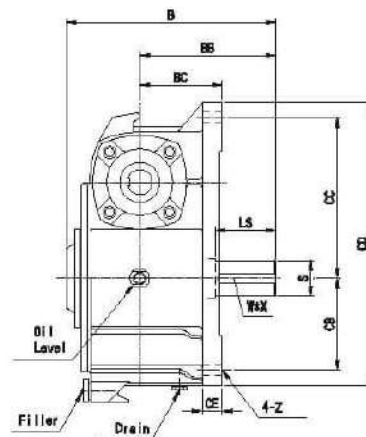
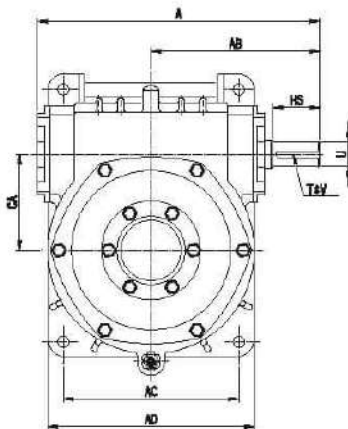
### Shaft Direction



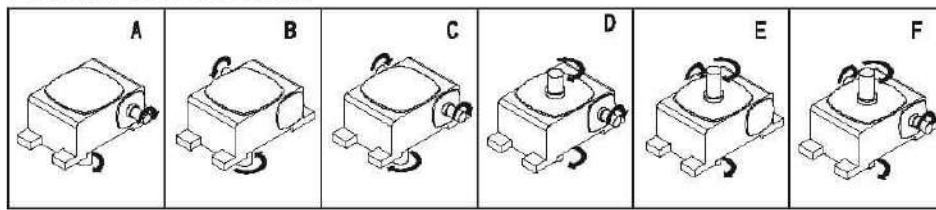
Unit:mm

Size	Ratio	A	AB	AC	AD	B	BB	BC	CA	CB	CC	CD	CE	Z
40	1/10	140	83	70	95	118	78	42	40	65	85	180	14	9
50	1/15	179	107	90	118	145	95	50	50	93	102	220	18	11
60	1/20	201	124	100	126	166	110	55	60	105	120	260	20	11
70	1/30	235	140	120	156	193	130	65	70	120	135	295	20	15
80	1/40	265	160	140	176	212	140	73	80	130	150	320	20	15
100	1/50	328	192	190	226	250	170	90	100	155	180	375	30	15
120	1/60	369	230	220	268	284	190	100	120	185	215	450	30	18
135	1/60	435	290	260	295	322	210	110	135	210	235	495	30	18

Size	Input Shaft			Output Shaft			Oil (l)	Weight (kg)
	HS	U	T * V	LS	S	W * X		
40	24.5	12	4 * 2.5	35	16	5 * 3	0.2	4.1
50	30	12	4 * 2.5	40	17	5 * 3	0.4	6.5
60	40	15	5 * 3	50	22	7 * 4	0.6	9
70	40	18	5 * 3	60	28	7 * 4	1.1	13
80	50	22	7 * 4	65	32	10 * 5	1.5	18
100	50	25	7 * 4	75	38	10 * 5	3	42
120	65	30	7 * 4	85	45	12 * 5	5	86
135	75	35	10 * 5	95	55	15 * 5	7.5	90



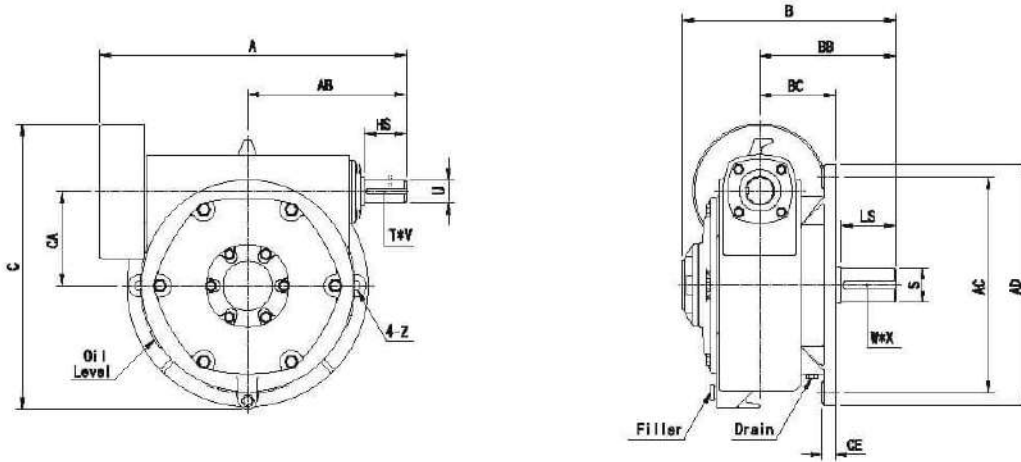
### Shaft Direction



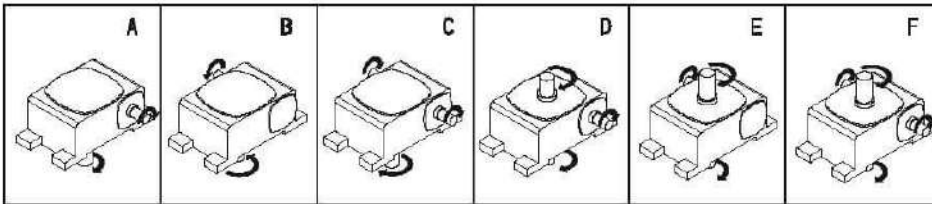
Unit:mm

Size	Ratio	A	AB	AC	AD	B	BB	BC	CA	CB	CC	CD	CE	Z
155	1/10	479	286	290	336	377	242	140	155	145	265	456	30	20
	1/15													
	1/40													
175	1/15	515	308	320	376	382	248	150	175	167	293	516	35	20
	1/20													
	1/60													

Size	Input Shaft			Output Shaft			Oil (l)	Weight (kg)
	HS	U	T * V	LS	S	W * X		
155	85	40	19 * 5	100	60	15 * 5	9.2	115
175	85	45	12 * 5	110	65	18 * 6	10.5	155



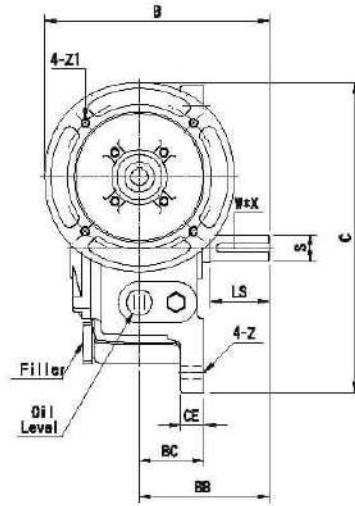
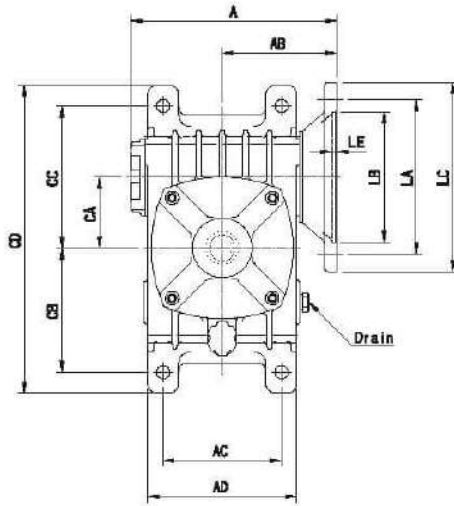
### Shaft Direction



Unit:mm

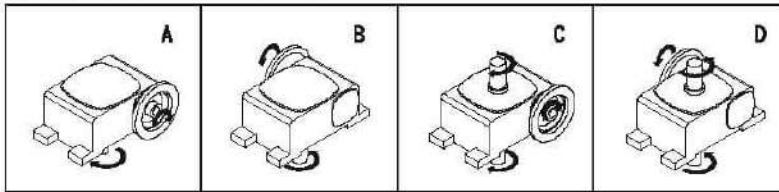
Size	Ratio	A	AB	AC	AD	B	BB	BC	C	CA	CE	Z
200	1/10 1/40	698	357	450	510	483	305	190	643	200	30	22
225	1/15	709	361	510	580	530	345	200	700	225	35	27
250	1/20 1/50	813	420	570	640	565	360	200	764	250	35	27
300	1/30 1/60	943	495	660	750	623	410	235	853	300	42	36

Size	Input Shaft			Output Shaft			Oil (l)	Weight (kg)
	HS	U	T * V	LS	S	W * X		
200	95	50	12 * 5	125	70	20 * 7	12	220
225	95	55	15 * 5	140	80	20 * 7	17	315
250	110	80	15 * 5	145	90	24 * 8	23	365
300	125	70	18 * 6	170	95	24 * 8	45	520



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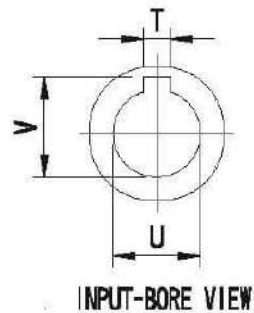
### Shaft Direction



Unit:mm

Size	Ratio	A	AB	AC	AD	B	BB	BC	C	CA	CB	CC	CD	CE	Z	Input Bore		
																U	T	V
50	1/10	174	97	90	116	175	95	50	236	50	93	102	220	18	11	11	4	12.6
60	1/15	177	97	100	128	190	110	55	263	60	105	120	260	20	11	11	4	12.6
70	1/20	213 223	118 120	120	158	210 230	130	65	290 310	70	120	135	295	20	15	14 19	5 5	18 21.6
80	1/30	235	130	140	178	240	140	73	330	80	130	150	320	20	15	19	6	21.6
100	1/40	273 278	140 142	160	226	270 295	170	90	375 400	100	155	180	375	30	15	24 28	8 8	27.3 31.3
120	1/50	339	180	220	288	315	190	100	455	120	185	215	450	30	18	28	8	31.3
135	1/60	370 378	195 218	260	308	335 360	210	110	495 520	135	210	235	495	30	18	28 36	8 10	31.3 41.3

Size	Output Shaft			Flange					HP	Oil (l)	Weight (kg)
	LS	S	W * X	LA	LB	LC	LE	Z1			
50	40	17	5 * 3	130	110	160	4	M8	1/4 1/2	0.4	6.5
60	50	22	7 * 4	130	110	180	4	M8	1/4 1/2	0.6	9
70	60	28	7 * 4	130 165	110 130	180 210	4 5	M8 M10	1/2 1	1.1	13
80	65	32	10 * 5	165	130	200	5	M10	1 2	1.5	18
100	75	38	10 * 5	165 215	130 180	200 250	5	M10 M12	2 3	3	42
120	85	45	12 * 5	215	180	250	5	M12	3 5	5	86
135	95	55	15 * 5	215 265	180 230	250 300	5	M12 15	5 7.5	7.5	90

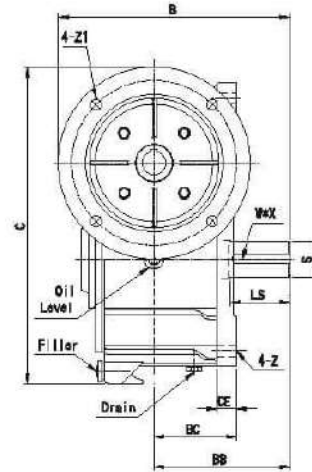
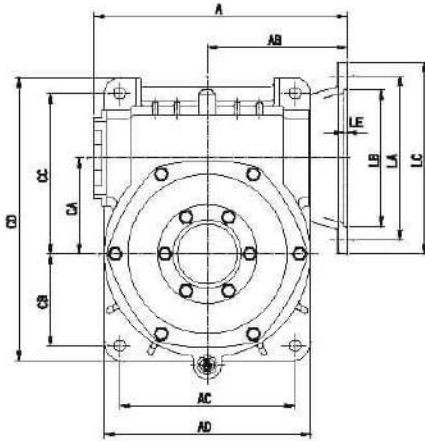




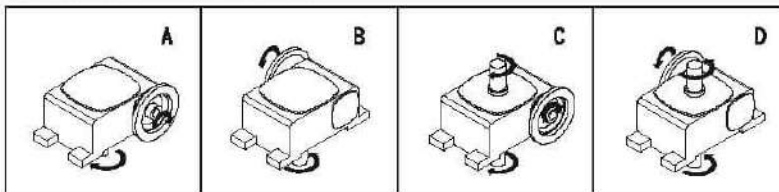
Model : VSM

成大齒輪減速機

Size : 155~175



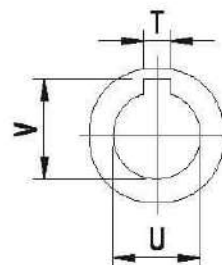
### Shaft Direction



Unit:mm

Size	Ratio	A	AB	AC	AD	B	BB	BC	C	CA	CB	CC	CD	CE	Z	Input Bore		
																U	T	V
155	1/10	430	236	290	338	382	242	140	521	155	145	265	455	30	20	38	10	41,3
	1/15																	
175	1/20	420	212	320	378	398	248	180	552	175	167	293	516	35	20	38	10	41,3
	1/30																	

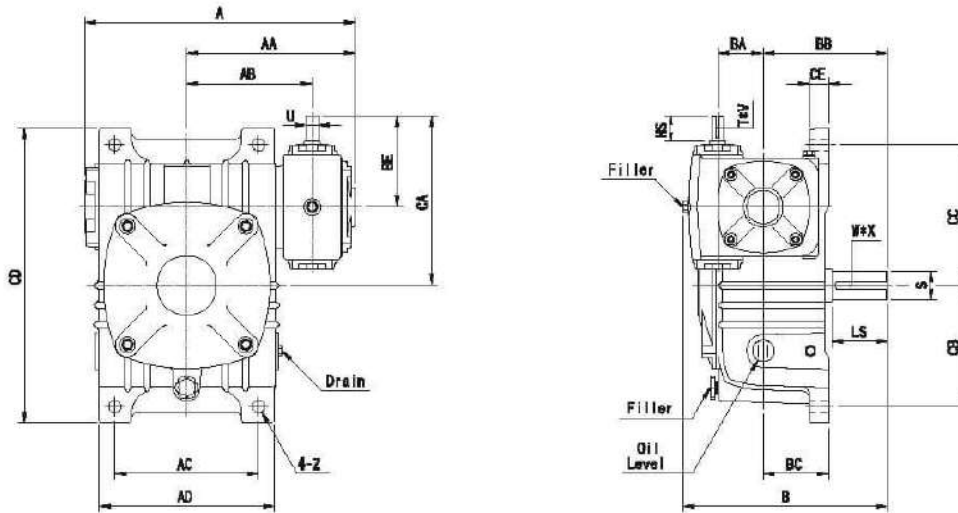
Size	Output Shaft			Flange					HP	Oil (l)	Weight (kg)
	LS	S	W * X	LA	LB	LC	LE	Z1			
155	100	60	15 * 5	265	230	300	4,5	15	7,5 10	9,2	115
175	110	65	18 * 6	285 300	230 250	300 350	5 6	M12 19	10 15	10,5	155



INPUT-BORE VIEW

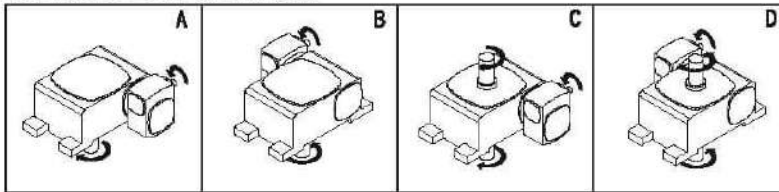


Size : 50/80~80/135



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### Shaft Direction

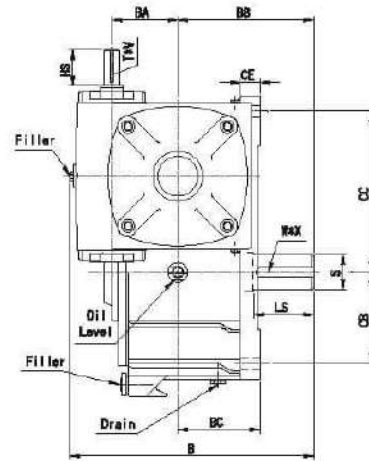
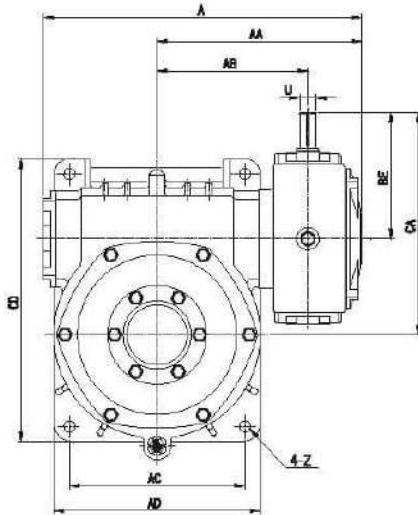


Unit:mm

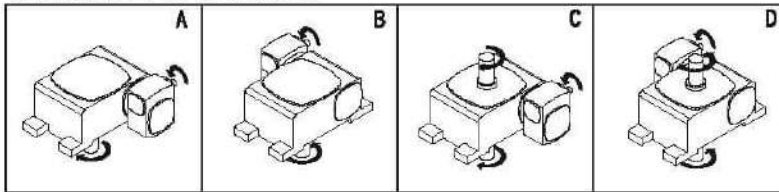
Size	Ratio	A	AA	AB	AC	AD	B	BA	BB	BC	BE	CA	CB	CC	CD	CE	Z
50-80	1/100	289	184	132	140	176	229	50	140	73	107	187	130	150	320	20	15
60-100		352	219	161	190	226	265	60	170	90	124	224	155	180	375	30	15
70-120	1/3600	417	258	192	220	286	313	70	190	100	140	280	185	215	450	30	18
80-135		462	287	211	260	295	357	80	210	110	160	295	210	235	495	30	18

Size	Input Shaft			Output Shaft			Oil (l)	Weight (kg)
	HS	U	T * V	LS	S	W * X		
50-80	30	12	4 * 2.5	65	32	10 * 5	1.8	24
60-100	40	15	5 * 3	75	38	10 * 5	3.8	52
70-120	40	18	5 * 3	85	45	12 * 5	6	75
80-135	50	22	7 * 4	95	55	15 * 5	8.5	105

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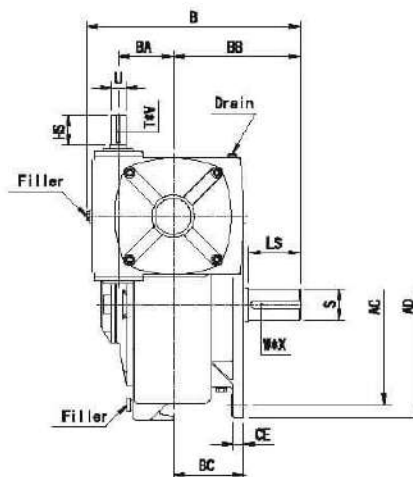
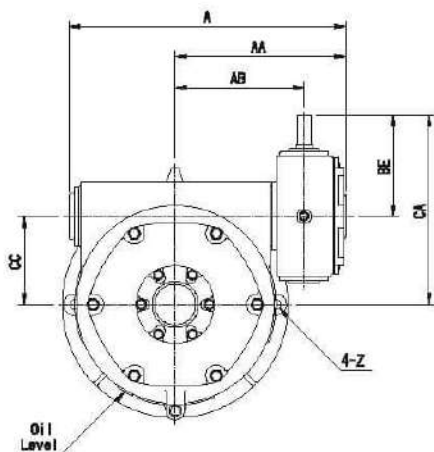
### Shaft Direction



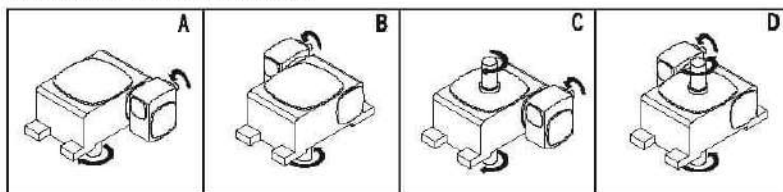
Unit:mm

Size	Ratio	A	AA	AB	AC	AD	B	BA	BB	BC	BE	CA	CB	CC	CD	CE	Z
100-155	1/100	540	349	257	290	336	420	100	242	140	190	347	145	285	456	30	20
120-175	1/3600	585	378	275	320	378	444	120	248	150	230	405	187	283	516	35	20

Size	Input Shaft			Output Shaft			Oil (l)	Weight (kg)
	HS	U	T * V	LS	S	W * X		
100-155	50	25	7 * 4	100	60	15 * 5	12	135
120-175	65	30	7 * 4	110	65	18 * 6	15	192



### Shaft Direction

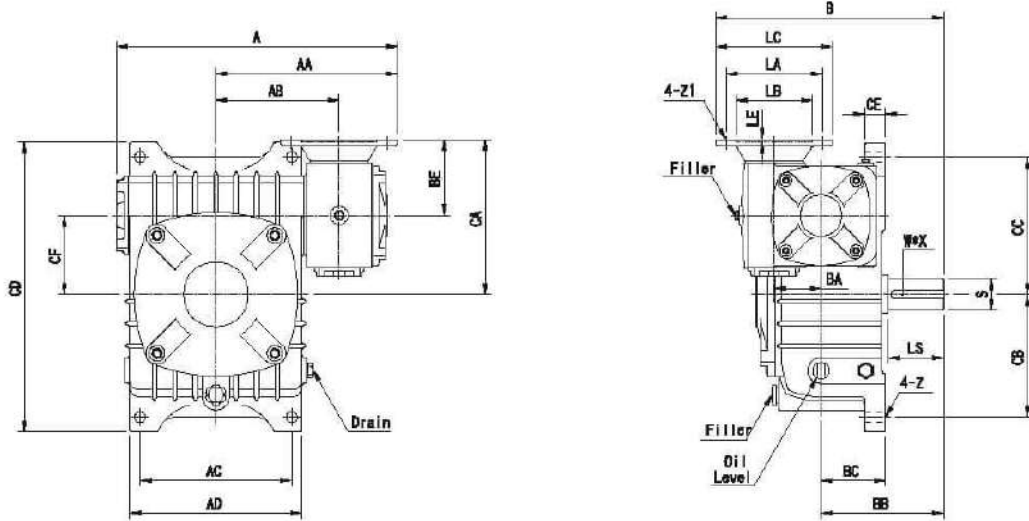


Unit:mm

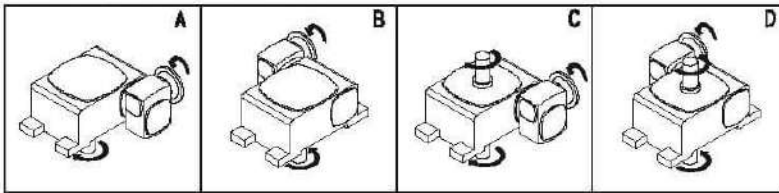
Size	Ratio	A	AA	AB	AC	AD	B	BA	BB	BC	BE	CA	CC	CE	Z
120-200	1/100 1/3600	653	414	312	450	510	501	120	305	190	230	430	200	30	22
135-225		672	425	315	510	580	586	135	345	200	260	485	225	35	27
155-250		786	483	365	570	640	605	155	360	200	266	536	250	36	27
175-300		962	601	473	680	750	695	175	410	235	308	608	300	42	38

Size	Input Shaft			Output Shaft			Oil (l)	Weight (kg)
	HS	U	T * V	LS	S	W * X		
120-200	85	30	7 * 4	125	70	20 * 7	19	270
135-225	75	35	10 * 5	140	80	20 * 7	24	375
155-250	85	40	10 * 5	145	90	24 * 8	32	430
175-300	85	45	12 * 5	170	95	24 * 8	55	584

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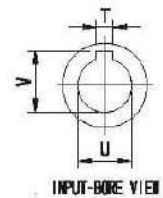
### Shaft Direction



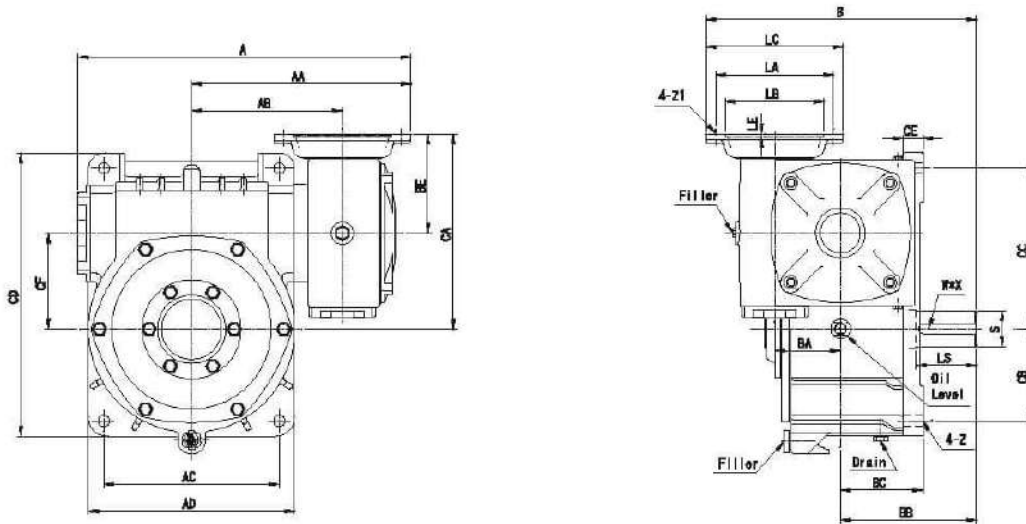
Unit:mm

Size	Ratio	A	AA	AB	AC	AD	B	BA	BB	BC	BE	CA	CB	CC	CD	CE	CF	Z
50-80	1/100 ? 1/3600	317	212	132	140	176	270	50	140	73	96	176	130	150	320	20	80	15
60-100		378	241	161	190	226	310	60	170	90	97	197	155	180	375	30	100	15
70-120		423 448	272 292	182	220	266	340 360	70	190	100	118 120	238 240	185	215	450	30	120	18
80-135		480	311	211	260	295	390	80	210	110	130	265	210	235	495	30	135	18

Size	Input Bore			Output Shaft			Flange					HP	Oil (l)	Weight (kg)
	U	T	V	LS	S	W * X	LA	LB	LC	LE	Z1			
50-80	11 14	4 5	12.8 19	65	32	10 * 5	130	110	160	4	M8	1/4 1/2	1.8	24
60-100	11 14	4 5	12.8 19	75	38	10 * 5	130	110	160	4	M8	1/4 1/2	3.8	52
70-120	14 18	5 6	16 21.8	85	45	12 * 5	130 165	110 130	160 200	5	M8 M10	1/2 1	6	75
80-135	19 24	6 8	21.8 27.3	95	55	15 * 5	165	130	200	5	M10	1 2	8.5	105

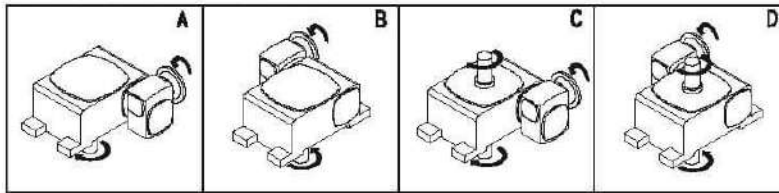


INPUT-BORE VIEW



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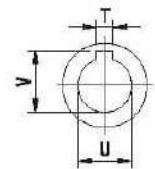
### Shaft Direction



Unit:mm

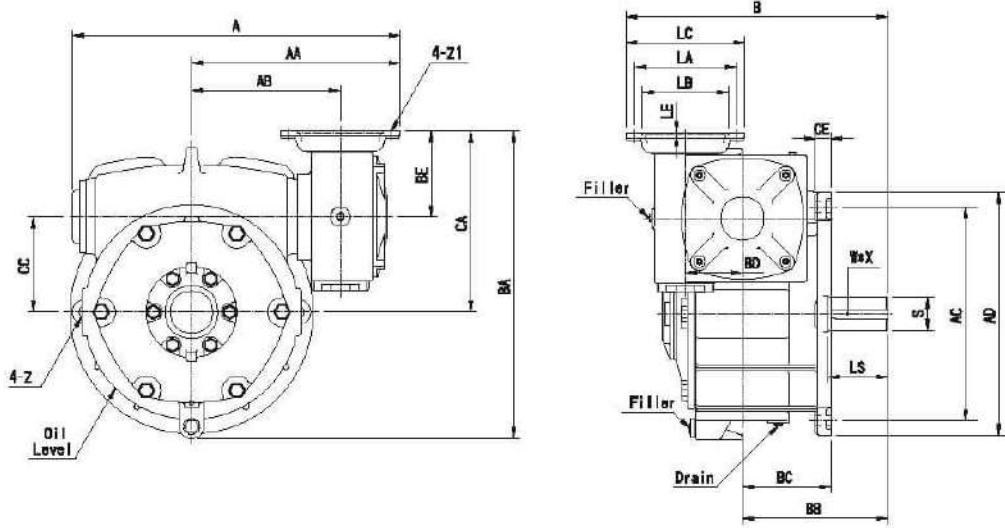
Size	Ratio	A	AA	AB	AC	AD	B	BA	BB	BC	BE	CA	CB	CC	CD	CE	CF	Z
100-155	1/100	590	357	257	290	336	442	100	242	140	140	277	145	265	456	30	155	20
120-175	1/3600	807	400	275	320	376	493	120	248	150	180	355	187	293	516	35	175	20

Size	Input Bore			Output Shaft			Flange					HP	Oil (l)	Weight (kg)
	U	T	V	LS	S	W * X	LA	LB	LC	LE	Z1			
100-155	24 28	8 8	27.3 31.3	100	80	15 * 5	165 215	130 180	200 250	5	M10 M12	2 3	12	135
120-175	28	8	31.3	110	85	18 * 6	215	180	250	5	M12	3 5	15	192

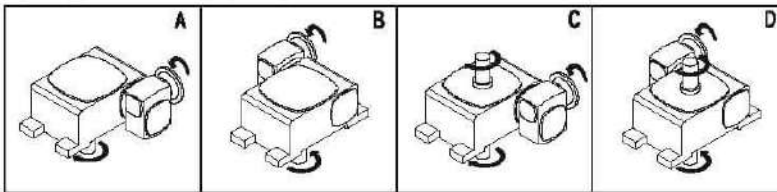


INPUT-BORE VIEW

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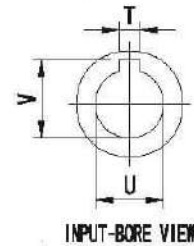
### Shaft Direction

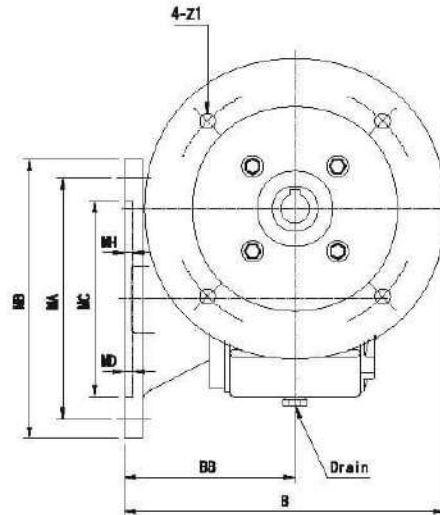
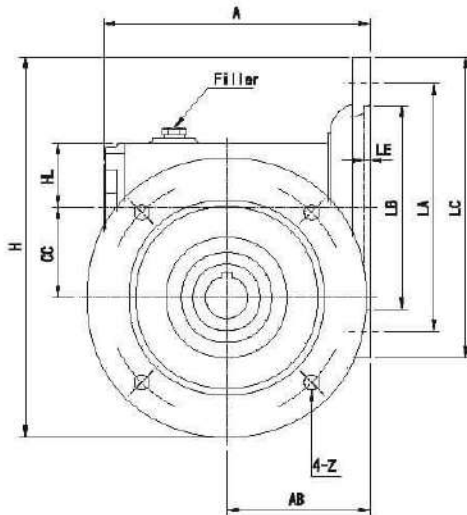


Unit:mm

Size	Ratio	A	AA	AB	AC	AD	B	BA	BB	BC	BD	BE	CA	CC	CE	Z
120-200	1/100	687	437	312	450	510	550	545	365	190	120	180	380	200	30	22
135-225		692 717	440 465	315	510	580	605 630	719 742	345	200	135	195 218	420 443	225	35	27
155-250	1/3600	817	515	365	570	640	685	812	360	200	155	236	486	250	35	27
175-300		983 1006	623 646	473	660	750	735 760	890 930	410	235	175	215 255	515 555	300	42	36

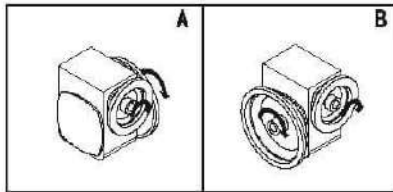
Size	Input Bore			Output Shaft			Flange					HP	Oil (l)	Weight (kg)
	U	T	V	LS	S	W * X	LA	LB	LC	LE	Z1			
120-200	28	8	31.3	125	70	20 * 7	215	180	250	5	M12	3.5	19	270
135-225	28 38	8 10	31.3 41.3	140	80	20 * 7	215 265	180 230	250 300	5	M12 15	5 7.5	24	375
155-250	38	10	41.3	145	90	24 * 8	265	230	300	5	15	7.5 10	32	430
175-300	38 42	10 12	41.3 46.3	170	95	24 * 8	265 300	230 280	300 350	5 8	M12 19	10 15	55	584





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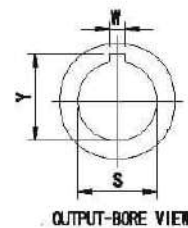
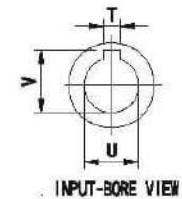
### Shaft Direction



Unit:mm

Size	Ratio	A	AB	B	BB	CC	H	HL	MA	MB	MC	MD	MH	Z	Input Bore		
															U	T	V
60	1/10 1/40	170	88	191 194	110.5 114	60	205 233	43	99 160	120 186	75 130	6	1.5	10	14	5	16
	1/15 1/50	178	95.5	210.5 214	110.5 114	60	225 253	43	99 160	120 186	75 130	6	1.5	10	19	6	21.8
	1/20																
70	1/30 1/60	201	105	226	129	70	263	53	165	186	140	6	4	10	24	8	27.3

Size	Output Bore			Flange					HP	Oil (l)	Weight (kg)
	S	W	Y	LA	LB	LC	LE	Z1			
60	28	7	31	130	110	160	4	M8	1/2	0.26	9
	28	7	31	185	130	186	4	M10	1	0.4	12
70	28	7	31	185	130	200	5	M10	2	0.7	18

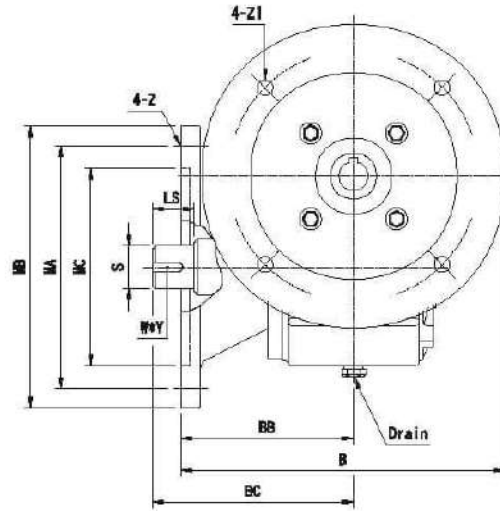
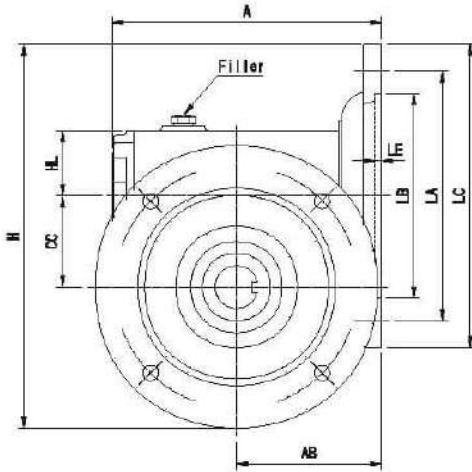


\*60出力中空深度55mm

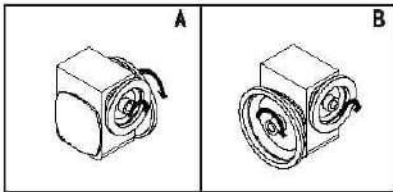
\*70出力中空深度43mm

\*size 60: for the depth of hollow output shaft

\*size 70: 43mm for the depth of hollow output shaft



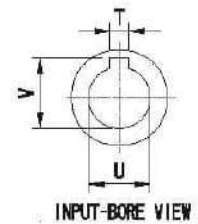
Shaft Direction



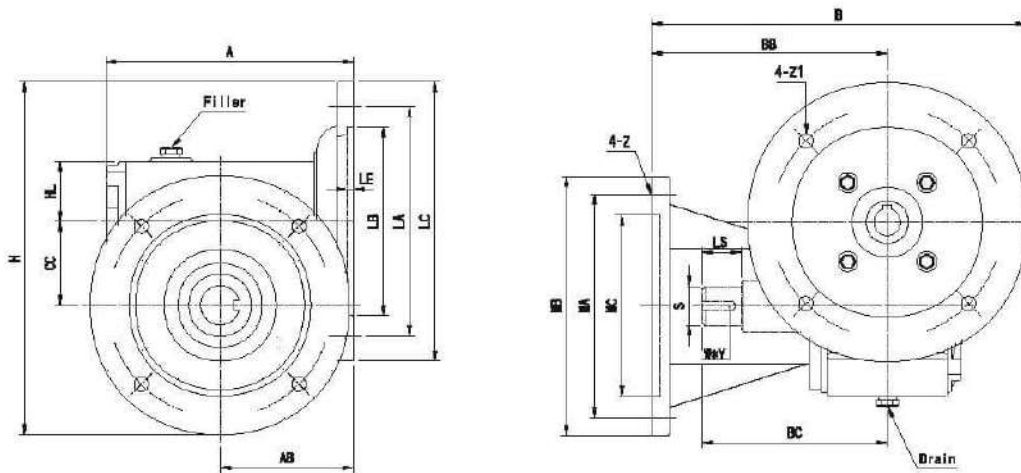
Unit:mm

Size	Ratio	A	AB	B	BB	BC	CC	H	HL	MA	MB	MC	Z	Input Bore		
														U	T	V
60	1/10 1/40	170	88	207	127	162	60	220	43	130	180	110	12	14	5	16
	1/15 1/50	178	95.5	227	127	162	60	240	43	130	180	110	12	18	6	21.8
	1/20 1/60	178	95.5	227	127	162	60	240	43	130	180	110	12	18	6	21.8
70	1/30 1/60	213	105	250	150	185	70	256	53	130	180	110	12	24	8	27.3

Size	Output Shaft			Flange					HP	Oil (l)	Weight (kg)
	LS	S	W*Y	LA	LB	LC	LE	Z1			
60	35	28	7*4	130	110	160	4	M8	1/2	0.4	12
	35	28	7*4	165	130	185	4	M10	1	0.4	12
70	35	28	7*4	165	130	200	5	M10	2	0.7	18

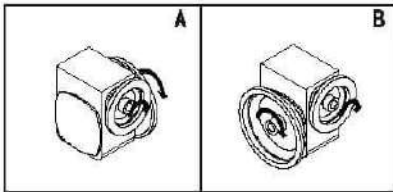






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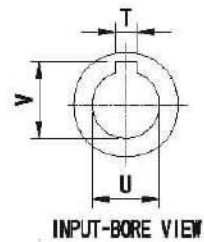
Shaft Direction

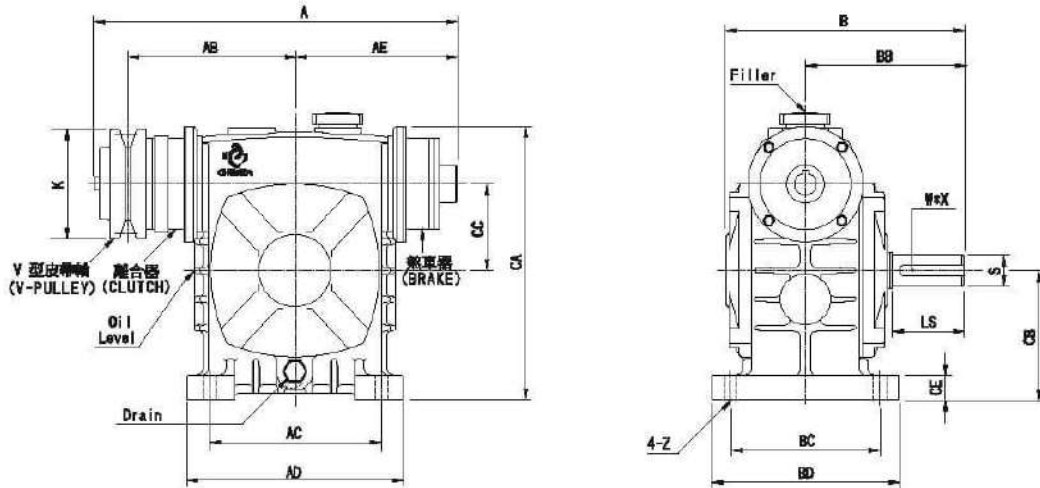


Unit:mm

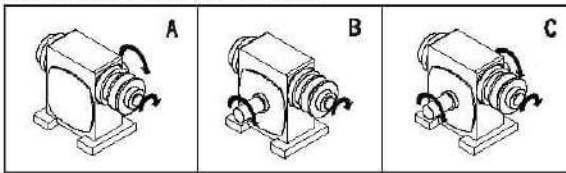
Size	Ratio	A	AB	B	BB	BC	CC	H	HL	MA	MB	MC	Z	Input Bore		
														U	T	V
60	1/10	170	86	253	173	121	60	232.5	43	160	185	130	15	14	5	16
	1/15	178	95.5	273	215	162	60	252.5	43	160	185	125	14	14	5	16
	1/20	178	95.5	316	215	162	60	252.5	43	160	185	125	14	14	5	16
70	1/30	213	105	339	239	185	70	262.5	53	160	185	125	14	24	8	27.3

Size	Output Shaft			Flange					HP	Oil (l)	Weight (kg)
	LS	S	W*Y	LA	LB	LC	LE	Z1			
60	45	28	7*4	130	110	160	4	M8	1/2	0.4	12
	35	28	7*4	130	110	166	4	M10	1	0.4	12
70	35	26	7*4	165	130	200	5	M10	2	0.7	16





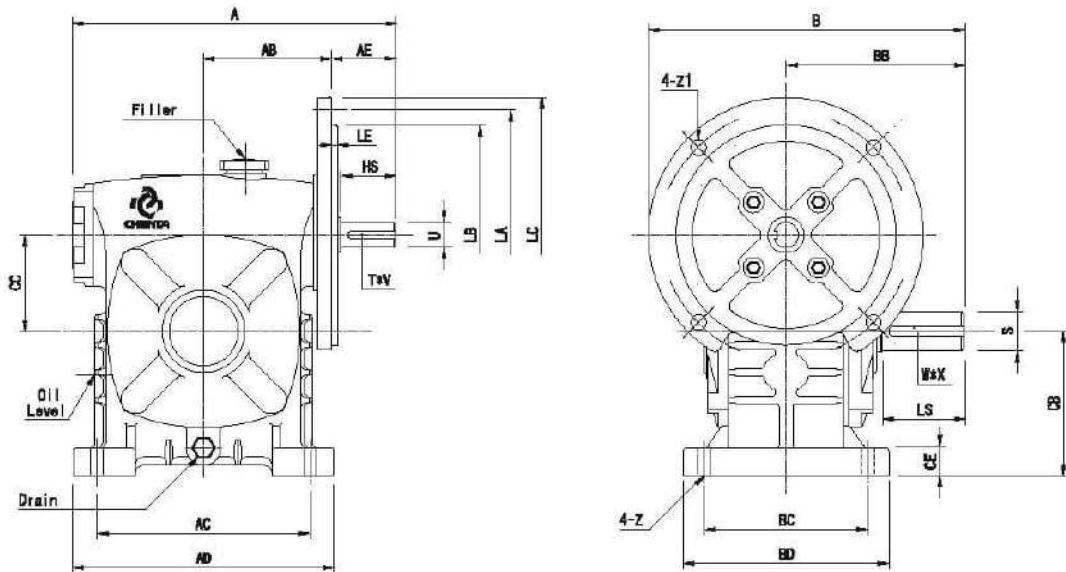
### Shaft Direction



Unit:mm

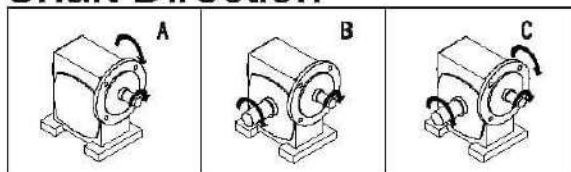
Size	Ratio	TORQUE CODE	A	AB	AC	AD	AE	B	BB	BC	BD	CA	CB	CC	K	CE	Z
50	1/10	M6	257	119.5	110	140	118	147	95	95	120	170	80	50	75	15	11
60	1/15	M10	284	117	120	150	123	166	110	105	130	200	90	60	102	17.5	11
70	1/20	M10	298	134.5	150	190	138	195	130	115	150	225	105	70	102	20	15
	1/30	M20	316	144.5	150	190	151	195	130	115	150	238	105	70	127	22	15
80	1/40	M20	336	158.5	180	220	171	210	140	135	170	254	120	80	127	20	15
	1/50	M40	360	162	180	220	171	210	140	135	170	276	120	80	162	23	15
100	1/60	M40	411	187	220	270	196	260	170	155	190	326	150	100	152	25	15

Size	Output Shaft			Oil (l)	Weight (kg)
	LS	S	W * X		
50	40	17	5 * 3	0.22	7.2
60	50	22	7 * 4	0.32	10
70	60	28	7 * 4	0.55	15
80	65	32	10 * 5	0.77	20.2
100	75	38	10 * 5	1.53	38.5



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### Shaft Direction



Unit:mm

Size	Ratio	A	AB	AC	AD	AE	B	BB	BC	BD	CA	CB	CC	CE	Z
60	1/10	202	75	120	150	49	190	110	105	130	230	90	60	20	11
70	1/15	238	93	150	190	47	230	130	115	160	275	106	70	20	15
	1/20														
80	1/30	264	103	180	220	57	255	140	135	170	315	120	80	20	15
100	1/40	329	132	220	270	60	285	170	155	180	365	150	100	25	15
	1/50														
120	1/60	366	152	260	320	60	305	180	180	230	415	180	120	30	18

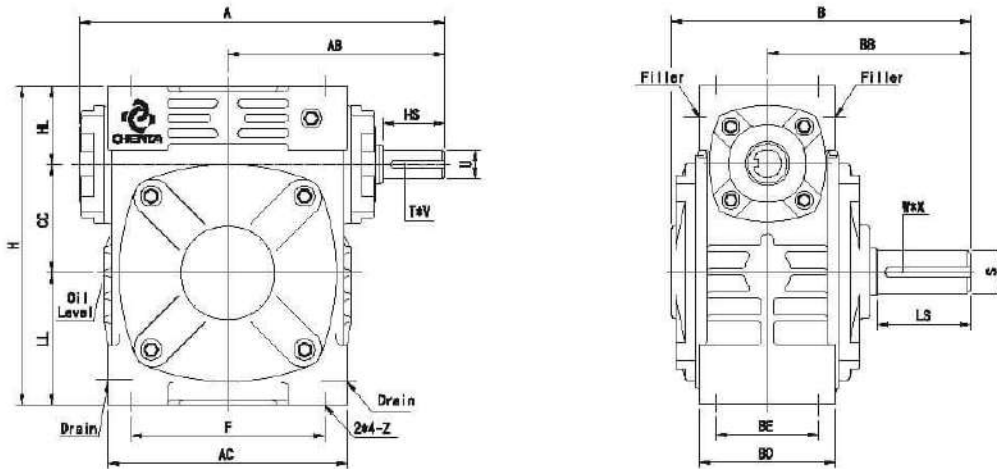
Size	Input Flange			Input Shaft				Output Shaft			Oil (l)	Weight (kg)	
	LA	LB	LC	LE	Z1	HS	U	T * V	LS	S			W * X
60	146	125	160	4.5	9	40	15	5 * 3	50	22	7 * 4	0.5	8.5
70	180	160	200	4.5	11	40	18	5 * 3	60	28	7 * 4	0.8	14
80	210	186	230	4.5	11	50	22	7 * 4	65	32	10 * 5	1.2	19
100	210	186	230	4.5	11	50	25	7 * 4	75	38	10 * 5	2.2	38
120	210	186	230	4.5	11	50	30	7 * 4	85	45	12 * 5	4.2	64



Model : USS

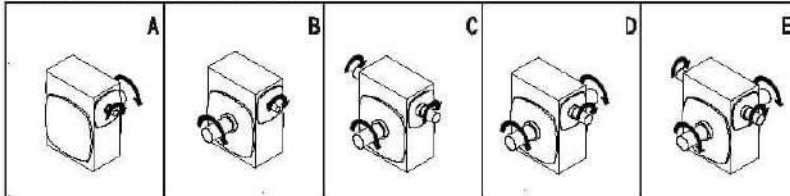
成大齒輪減速機

Size : 40~135



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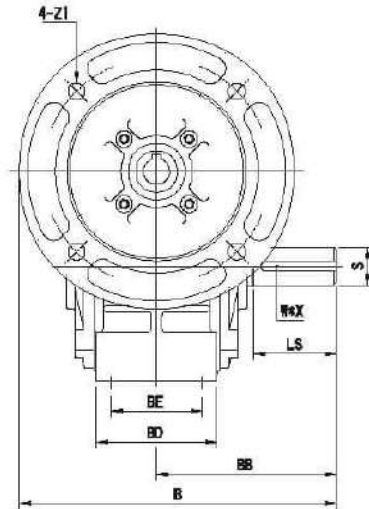
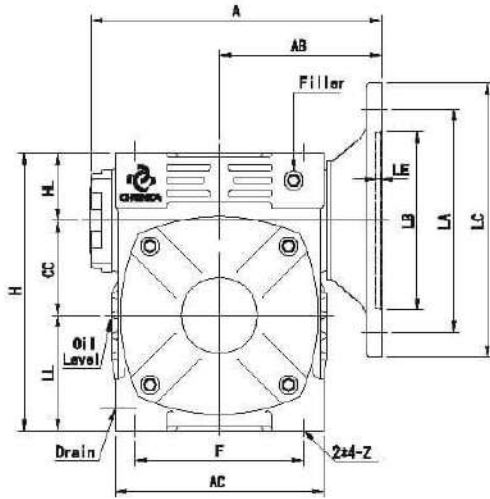
### Shaft Direction



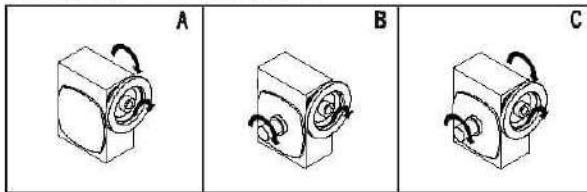
Unit:mm

Size	Ratio	A	AB	AC	B	BB	BD	BE	CC	F	H	HL	LL	Z
40	1/10	157	96,5	102	126	84	68	54	40	80	127	34	53	M8
50		181	107	115	147	95	68	50	50	90	150	35	65	M8
60	1/15	204	124	127	168	110	78	54	60	100	177	42	75	M10
70	1/20	234	140	154	196	130	88	66	70	125	205	50	85	M10
80	1/30	265	160	175	216	140	97	75	80	145	232	60	92	M10
100	1/40	325	190	224	262	170	116	91	100	187	310	80	130	M12
120	1/50	389	230	264	291	190	136	100	120	232	370	95	155	M14
135	1/60	435	250	300	320	210	144	111	135	264	425	105	185	M16
155		479	286	330	377	242	152	120	155	280	461	103	203	M16
175		517	306	370	361	248	165	140	175	320	521	123	223	M16

Size	Input Shaft			Output Shaft			Oil (l)	Weight (kg)
	HS	U	T * V	LS	S	W * X		
40	28	12	4 * 2,5	35	16	5 * 3,0	0,18	5
50	30	12	4 * 2,5	40	17	5 * 3,0	0,26	6
60	40	15	5 * 3	50	22	7 * 4,0	0,4	8
70	40	18	5 * 3	60	28	7 * 4,0	0,7	14
80	50	22	7 * 4	65	32	10 * 5,0	1,15	19
100	50	25	7 * 4	75	38	10 * 5,0	2,2	36
120	65	30	7 * 4	85	45	12 * 5,0	4,8	48
135	75	35	10 * 5	95	55	15 * 5,0	6,3	70
155	85	40	10 * 5	100	60	15 * 5,0	7,8	105
175	85	45	12 * 5	110	65	18 * 6,0	12,2	145



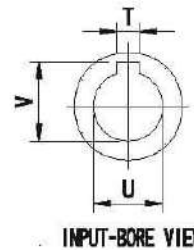
Shaft Direction



Unit:mm

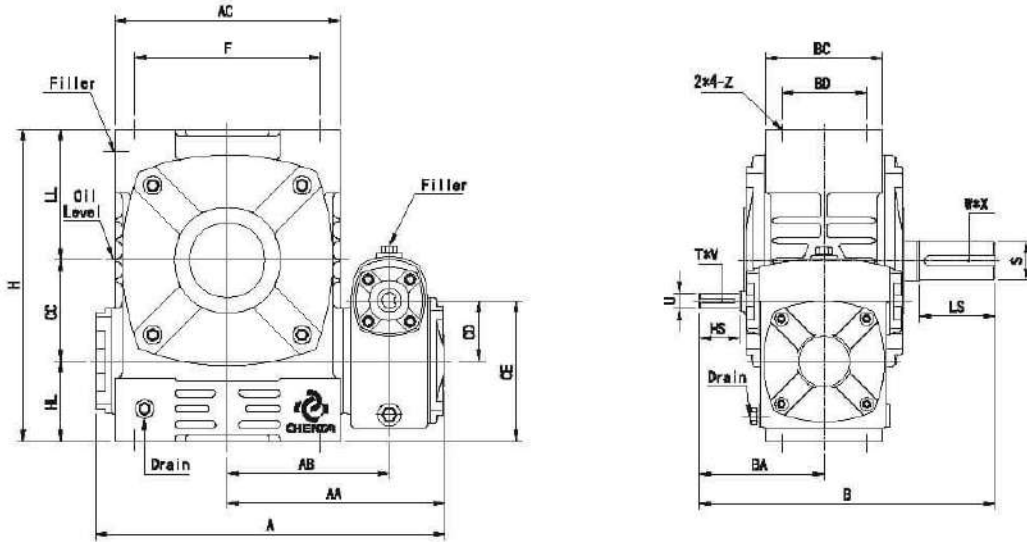
Size	Ratio	A	AB	AC	B	BB	BD	BE	CC	F	H	HL	LL	Z	Input Bore		
															U	T	V
40	1/10	151	85	102	164	84	88	54	40	80	127	34	53	M8	11	4	12.8
50	1/15	174	97	115	175	95	88	50	50	80	150	35	65	M8	14	4	12.8
60		177	97	127	190	110	78	54	60	160	177	42	75	M10	14	4	12.8
70	1/20	213	118	154	210	130	88	66	70	125	205	50	85	M10	14	5	16.3
80		223	120	175	230	130	88	66	70	125	205	50	85	M10	19	5	21.8
80	1/30	235	130	175	240	140	97	75	80	145	232	60	92	M10	19	6	21.8
100	1/40	273	140	224	270	170	116	90	100	187	310	80	130	M12	24	8	27.3
120		275	142	224	295	170	116	90	100	187	310	80	130	M12	28	8	31.3
120	1/50	339	180	264	315	190	136	100	120	232	370	95	155	M14	28	8	31.3
135	1/60	370	195	300	335	210	144	111	135	264	425	105	185	M16	28	8	31.3
135		393	218	300	360	210	144	111	135	264	425	105	185	M16	38	10	41.5

Size	Output Shaft			Flange					HP	Oil (l)	Weight (kg)
	LS	S	W * X	LA	LB	LC	LE	Z1			
40	35	16	5 * 3	130	110	160	4	M8	1/4	0.18	6
50	40	17	5 * 3	130	110	160	4	M8	1/4	0.26	7
60	50	22	7 * 4	130	110	160	4	M8	1/4	0.4	9
70	60	28	7 * 4	130	110	160	4	M8	1/2	0.7	16
80	65	32	10 * 5	165	130	200	5	M10	1	1.15	21
100	75	38	10 * 5	185	130	200	5	M10	2	2.2	39
120	85	45	12 * 5	215	180	250	5	M12	3	4.8	52
135	95	55	15 * 5	215	180	250	5	15	5	6.3	74

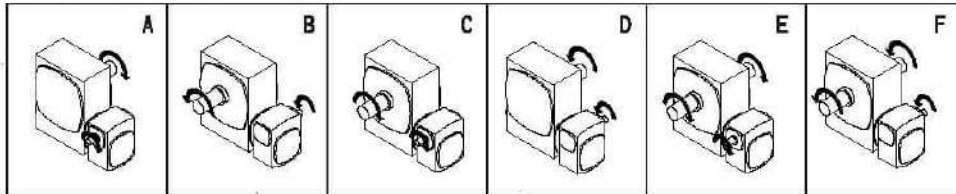


INPUT-BORE VIEW

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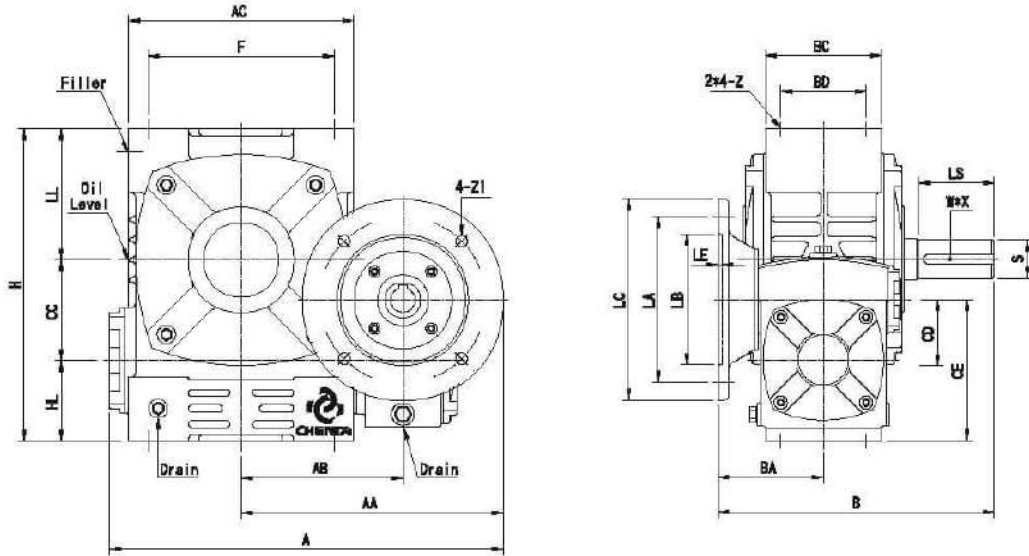
### Shaft Direction



Unit:mm

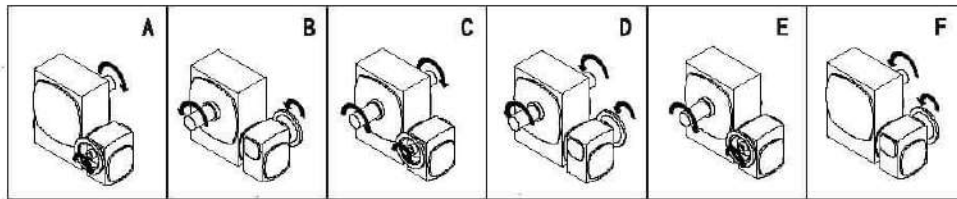
Size	Ratio	A	AA	AB	AC	F	B	BA	BC	BD	CC	CD	CE	H	HL
40-70	1/100 1/3600	270	175	131	154	125	213	83	88	86	70	40	90	205	50
50-80		289	184	132	176	145	247	107	97	75	80	50	110	232	60
60-100		352	219	161	224	187	294	124	116	91	100	60	140	310	80
70-120		417	258	192	284	232	330	140	136	100	120	70	165	370	95
80-135		482	287	211	300	264	370	160	144	111	135	80	185	425	105
100-155		540	340	257	330	280	434	192	152	120	155	100	203	461	103
120-175	858	376	275	370	320	478	230	185	140	175	120	243	521	123	

Size	LL	Z	Input Shaft			Output Shaft			Oil (l)	Weight (kg)
			HS	U	T * V	LS	S	W * X		
40-70	85	M10	25	12	4 * 2.5	60	28	7 * 4	0.85	17
50-80	92	M10	30	12	4 * 2.5	65	32	10 * 5	1.05	23
60-100	130	M12	40	15	5 * 3	75	38	10 * 5	1.7	42
70-120	155	M14	40	18	5 * 3	85	45	12 * 5	3	73
80-135	185	M16	50	22	7 * 4	95	55	16 * 4	4.75	84
100-155	203	M16	50	25	7 * 4	100	60	15 * 5	8.5	121
120-175	223	M16	65	30	7 * 4	110	65	18 * 6	9.8	168



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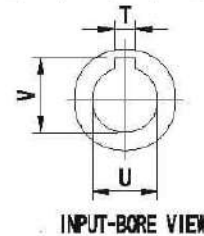
### Shaft Direction



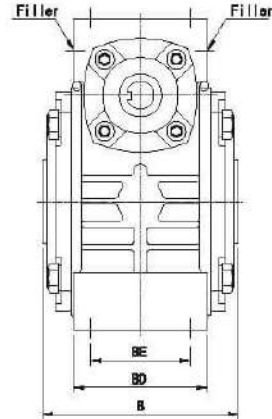
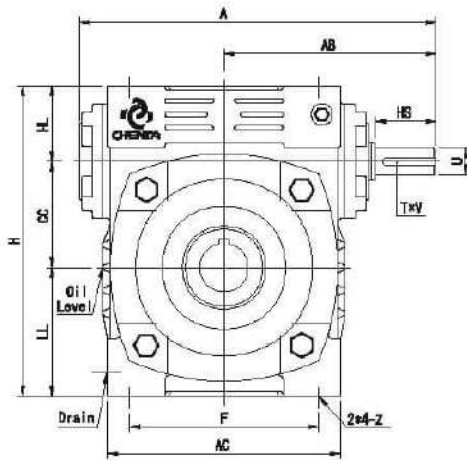
Unit:mm

Size	Ratio	A	AA	AB	AC	F	B	BA	BC	BD	CC	CD	CE	H	LL	HL	Z	Input Bore		
																		U	T	V
40-70	1/100 1/3600	306	211	131	154	125	213	79	88	66	70	40	90	205	85	50	M10	11	4	12.8
50-80		316	212	132	175	145	237	97	97	75	60	50	110	232	92	60	M10	11	4	12.8
60-100		374	241	161	224	187	257	97	116	91	100	60	140	310	130	90	M12	11	4	12.8
70-120		431 451	272 292	192	264	232	308 310	118 120	136	100	120	70	165	370	155	95	M14	14	5	18.3
80-135		481	311	211	300	264	340	130	144	111	135	80	185	425	185	105	M16	19	6	21.8
100-155		545 574	357 382	257	330	280	382 407	140 165	152	120	155	100	203	461	203	103	M16	24	8	27.3
120-175	606	400	275	370	320	429	180	185	140	175	120	243	521	223	123	M16	28	8	31.3	

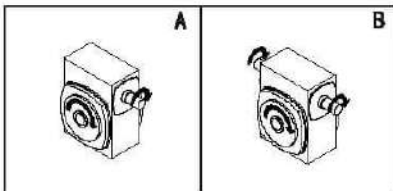
Size	Output Shaft			Flange					HP	Oil (l)	Weight (kg)
	LS	S	W * X	LA	LB	LC	LE	Z1			
40-70	60	28	7 * 4	130	110	160	4	M8	1/4HP	0.65	18
50-80	65	32	10 * 5	130	110	160	4	M8	1/4P 1/2P	1.05	24
60-100	75	38	10 * 5	130	110	160	4	M8	1/4P 1/2P	1.7	43
70-120	85	45	12 * 5	130 165	110 130	160 200	5	M8 M10	1/2P 1HP	3	74
80-135	95	55	15 * 5	165	130	200	5	M10	1HP 2HP	4.75	87
100-155	100	60	15 * 5	165 215	130 180	200 250	5	M10 M12	2HP 3HP	6.5	125
120-175	110	65	18 * 9	215	180	250	5	15	3HP 5HP	9.6	176



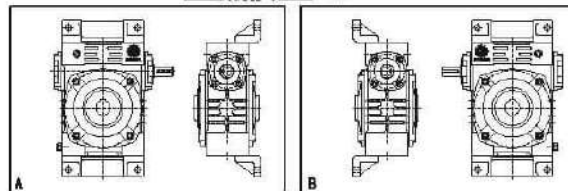
INPUT-BORE VIEW



Shaft Direction



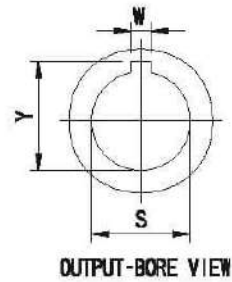
UHS+L 型腳座 (UHS+L-BASE)



Unit:mm

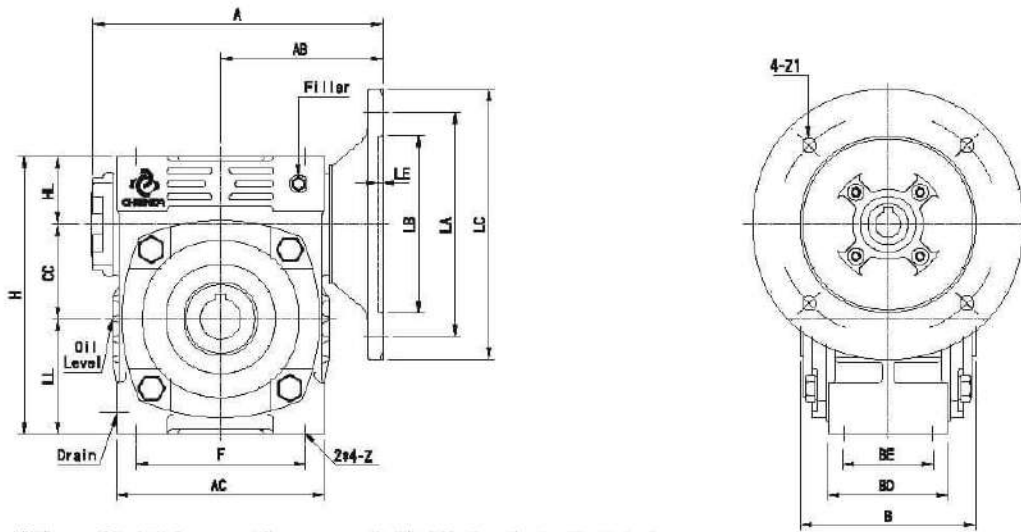
Size	Ratio	A	AB	AC	B	BD	BE	CC	F	H	HL	LL	Z
40	1/10	157	96.5	102	110	68	54	40	80	127	34	53	M8
50		181	107	115	110	68	50	50	90	150	35	65	M8
60	1/15	204	124	127	117	78	54	60	100	177	42	75	M10
70	1/20	234	140	154	130	88	66	70	125	205	50	85	M10
80	1/30	265	160	175	144	97	75	80	145	232	60	92	M10
100	1/40	325	192	224	175	116	91	100	187	310	80	130	M12
120	1/50	389	230	264	200	136	100	120	232	370	95	155	M14
135	1/60	435	260	300	230	144	111	135	264	425	105	185	M16
155		479	286	330	256	152	120	155	280	461	103	203	M16
175		517	308	370	282	185	140	175	320	521	123	223	M16

Size	Input Shaft			Output Bore			Oil (l)	Weight (kg)
	HS	U	T * V	S	W	Y		
40	28	12	4 * 2.5	19	5	21	0.18	5
50	30	12	4 * 2.5	20	5	22.3	0.26	8
60	40	15	5 * 3	25	7	28	0.4	8
70	40	18	5 * 3	30	8	33.3	0.7	14
80	50	22	7 * 4	35	10	38.5	1.15	19
100	50	25	7 * 4	40	12	43.5	2.2	36
120	65	30	7 * 4	45	12	48.5	4.8	48
135	75	35	10 * 5	60	15	65	6.3	70
155	85	40	10 * 5	70	20	74.9	7.8	105
175	85	45	12 * 5	80	22	85.4	12.2	145

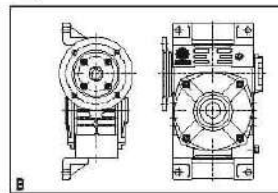
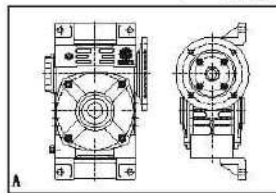
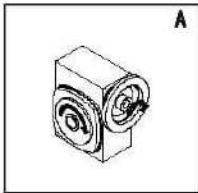


OUTPUT-BORE VIEW





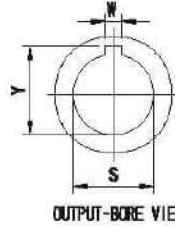
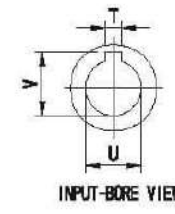
Shaft Direction UHM+L型腳座(UHM+L-BASE)

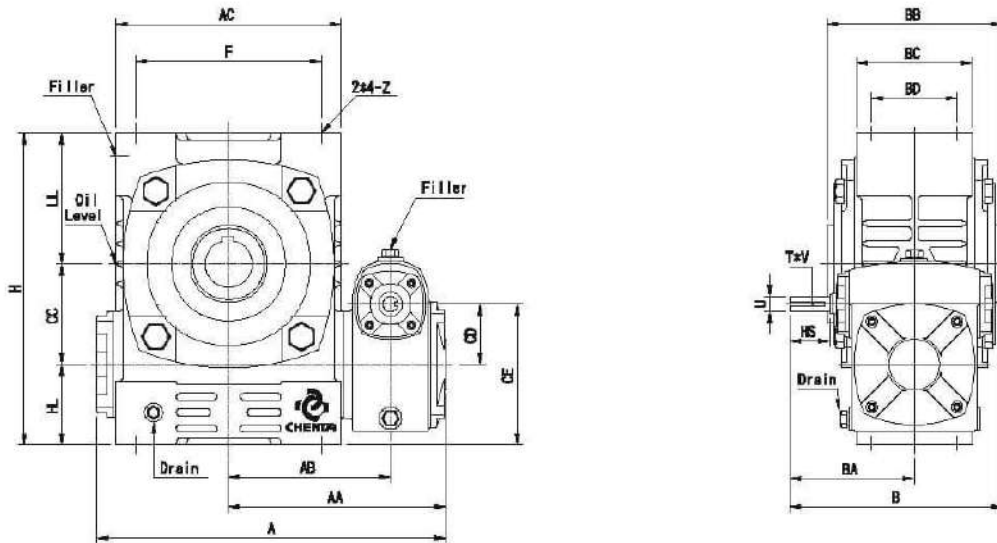


Unit:mm

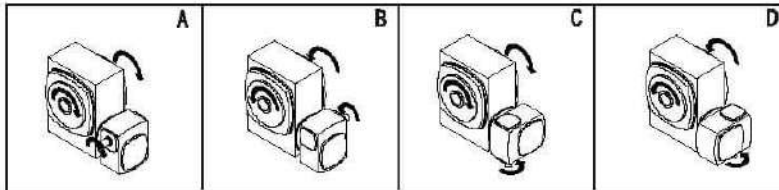
Size	Ratio	A	AB	AC	B	BD	BE	CC	F	H	HL	LL	Z	Input Bore		
														U	T	V
40	1/10	151	85	102	110	68	54	40	60	127	34	53	M8	11	4	12.8
50	1/15	174	97	115	110	68	50	50	90	150	35	85	M8	11	4	12.8
60		177	97	127	117	78	54	60	100	177	42	75	M10	11	4	12.8
70	1/30	213	118	154	130	88	66	70	125	205	50	85	M10	14	5	16.3
80		223	120	154	130	88	66	70	125	205	50	85	M10	14	5	16.3
100	1/40	235	130	175	144	97	75	80	145	232	60	92	M10	19	6	21.8
120		276	149	224	175	116	91	100	187	310	80	130	M12	24	8	27.3
135	1/60	277	141	224	175	116	91	100	187	310	80	130	M12	24	8	27.3
120		339	180	264	200	136	100	120	232	370	95	155	M14	28	8	31.3
135	385	195	300	230	144	111	135	294	425	105	185	M16	28	8	31.3	

Size	Output Bore			Flange					HP	Oil (l)	Weight (kg)
	S	W	Y	LA	LB	LC	LE	Z1			
40	19	5	21	130	110	160	4	M8	1/4	0.18	6
50	20	5	22.3	130	110	160	4	M8	1/4	0.26	7
60	25	7	28	130	110	160	4	M8	1/4	0.4	9
70	30	8	33.5	130	110	160	4	M8	1/2	0.7	16
80	35	10	38.5	185	130	200	5	M10	1	1.15	21
100	40	12	43.5	185	130	200	5	M10	2	2.2	39
120	45	12	48.5	215	180	250	5	M12	3	4.8	52
135	60	16	65	215	180	250	5	ø15	5	8.3	74





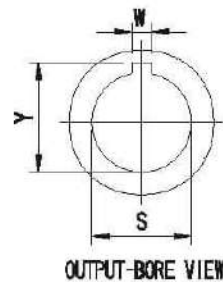
### Shaft Direction

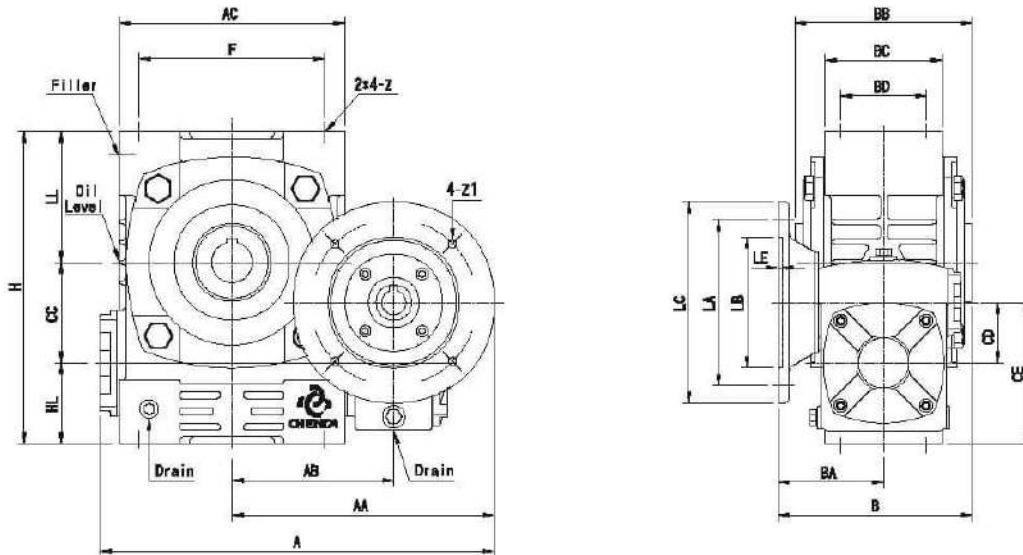


Unit:mm

Size	Ratio	A	AA	AB	AC	F	B	BA	BB	BD	BC	CC	CD	CE	H	HL	LL
40-70	1/100 ? 1/3600	270	175	131	154	125	148	83	130	66	88	70	40	90	205	50	85
50-80		289	184	132	175	145	179	107	144	75	97	80	50	110	232	60	92
60-100		362	219	161	224	187	211.5	124	175	91	116	100	60	140	310	80	130
70-120		417	258	192	264	232	240	140	200	100	135	120	70	185	370	95	155
80-135		482	287	211	300	264	275	160	230	111	144	135	80	185	425	105	185
100-155		540	340	257	330	280	320	190	256	120	152	155	100	203	461	103	203
120-175	858	376	275	370	320	371	230	282	140	185	175	120	243	521	123	223	

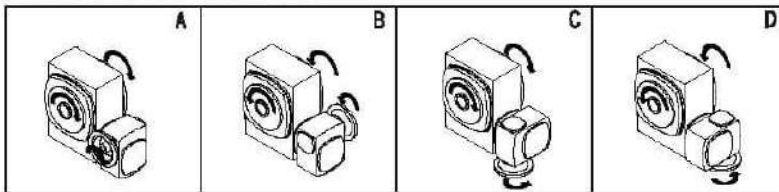
Size	Z	Input Shaft			Output Bore			Oil (l)	Weight (kg)
		HS	U	T * V	S	W	Y		
40-70	M10	25	12	4 * 2.5	30	8	33.5	0.65	17
50-80	M10	30	12	4 * 2.5	35	10	38.5	1.05	23
60-100	M12	40	15	5 * 3	40	12	43.5	1.7	42
70-120	M14	40	18	5 * 3	45	12	48.5	3	73
80-135	M16	50	22	7 * 4	60	15	65.0	4.75	84
100-155	M18	50	25	7 * 4	70	20	74.9	6.5	121
120-175	M16	85	30	7 * 4	80	22	85.4	9.8	168





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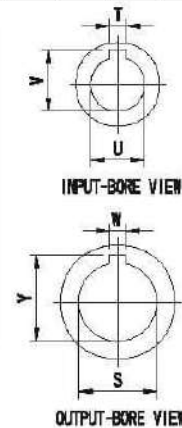
Shaft Direction



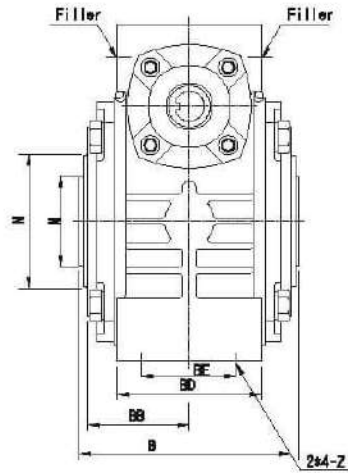
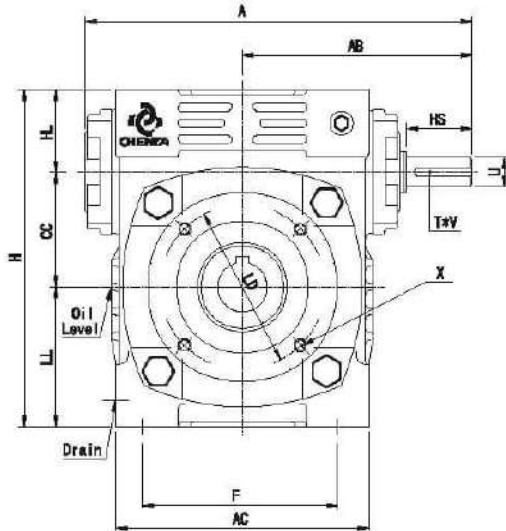
Unit:mm

Size	Ratio	A	AA	AB	AC	F	B	BA	BB	BC	BD	CC	CD	CE	H	HL	LL	Z
40-70	1/100	306	211	131	154	125	144	79	130	68	66	70	40	90	205	50	85	M10
50-80		316	212	132	175	145	169	97	144	97	75	80	50	110	232	80	92	M10
60-100	1/3600	374	241	161	224	187	184	97	175	116	91	100	60	140	310	80	130	M12
70-120		431	272	192	264	232	218	118	200	136	100	120	70	165	370	95	155	M14
80-135		481	311	211	300	264	245	130	230	154	111	135	80	185	425	105	185	M16
100-155		545	357	257	330	280	268	140	256	152	120	155	100	203	461	103	203	M16
120-175		574	382	257	330	280	293	165	256	152	120	155	100	203	461	103	203	M16
120-175		608	400	275	370	320	321	180	262	185	140	175	120	243	521	123	223	M16

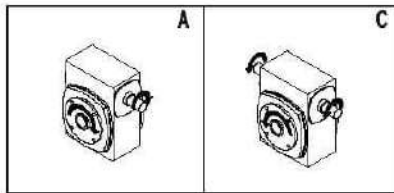
Size	Input Bore			Output Bore			Flange					HP	Oil (l)	Weight (kg)
	U	T	V	S	W	Y	LA	LB	LC	LE	Z1			
40-70	11	4	12.8	30	8	33.5	130	110	180	4	M8	1/4HP	0.85	18
50-80	14	5	12.8	35	10	38.5	130	110	180	4	M8	1/2HP	1.05	24
60-100	14	5	12.8	40	12	43.5	130	110	180	4	M8	1/4HP	1.7	43
70-120	14	5	15.3	45	12	48.5	130	110	180	4	M8	1/2HP	3	74
80-135	19	6	21.8	60	15	65	185	130	200	5	M10	1HP	4.75	87
100-155	24	8	27.3	70	20	74.9	185	130	200	5	M10	2HP	6.5	125
120-175	28	8	31.3	80	22	85.4	215	180	250	5	M12	3HP	9.8	176



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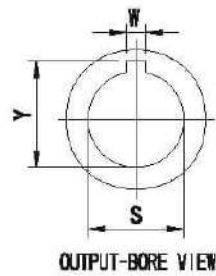
### Shaft Direction

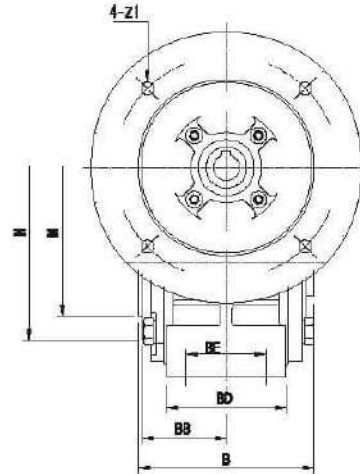
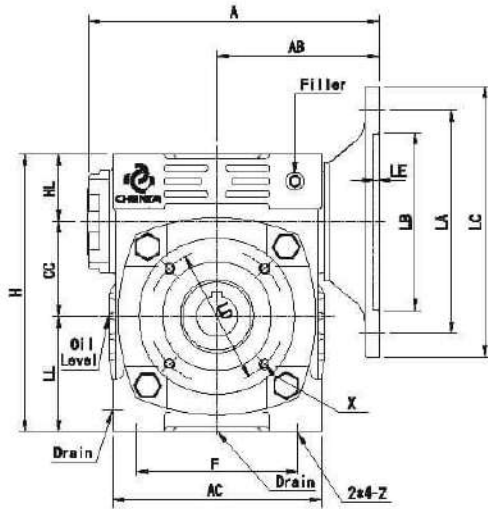


Unit:mm

Size	Ratio	A	AB	AC	B	BB	BD	BE	CC	F	M	N	H	HL	LL	LD	X	Z
50	1/10	181	107	115	110	52	68	50	50	90	58	80	150	35	65	70	4-M6	M8
60	1/15	204	124	127	117	55.5	78	54	60	100	70	96	177	42	75	82	4-M8	M10
70	1/20	234	140	154	130	62	88	66	70	125	80	115	205	50	85	100	4-M8	M10
80	1/30	265	160	175	144	68	97	75	80	145	95	135	232	60	92	115	4-M10	M10
100	1/40	325	192	224	175	83	116	91	100	187	110	160	310	80	130	130	4-M12	M12
120	1/50	389	230	264	200	95	136	100	120	232	130	200	370	95	155	155	4-M12	M14
135	1/60	435	260	300	230	110	144	111	135	264	160	233	425	105	185	200	6-M12	M16

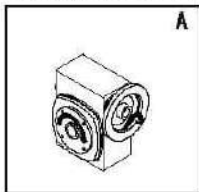
Size	Input Shaft			Output Bore			Oil (l)	Weight (kg)
	HS	U	T * V	S	W	Y		
50	30	12	4 * 2.5	20	5	22.3	0.28	6
60	40	15	5 * 3	25	7	28.3	0.4	8
70	40	18	5 * 3	30	8	33.5	0.7	14
80	50	22	7 * 4	35	10	38.5	1.15	19
100	50	25	7 * 4	40	12	43.5	2.2	36
120	65	30	7 * 4	45	12	48.5	4.8	48
135	75	35	10 * 5	60	15	65	8.3	70





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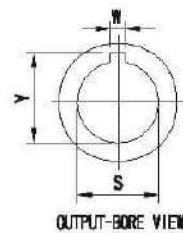
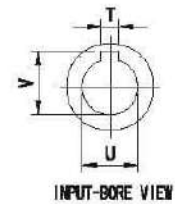
Shaft Direction

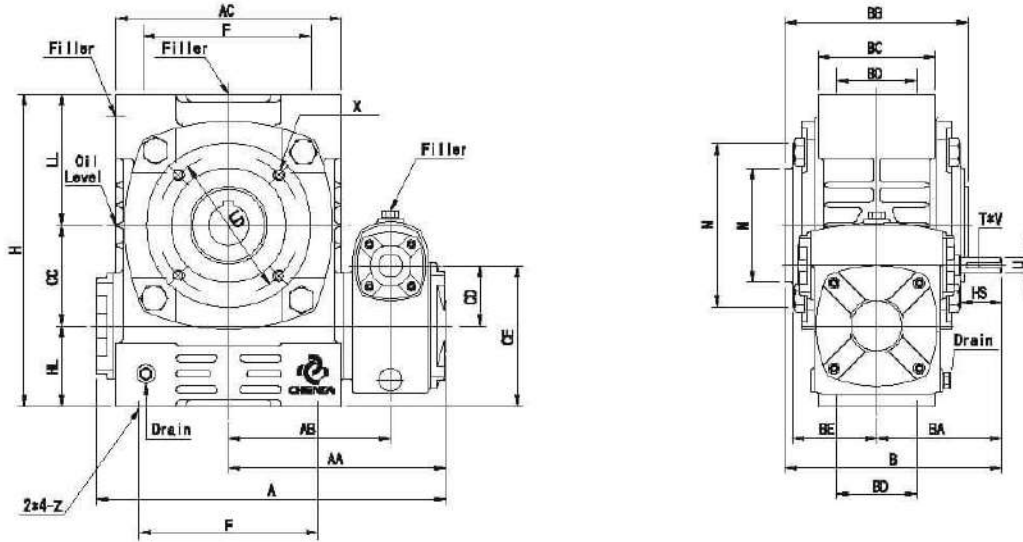


Unit:mm

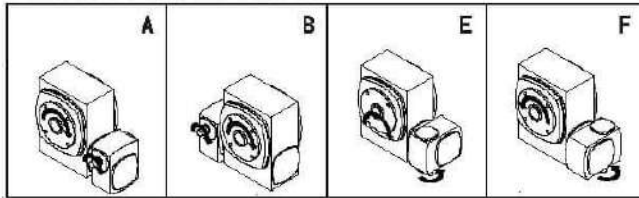
Size	Ratio	A	AB	AC	B	BB	BD	BE	CC	F	M	N	H	HL	LL	LD	X	Z	Input Bore		
																			U	T	V
50	1/10	174	97	115	110	52	68	50	50	90	58	80	150	35	65	70	4-M6	M8	11.4	4.5	12.8
60	1/15	177	97	127	117	55.5	78	54	60	100	70	96	177	42	75	82	4-M6	M10	11.4	4.5	12.8
70	1/20	213 223	118 120	154	130	62	88	66	70	125	80	115	205	50	85	100	4-M6	M10	14.9	5.6	16.3
80	1/30	235	130	175	144	68	97	75	80	145	95	135	232	60	92	115	4-M10	M10	19.24	6.6	21.8
100	1/40	273 275	140 142	224	175	83	116	91	100	187	110	160	310	80	130	130	4-M12	M12	24.28	6	27.3
120	1/50	339	180	264	200	95	136	100	120	232	130	200	370	95	155	185	4-M12	M14	28	8	31.3
135	1/60	370 393	195 218	300	230	110	144	111	135	264	160	233	425	105	185	200	5-M12	M16	28.38	8.10	31.3

Size	Output Bore			Flange					HP	Oil (l)	Weight (kg)
	S	W	Y	LA	LB	LC	LE	Z1			
50	20	5	22.3	130	110	160	4	M8	1/4-P 1/2-P	0.25	7
60	25	7	28	130	110	160	4	M8	1/4-P 1/2-P	0.4	9
70	30	8	33.5	130 165	110 130	180 200	4 5	M8 M10	1/2-P 1-P	0.7	18
80	35	10	38.5	165	130	200	5	M10	1-P 2-P	1.15	21
100	40	12	43.5	165 215	130 180	200 250	5	M10 M12	2-P 3-P	2.2	39
120	45	12	48.5	215	180	250	5	M12	3-P 5-P	4.8	52
135	60	15	65	215 265	180 230	250 300	5	M12 M15	5-P 7.5-P	6.3	74





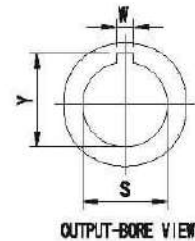
### Shaft Direction

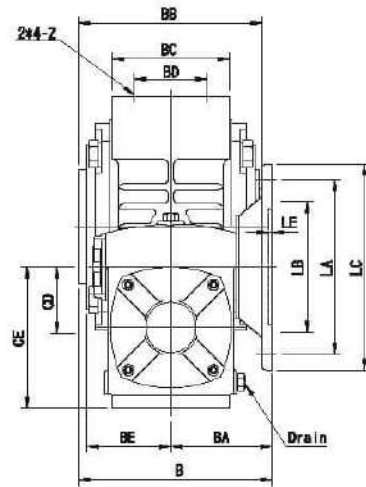
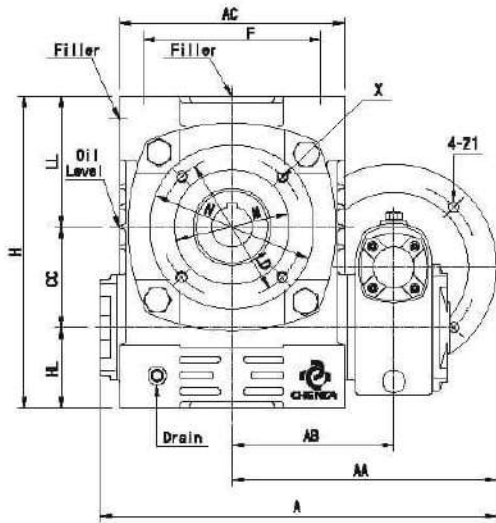


Unit:mm

Size	Ratio	A	AA	AB	AC	B	BA	BB	BD	BC	CC	F	CD	CE	H	HL	LL	BE	LD	Z
40-70	1/100	270	175	131	154	148	83	130	66	88	70	125	40	90	205	50	85	62	100	M10
50-80		289	184	132	175	179	107	144	75	97	80	145	50	110	232	80	92	68	115	M10
60-100	1/3600	352	219	161	224	211,5	124	175	91	116	100	187	60	140	310	80	130	83	130	M12
70-120		417	258	192	264	240	140	200	100	136	120	232	70	165	370	95	155	95	185	M14
80-135		462	287	211	300	275	160	230	111	144	135	264	80	185	425	105	185	110	200	M16

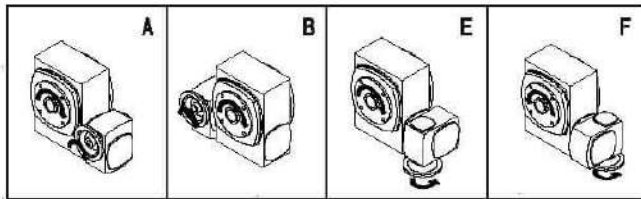
Size	M	N	X	Input Shaft			Output Bore			Oil (l)	Weight (kg)
				HS	U	T * V	S	W	Y		
40-70	80	115	4-M8	25	12	4 * 2,5	30	8	33,5	0,65	17
50-80	95	135	4-M10	30	12	4 * 2,5	35	10	38,5	1,05	23
60-100	110	160	4-M12	40	15	5 * 3	40	12	43,5	1,7	42
70-120	130	200	4-M12	40	18	5 * 3	45	12	48,5	3	73
80-135	160	233	6-M12	50	22	7 * 4	60	15	85	4,75	84





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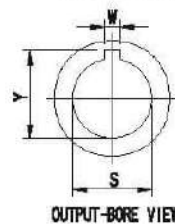
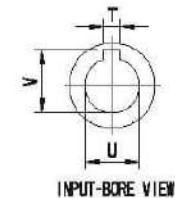
### Shaft Direction

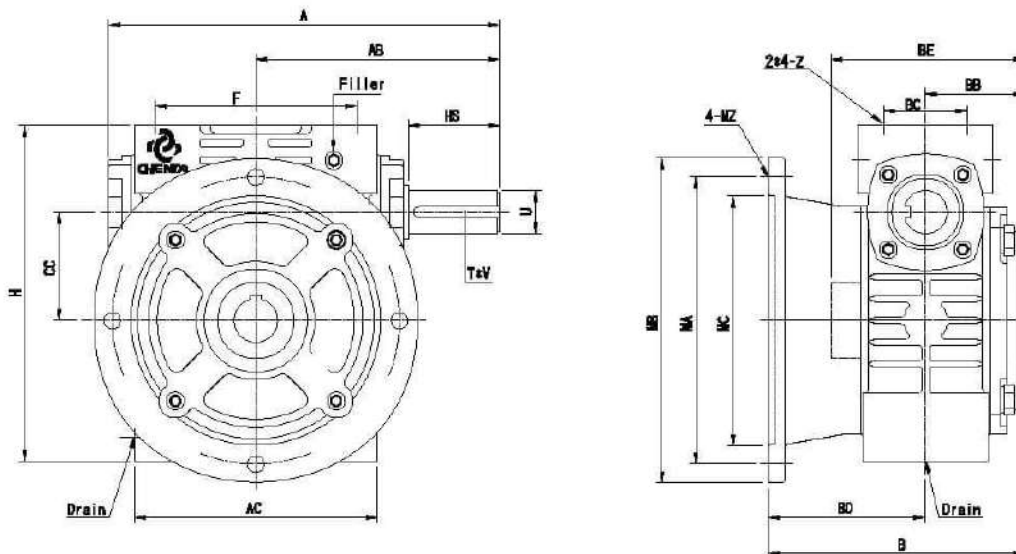


Unit:mm

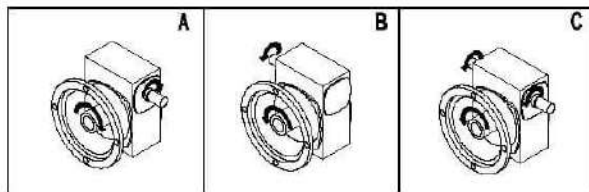
Size	Ratio	A	AA	AB	AC	F	B	BA	BB	BC	BD	BE	CC	CD	CE	H	HL	LL	LD	M	N	X	Z
40-70	1/100	306	211	131	154	125	150	85	130	88	66	62	70	40	90	205	50	85	100	80	115	4-M8	M10
50-80		318	212	132	175	145	189	97	144	97	75	88	80	50	110	232	60	92	115	95	135	4-M10	M10
60-100	1/3600	374	241	181	224	187	184	97	175	118	91	83	100	60	140	310	80	130	130	110	160	4-M12	M12
70-120		431	272	192	264	232	218	118	200	138	100	95	120	70	165	370	95	155	165	130	200	4-M12	M14
80-135		481	311	211	300	264	245	130	230	144	111	110	135	80	185	425	105	185	200	160	233	6-M12	M16

Size	Input Bore			Output Bore			Flange					HP	Oil (l)	Weight (kg)
	U	T	V	S	W	Y	LA	LB	LC	LE	Z1			
40-70	11	4	12.8	30	8	33.5	130	110	160	4	M8	1/4HP	0.65	18
50-80	11	4	12.8	35	10	38.5	130	110	180	4	M8	1/4HP	1.05	24
	14	5	16.3									1/2HP		
60-100	11	4	12.8	40	12	43.5	130	110	160	4	M8	1/4HP	1.7	43
	14	5	16.3									1/2HP		
70-120	14	5	16.3	45	12	48.5	130	110	160	4	M8	1/2HP	3	74
	19	8	21.8				130	130	200			M10		
80-135	19	6	21.8	60	15	66	165	130	200	4	M10	1HP	4.75	87
	24	8	27.3									2HP		





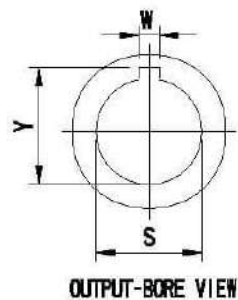
### Shaft Direction



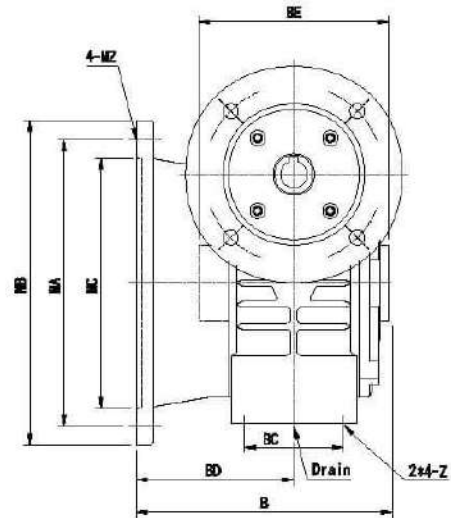
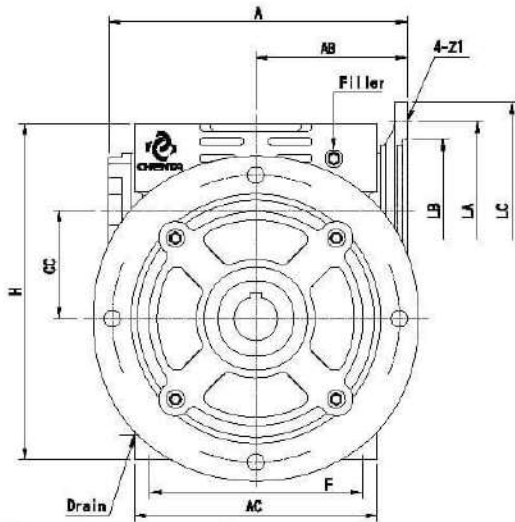
Unit:mm

Size	Ratio	A	AB	AC	BC	B	BB	F	BD	BE	CC	H	MA	MB	MC	MZ	Z
50	1/10	181	107	115	50	136	55	90	81	110	50	150	150	180	130	11	M8
60	1/15	204	124	127	54	154.5	58.5	100	96	117	60	177	150	180	130	11	M10
70	1/20	234	140	154	66	180	65	125	115	130	70	205	215	250	180	15	M10
80	1/30	265	160	175	75	177	72	145	105	144	80	232	215	250	180	14	M10
100	1/40	325	192	224	91	232	87.5	167	144.5	175	100	310	265	300	230	15	M12
120	1/50	389	230	264	100	245	100	232	145	200	120	370	300	350	250	19	M14
135	1/60	435	260	300	111	290	115	264	175	230	135	425	350	400	300	19	M16

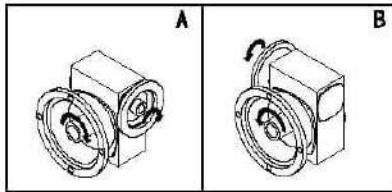
Size	Input Shaft			Output Bore		Oil (l)	Weight kg
	HS	U	T * V	S	W * Y		
50	30	12	4 * 2.5	20	5 * 22.3	0.25	8
60	40	15	5 * 3	25	7 * 28	0.4	11
70	40	18	5 * 3	30	8 * 33.5	0.7	16
80	50	22	7 * 4	35	10 * 38.5	1.15	21
100	50	25	7 * 4	40	12 * 43.5	2.2	40
120	65	30	7 * 4	45	12 * 48.5	4.8	52
135	75	35	10 * 5	60	15 * 65	8.3	75







Shaft Direction

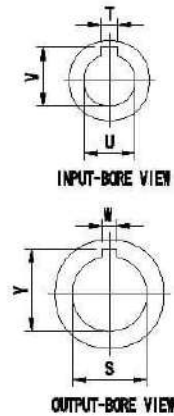


66

Unit:mm

Size	Ratio	A	AB	AC	B	F	BD	BE	CC	BC	H	MA	MB	MC	MZ	Z	Input Bore		
																	U	T	V
50	1/10	168	97	115	136	90	81	110	50	50	150	150	180	130	11	M8	11 14	4 5	12.8 16.3
60	1/15	177	97	127	154.5	100	98	117	60	54	177	150	180	130	11	M10	11 14	4 5	12.8 16.3
70	1/20	213 223	118 120	154	180	125	115	130	70	66	205	215	250	180	15	M10	14 19	5 6	18.3 21.8
80	1/30	236	130	175	177	146	105	144	80	75	232	215	250	180	14	M10	19 24	6 8	21.8 27.3
100	1/40	273 275	140 142	224	232	187	144.5	175	100	91	310	265	300	230	15	M12	24 28	8	27.3 31.3
120	1/50	339	180	234	245	232	145	200	120	100	370	300	350	250	19	M14	28	8	31.3
135	1/60	370 383	195 218	300	290	254	175	230	135	111	425	350	400	300	19	M16	28 36	8 10	31.3 41.5

Size	Output Bore			Flange					HP	Oil (l)	Weight (kg)
	S	W	Y	LA	LB	LC	LE	Z1			
50	20	5	22.3	130	110	160	4	M8	1/4 1/2	0.26	9
60	25	7	28	130	110	160	4	M8	1/4 1/2	0.4	12
70	30	8	33.5	130 165	110 130	160 200	4	M8 M10	1/2 1	0.7	18
80	35	10	38.5	165	130	200	4	M10	1 2	1.15	24
100	40	12	43.5	165 215	130 180	200 250	5	M10 M12	2 3	2.2	43
120	45	12	48.5	215	180	250	5	M12	3 5	4.8	56
135	60	15	65	215 265	180 230	250 300	5	M12 M16	5 7.5	8.3	79

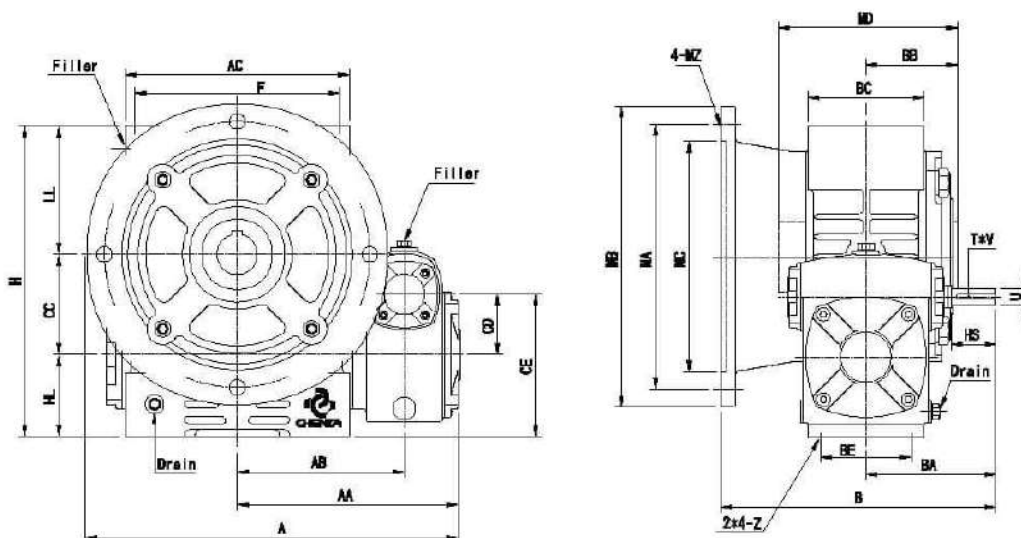




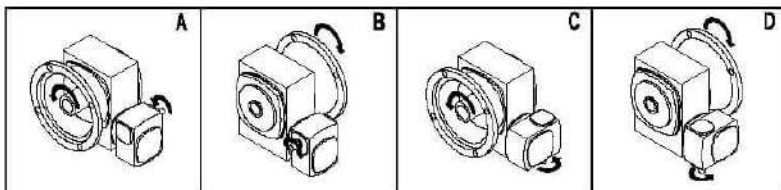
Model : UMF

成大齒輪減速機

Size : 40/70~80/135



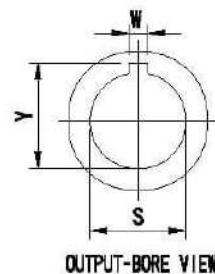
### Shaft Direction



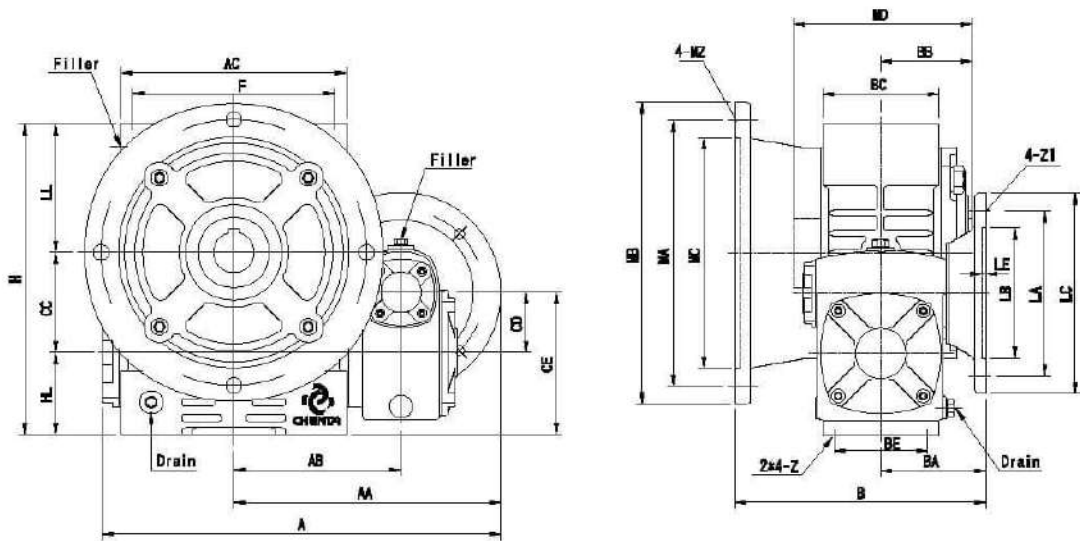
Unit:mm

Size	Ratio	A	AA	AB	AC	F	B	BA	BB	BC	BE	CC	CD	CE	H	HL	LL	Z
40-70	1/100 1/3600	270	176	131	154	125	198	83	65	88	66	70	40	90	205	50	85	M10
50-80		288	184	132	175	145	212	107	72	97	75	80	50	110	232	60	92	M10
60-100		362	219	161	224	187	268.5	124	87.5	116	91	100	80	140	310	80	130	M12
70-120		412	256	192	264	232	285	140	100	136	100	120	70	165	370	95	155	M14
80-135		462	293	211	300	264	335	160	115	144	111	135	90	185	425	105	185	M16

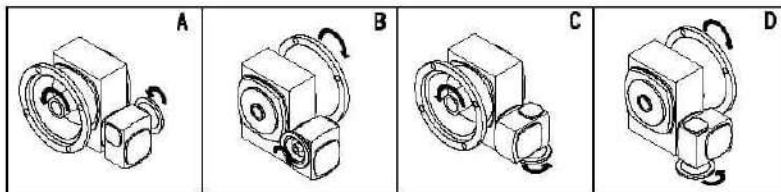
Size	MB	MA	MC	MD	MZ	Input Shaft			Output Bore			Oil (l)	Weight (kg)
						HS	U	TxV	S	W	Y		
40-70	250	215	180	130	15	25	12	4 x 2.5	30	8	33.5	0.65	20
50-80	250	215	180	144	14	30	12	4 x 2.5	35	10	38.5	1.05	27
60-100	300	285	230	175	15	40	15	5 x 3	40	12	43.5	1.7	46
70-120	350	300	250	200	19	40	18	5 x 3	45	12	48.5	3	77
80-135	400	360	300	230	19	50	22	7 x 4	60	15	55	4.75	89



OUTPUT-BORE VIEW



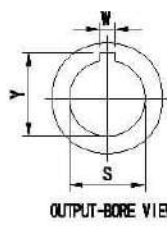
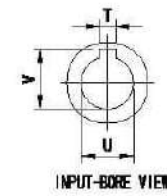
### Shaft Direction



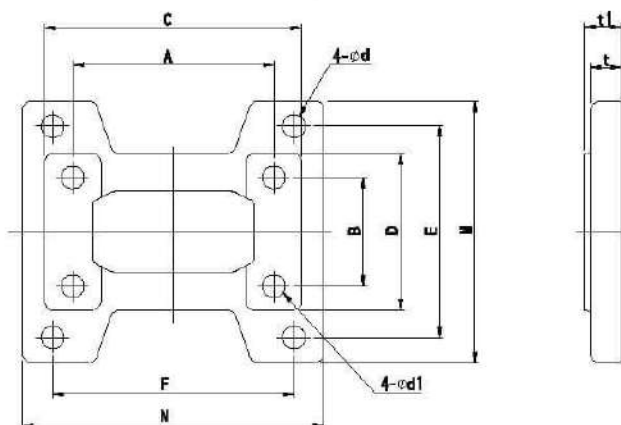
Unit:mm

Size	Ratio	A	AA	AB	AC	F	B	BA	BB	BC	BE	CC	CD	CE	H	HL	LL	Z	MB	MA	MC	MD	MZ
40-70	1/100 1/3600	306	211	131	154	125	200	85	65	88	68	70	40	90	205	50	85	M10	250	215	180	130	15
50-80		316	212	132	175	145	202	97	72	97	75	80	50	110	232	60	92	M10	250	215	180	144	15
60-100		374	241	181	224	187	241,5	97	87,5	116	91	100	60	140	310	80	130	M12	300	265	230	175	15
70-120		431 451	272 292	192	264	232	283 285	118 120	100	136	100	120	70	165	370	95	155	M14	350	300	250	200	19
80-135		481	311	211	300	264	305	130	115	144	111	135	80	185	425	105	185	M16	400	350	300	230	19

Size	Input Bore			Output Bore			Flange					HP	Oil (l)	Weight (kg)
	U	T	V	S	W	Y	LA	LB	LC	LE	Z1			
40-70	11	4	12,8	30	8	33,5	130	110	160	4	M8	1/4-P	0,65	20
50-80	14	4,5	16,3	35	10	38,5	130	110	160	4	M8	1/4-P 1/2-P	1,05	27
60-100	14	4,5	16,3	40	12	43,5	130	110	160	4	M8	1/4-P 1/2-P	1,7	47
70-120	14 19	5 8	16,3 21,8	45	12	48,5	130 165	110 130	160 200	4 5	M8 M10	1/2-P 1-P	3	78
80-135	19 24	8 8	21,8 27,3	60	15	65	165	130	200	5	M10	1-P 2-P	4,75	92



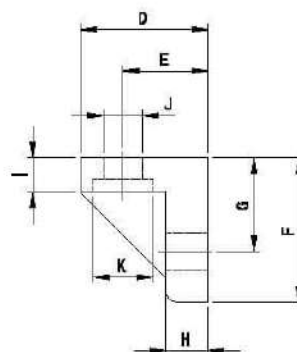
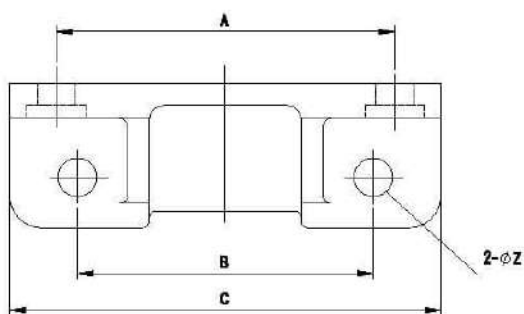
Type:H-Base (H 型平底腳座)



Unit:mm

Size	A	B	C	D	E	F	M	N	t	t1	d	d1
40	80	54	102	68	90	100	110	125	11	13	10	8.7
50	90	50	115	68	95	110	120	140	13	15	11	9
60	100	54	127	78	105	120	130	150	15	18	11	11
70	125	66	156	92	115	150	150	190	18	20	15	11
80	145	75	174	100	135	180	170	220	18	20	15	11
100	187	91	224	120	155	220	190	270	22	25	15	14
120	232	100	264	140	180	260	230	320	26	30	18	17
135	284	111	294	154	200	290	250	350	28	30	18	17

Type:L-Base (L 型直角腳座)



Unit:mm

Size	A	B	C	D	E	F	G	H	I	J	K	Z
40	80	80	102	38	30	34	22	10	8	8	14	9
50	90	90	115	46	32	40	25	14	9	9	14	11
60	100	100	127	50	33.5	45	30	15	12	11	17	11
70	125	120	155	50	34	50	35	18	14	11	17	15
80	145	140	175	54	36.5	60	40	20	18	11	17	15
100	187	190	224	70	47.5	60	40	20	18	14	20	15
120	232	220	264	80	52	62.5	40	24	18	16	23	18
135	284	260	300	86	51.5	68	45	28	24	18	26	18

# 蝸輪單段減速機型

## 出力軸許可傳達馬力及許可扭力矩表

### Single Reduction Rating Table

每日 8~10 小時連續運轉並在平均負荷  
 \*applies for continuous service free from recurrent shock loading and does not exceed 10 hours per day

SIZE	RATIO	INPUT RPM	1800	1500	1200	900	600	300
40	1/10	1. Input HP (hp)	0.83	0.77	0.67	0.56	0.43	0.23
		2. Output HP (hp)	0.65	0.6	0.51	0.43	0.32	0.16
		3. Output Torque (kg-m)	2.6	2.8	3.1	3.4	3.8	3.8
		4. Output OHL (kg)	70	70	70	70	70	70
	1/15	1. Input HP (hp)	0.41	0.37	0.33	0.27	0.2	0.11
		2. Output HP (hp)	0.28	0.25	0.20	0.17	0.11	0.04
		3. Output Torque (kg-m)	2.3	2.5	2.8	3.2	3.5	3.8
		4. Output OHL (kg)	70	70	70	70	70	70
	1/20	1. Input HP (hp)	0.39	0.36	0.31	0.27	0.2	0.12
		2. Output HP (hp)	0.27	0.24	0.21	0.17	0.12	0.08
		3. Output Torque (kg-m)	2.1	2.3	2.5	2.8	3.1	3.7
		4. Output OHL (kg)	70	70	70	70	70	70
	1/30	1. Input HP (hp)	0.43	0.4	0.34	0.27	0.2	0.09
		2. Output HP (hp)	0.28	0.25	0.21	0.16	0.11	0.04
		3. Output Torque (kg-m)	3.3	3.5	3.8	3.8	3.8	3.8
		4. Output OHL (kg)	70	70	70	70	70	70
	1/40	1. Input HP (hp)	0.27	0.24	0.21	0.19	0.15	0.08
		2. Output HP (hp)	0.15	0.15	0.12	0.11	0.07	0.04
		3. Output Torque (kg-m)	2.5	2.6	2.6	3.1	3.4	3.8
		4. Output OHL (kg)	70	70	70	70	70	70
	1/50	1. Input HP (hp)	0.25	0.23	0.2	0.17	0.12	0.07
		2. Output HP (hp)	0.15	0.12	0.11	0.11	0.05	0.03
		3. Output Torque (kg-m)	2.8	3.0	3.2	3.5	3.8	3.8
		4. Output OHL (kg)	70	70	70	70	70	70
1/60	1. Input HP (hp)	0.2	0.19	0.16	0.15	0.11	0.07	
	2. Output HP (hp)	0.11	0.09	0.08	0.07	0.04	0.03	
	3. Output Torque (kg-m)	2.4	2.6	2.7	3.0	3.2	3.8	
	4. Output OHL (kg)	70	70	70	70	70	70	
SIZE	RATIO	INPUT RPM	1800	1500	1200	900	600	300
50	1/10	1. Input HP (hp)	1.23	1.16	1.01	0.86	0.58	0.31
		2. Output HP (hp)	0.99	0.93	0.80	0.67	0.45	0.23
		3. Output Torque (kg-m)	3.95	4.47	4.80	5.33	5.43	5.43
		4. Output OHL (kg)	90	100	110	120	140	200
	1/15	1. Input HP (hp)	0.95	0.85	0.74	0.61	0.41	0.22
		2. Output HP (hp)	0.73	0.65	0.56	0.45	0.30	0.15
		3. Output Torque (kg-m)	4.38	4.64	5.06	5.43	5.43	5.43
		4. Output OHL (kg)	110	120	130	140	160	200
	1/20	1. Input HP (hp)	0.71	0.63	0.55	0.48	0.35	0.17
		2. Output HP (hp)	0.50	0.44	0.38	0.32	0.23	0.11
		3. Output Torque (kg-m)	4.00	4.25	4.58	5.07	5.43	5.43
		4. Output OHL (kg)	130	140	155	170	200	200
	1/30	1. Input HP (hp)	0.62	0.55	0.45	0.36	0.25	0.12
		2. Output HP (hp)	0.42	0.37	0.30	0.23	0.15	0.07
		3. Output Torque (kg-m)	5.02	5.31	5.43	5.43	5.34	5.34
		4. Output OHL (kg)	150	170	180	200	200	200
	1/40	1. Input HP (hp)	0.47	0.43	0.39	0.32	0.22	0.13
		2. Output HP (hp)	0.28	0.25	0.22	0.17	0.11	0.06
		3. Output Torque (kg-m)	4.53	4.82	5.41	5.43	5.43	5.43
		4. Output OHL (kg)	170	180	200	200	200	200
	1/50	1. Input HP (hp)	0.39	0.37	0.31	0.28	0.18	0.09
		2. Output HP (hp)	0.23	0.21	0.17	0.14	0.09	0.04
		3. Output Torque (kg-m)	4.82	4.91	5.19	5.43	5.43	5.43
		4. Output OHL (kg)	200	200	200	200	200	200
1/60	1. Input HP (hp)	0.33	0.30	0.26	0.23	0.15	0.07	
	2. Output HP (hp)	0.18	0.16	0.13	0.11	0.07	0.03	
	3. Output Torque (kg-m)	4.31	4.61	4.83	5.41	5.43	5.43	
	4. Output OHL (kg)	200	200	200	200	200	200	



## 蝸輪單段減速機型

### 出力軸許可傳達馬力及許可扭力矩表

## Single Reduction Rating Table

每日 8~10 小時連續運轉並在平均負荷  
\*applies for continuous service free from recurrent shock loading and does not exceed 10 hours per day

SIZE	RATIO	INPUT RPM	1800	1500	1200	900	600	300
60	1/10	1. Input HP (hp)	2.52	2.01	1.76	1.52	1.19	0.64
		2. Output HP (hp)	1.78	1.63	1.41	1.20	0.92	0.48
		3. Output Torque (kg-m)	7.09	7.82	8.45	9.82	11.0	11.6
		4. Output OHL (kg)	90	100	110	120	140	200
	1/15	1. Input HP (hp)	1.68	1.53	1.36	1.13	0.89	0.46
		2. Output HP (hp)	1.32	1.18	1.04	0.85	0.65	0.32
		3. Output Torque (kg-m)	7.92	8.50	9.30	10.2	11.6	11.6
		4. Output OHL (kg)	110	120	130	140	160	200
	1/20	1. Input HP (hp)	1.18	1.06	0.95	0.79	0.64	0.37
		2. Output HP (hp)	0.89	0.79	0.69	0.57	0.44	0.24
		3. Output Torque (kg-m)	7.09	7.58	8.20	9.00	10.4	11.6
		4. Output OHL (kg)	130	140	155	170	200	200
	1/30	1. Input HP (hp)	1.07	0.98	0.87	0.74	0.52	0.28
		2. Output HP (hp)	0.75	0.67	0.58	0.48	0.32	0.18
		3. Output Torque (kg-m)	9.0	9.60	10.3	11.5	11.6	11.6
		4. Output OHL (kg)	150	170	180	200	200	200
	1/40	1. Input HP (hp)	0.78	0.71	0.64	0.54	0.43	0.24
		2. Output HP (hp)	0.51	0.45	0.39	0.32	0.24	0.12
		3. Output Torque (kg-m)	8.06	8.60	9.20	10.3	11.5	11.6
		4. Output OHL (kg)	170	180	200	200	200	200
	1/50	1. Input HP (hp)	0.61	0.55	0.51	0.43	0.35	0.20
		2. Output HP (hp)	0.36	0.32	0.28	0.23	0.17	0.09
		3. Output Torque (kg-m)	7.10	7.60	8.30	9.10	10.2	11.6
		4. Output OHL (kg)	180	200	200	200	200	200
1/60	1. Input HP (hp)	0.51	0.47	0.42	0.35	0.29	0.19	
	2. Output HP (hp)	0.29	0.26	0.22	0.18	0.14	0.08	
	3. Output Torque (kg-m)	6.30	7.40	8.00	8.70	9.70	11.3	
	4. Output OHL (kg)	200	200	200	200	200	200	
SIZE	RATIO	INPUT RPM	1800	1500	1200	900	600	300
70	1/10	1. Input HP (hp)	3.27	3.01	2.68	2.24	1.75	1.15
		2. Output HP (hp)	2.69	2.45	2.16	1.79	1.36	0.86
		3. Output Torque (kg-m)	10.7	11.7	12.9	14.3	16.3	20.7
		4. Output OHL (kg)	140	150	160	170	200	300
	1/15	1. Input HP (hp)	2.60	2.37	2.04	1.72	1.36	0.86
		2. Output HP (hp)	2.04	1.84	1.57	1.30	1.00	0.61
		3. Output Torque (kg-m)	12.2	13.2	14.1	15.6	18.0	21.9
		4. Output OHL (kg)	170	180	200	220	250	300
	1/20	1. Input HP (hp)	1.83	1.66	1.44	1.17	0.86	0.50
		2. Output HP (hp)	1.42	1.27	1.09	0.87	0.62	0.34
		3. Output Torque (kg-m)	11.3	12.1	13.0	13.9	14.7	16.0
		4. Output OHL (kg)	210	230	250	270	300	300
	1/30	1. Input HP (hp)	1.56	1.41	1.26	1.06	0.85	0.51
		2. Output HP (hp)	1.12	0.98	0.85	0.71	0.53	0.29
		3. Output Torque (kg-m)	13.4	14.2	15.2	17.0	19.0	20.5
		4. Output OHL (kg)	240	260	280	300	300	300
	1/40	1. Input HP (hp)	1.18	1.07	0.94	0.77	0.56	0.33
		2. Output HP (hp)	0.81	0.72	0.62	0.49	0.34	0.18
		3. Output Torque (kg-m)	12.9	13.7	14.8	15.5	16.2	17.4
		4. Output OHL (kg)	270	280	300	300	300	300
	1/50	1. Input HP (hp)	0.87	0.79	0.71	0.61	0.50	0.30
		2. Output HP (hp)	0.52	0.46	0.40	0.33	0.25	0.15
		3. Output Torque (kg-m)	10.4	11.0	11.9	13.1	14.8	17.4
		4. Output OHL (kg)	280	300	300	300	300	300
1/60	1. Input HP (hp)	0.75	0.68	0.63	0.51	0.43	0.28	
	2. Output HP (hp)	0.44	0.39	0.34	0.27	0.21	0.12	
	3. Output Torque (kg-m)	10.4	11.1	12.0	13.1	14.7	17.1	
	4. Output OHL (kg)	300	300	300	300	300	300	

## 蝸輪單段減速機型

### 出力軸許可傳達馬力及許可扭力矩表

## Single Reduction

## Rating Table

每日 8~10 小時連續運轉並在平均負荷  
\*applies for continuous service free from recurrent shock loading and does not exceed 10 hours per day

SIZE	RATIO	INPUT RPM	1800	1500	1200	900	600	300
80	1/10	1. Input HP (hp)	4.50	4.36	3.81	3.20	2.57	1.56
		2. Output HP (hp)	3.72	3.55	3.08	2.56	2.01	1.18
		3. Output Torque (kg-m)	14.8	17.0	18.4	20.5	24.0	28.3
		4. Output OHL (kg)	160	180	200	230	270	400
	1/15	1. Input HP (hp)	3.60	3.27	2.88	2.41	1.97	1.26
		2. Output HP (hp)	2.84	2.56	2.21	1.83	1.46	0.87
		3. Output Torque (kg-m)	17.0	18.4	19.8	21.9	26.2	31.2
		4. Output OHL (kg)	230	240	260	280	330	400
	1/20	1. Input HP (hp)	2.48	2.25	1.97	1.65	1.32	0.87
		2. Output HP (hp)	1.91	1.71	1.47	1.21	0.93	0.57
		3. Output Torque (kg-m)	15.2	16.3	17.5	19.2	22.3	27.3
		4. Output OHL (kg)	270	280	320	360	400	400
	1/30	1. Input HP (hp)	2.09	1.90	1.65	1.43	1.14	0.75
		2. Output HP (hp)	1.51	1.34	1.14	0.96	0.73	0.44
		3. Output Torque (kg-m)	18.1	19.2	20.5	22.9	26.2	31.4
		4. Output OHL (kg)	320	340	360	400	400	400
	1/40	1. Input HP (hp)	1.80	1.47	1.29	1.10	0.86	0.54
		2. Output HP (hp)	1.08	0.96	0.38	0.68	0.52	0.28
		3. Output Torque (kg-m)	17.2	18.3	19.7	21.8	24.7	26.4
		4. Output OHL (kg)	340	360	400	400	400	400
	1/50	1. Input HP (hp)	1.28	1.17	1.05	0.88	0.72	0.45
		2. Output HP (hp)	0.84	0.75	0.65	0.53	0.40	0.23
		3. Output Torque (kg-m)	16.8	17.8	19.3	21.2	23.9	28.0
		4. Output OHL (kg)	360	400	400	400	400	400
1/60	1. Input HP (hp)	1.03	0.95	0.85	0.73	0.58	0.39	
	2. Output HP (hp)	0.82	0.55	0.48	0.39	0.29	0.17	
	3. Output Torque (kg-m)	14.9	15.7	17.2	18.7	21.0	24.6	
	4. Output OHL (kg)	400	400	400	400	400	400	
SIZE	RATIO	INPUT RPM	1800	1500	1200	900	600	300
100	1/10	1. Input HP (hp)	6.50	5.98	5.26	4.49	3.51	2.27
		2. Output HP (hp)	5.73	4.90	4.30	3.64	2.78	1.74
		3. Output Torque (kg-m)	21.4	23.4	25.7	29.0	33.2	41.5
		4. Output OHL (kg)	190	200	220	240	300	450
	1/15	1. Input HP (hp)	5.14	4.49	4.00	3.36	2.65	1.70
		2. Output HP (hp)	4.10	3.54	3.13	2.59	2.00	1.22
		3. Output Torque (kg-m)	23.9	25.4	28.0	31.0	35.8	44.0
		4. Output OHL (kg)	200	250	270	300	340	450
	1/20	1. Input HP (hp)	4.42	3.99	3.48	2.92	2.31	1.51
		2. Output HP (hp)	3.35	3.14	2.71	2.23	1.73	1.06
		3. Output Torque (kg-m)	28.0	30.0	32.3	35.5	41.3	50.0
		4. Output OHL (kg)	250	270	300	340	450	450
	1/30	1. Input HP (hp)	3.69	3.33	2.93	2.47	1.97	1.15
		2. Output HP (hp)	2.70	2.40	2.06	1.71	1.31	0.70
		3. Output Torque (kg-m)	32.2	34.4	36.9	40.8	46.8	50.0
		4. Output OHL (kg)	320	340	370	450	450	450
	1/40	1. Input HP (hp)	2.78	2.52	2.20	1.88	1.48	0.89
		2. Output HP (hp)	2.00	1.77	1.52	1.26	0.96	0.52
		3. Output Torque (kg-m)	31.8	33.8	36.3	40.2	45.7	50.0
		4. Output OHL (kg)	350	380	450	450	450	450
	1/50	1. Input HP (hp)	2.29	2.05	1.84	1.55	1.23	0.76
		2. Output HP (hp)	1.59	1.40	1.22	1.00	0.75	0.42
		3. Output Torque (kg-m)	31.6	33.4	36.5	40.0	45.0	50.0
		4. Output OHL (kg)	390	450	450	450	450	450
1/60	1. Input HP (hp)	1.87	1.70	1.53	1.28	1.02	0.65	
	2. Output HP (hp)	1.26	1.12	0.97	0.80	0.59	0.34	
	3. Output Torque (kg-m)	30.0	32.0	34.6	38.0	42.4	49.3	
	4. Output OHL (kg)	450	450	450	450	450	450	

# 蝸輪單段減速機型

## 出力軸許可傳達馬力及許可扭力矩表

### Single Reduction Rating Table

每日 8~10 小時連續運轉並在平均負荷  
 \*applies for continuous service free from recurrent shock loading and does not exceed 10 hours per day

SIZE	RATIO	INPUT RPM	1800	1500	1200	900	600	300
120	1/10	1. Input HP (hp)	10.7	10.1	8.58	7.40	5.75	3.74
		2. Output HP (hp)	8.89	8.35	7.03	6.01	4.80	2.89
		3. Output Torque (kg-m)	35.4	39.9	42.0	47.9	55.0	69.1
		4. Output OHL (kg)	250	260	280	300	350	520
	1/15	1. Input HP (hp)	8.34	7.46	6.65	5.52	4.55	2.85
		2. Output HP (hp)	6.68	5.94	5.25	4.30	3.47	2.08
		3. Output Torque (kg-m)	39.9	42.6	47.0	51.4	62.1	74.5
		4. Output OHL (kg)	320	340	360	390	440	520
	1/20	1. Input HP (hp)	6.85	6.31	5.53	4.68	3.70	1.95
		2. Output HP (hp)	5.40	4.92	4.26	3.53	2.71	1.68
		3. Output Torque (kg-m)	43.0	47.0	50.9	56.2	64.6	80.0
		4. Output OHL (kg)	370	390	420	460	520	520
	1/30	1. Input HP (hp)	6.27	5.68	5.00	4.18	3.39	1.89
		2. Output HP (hp)	4.84	4.15	3.59	2.92	2.27	1.17
		3. Output Torque (kg-m)	55.4	59.4	64.3	69.8	81.4	84.0
		4. Output OHL (kg)	450	470	500	520	520	520
	1/40	1. Input HP (hp)	4.48	4.07	3.56	3.03	2.44	1.57
		2. Output HP (hp)	3.13	2.79	2.39	1.97	1.51	0.88
		3. Output Torque (kg-m)	49.8	53.2	57.1	62.8	72.2	84.0
		4. Output OHL (kg)	500	500	520	520	520	520
	1/50	1. Input HP (hp)	3.64	3.28	2.90	2.47	1.91	1.19
		2. Output HP (hp)	2.81	2.31	2.01	1.66	1.24	0.70
		3. Output Torque (kg-m)	52.0	55.2	60.1	66.0	74.2	84.0
		4. Output OHL (kg)	500	520	520	520	520	520
1/60	1. Input HP (hp)	2.89	2.65	2.36	2.04	1.45	0.96	
	2. Output HP (hp)	1.98	1.76	1.53	1.26	0.94	0.56	
	3. Output Torque (kg-m)	47.4	50.4	54.9	60.1	67.6	80.0	
	4. Output OHL (kg)	520	520	520	520	520	520	
SIZE	RATIO	INPUT RPM	1800	1500	1200	900	600	300
135	1/10	1. Input HP (hp)	17.7	18.5	14.2	12.0	9.54	6.20
		2. Output HP (hp)	15.0	13.9	11.9	10.0	7.83	4.94
		3. Output Torque (kg-m)	59.7	66.4	71.0	79.6	93.5	117
		4. Output OHL (kg)	330	340	360	440	500	810
	1/15	1. Input HP (hp)	14.6	13.1	11.8	9.80	8.67	4.77
		2. Output HP (hp)	11.9	10.6	9.45	7.75	6.95	3.58
		3. Output Torque (kg-m)	71.0	75.9	84.6	92.5	124	127
		4. Output OHL (kg)	430	460	490	540	590	810
	1/20	1. Input HP (hp)	10.3	9.26	8.14	6.79	5.36	3.47
		2. Output HP (hp)	8.39	7.47	6.48	5.33	4.13	2.54
		3. Output Torque (kg-m)	66.8	71.3	77.4	84.9	98.6	121
		4. Output OHL (kg)	570	600	660	760	810	810
	1/30	1. Input HP (hp)	8.76	7.87	6.86	5.82	4.64	3.02
		2. Output HP (hp)	6.65	5.90	5.07	4.20	3.23	1.96
		3. Output Torque (kg-m)	79.4	84.5	90.8	100	116	140
		4. Output OHL (kg)	680	710	770	810	810	810
	1/40	1. Input HP (hp)	6.44	5.74	5.06	4.38	3.40	2.18
		2. Output HP (hp)	4.79	4.22	3.64	3.06	2.31	1.36
		3. Output Torque (kg-m)	76.3	80.7	86.9	97.4	110	130
		4. Output OHL (kg)	710	770	810	810	810	810
	1/50	1. Input HP (hp)	4.84	4.41	3.90	3.34	2.61	1.69
		2. Output HP (hp)	3.52	3.16	2.73	2.26	1.71	1.01
		3. Output Torque (kg-m)	70	75.5	81.4	90.1	102	120
		4. Output OHL (kg)	770	810	810	810	810	810
1/60	1. Input HP (hp)	3.85	3.58	3.18	2.74	2.11	1.37	
	2. Output HP (hp)	2.55	2.40	2.12	1.76	1.32	0.77	
	3. Output Torque (kg-m)	60.8	70.0	76.0	83.9	94.4	111	
	4. Output OHL (kg)	810	810	810	810	810	810	







## 蝸輪單段減速機型

### 出力軸許可傳達馬力及許可扭力矩表

## Single Reduction Rating Table

每日 8~10 小時連續運轉並在平均負荷  
 \*applies for continuous service free from recurrent shock loading and does not exceed 10 hours per day

SIZE	RATIO	INPUT RPM	1800	1500	1200	900	600	300
200	1/10	1. Input HP (hp)	52.6	39.4	35.0	29.7	23.0	15.0
		2. Output HP (hp)	44.0	33.6	29.7	25.0	19.1	12.2
		3. Output Torque (kg-m)	181	165	183	205	235	300
		4. Output OHL (kg)	1000	1150	1200	1300	1400	2200
	1/15	1. Input HP (hp)	39.5	31.2	27.7	23.3	18.0	11.9
		2. Output HP (hp)	32.1	25.9	22.8	19.0	14.4	9.20
		3. Output Torque (kg-m)	198	192	210	234	266	340
		4. Output OHL (kg)	1200	1350	1440	1520	1670	2200
	1/20	1. Input HP (hp)	27.6	27.6	24.2	20.3	15.8	10.3
		2. Output HP (hp)	22.5	22.5	19.6	16.2	12.3	7.70
		3. Output Torque (kg-m)	180	215	234	259	293	367
		4. Output OHL (kg)	1200	1450	1590	1720	2200	2200
	1/30	1. Input HP (hp)	22.6	22.6	18.8	15.1	12.2	7.90
		2. Output HP (hp)	17.4	17.4	14.2	11.2	8.70	5.34
		3. Output Torque (kg-m)	208	257	262	276	322	394
		4. Output OHL (kg)	1400	1650	1800	2200	2200	2200
	1/40	1. Input HP (hp)	17.9	16.3	14.5	11.9	9.58	6.19
		2. Output HP (hp)	13.6	12.2	10.7	8.61	6.61	4.00
		3. Output Torque (kg-m)	216	233	255	274	315	362
		4. Output OHL (kg)	1750	1850	2200	2200	2200	2200
	1/50	1. Input HP (hp)	13.2	11.9	10.6	9.00	7.20	4.61
		2. Output HP (hp)	9.80	8.62	7.54	6.23	4.74	2.80
		3. Output Torque (kg-m)	195	206	225	248	283	334
		4. Output OHL (kg)	2000	2200	2200	2200	2200	2200
1/60	1. Input HP (hp)	10.8	9.77	8.49	7.41	6.11	3.75	
	2. Output HP (hp)	7.82	6.93	5.90	5.00	3.90	2.20	
	3. Output Torque (kg-m)	184	196	208	235	275	310	
	4. Output OHL (kg)	2200	2200	2200	2200	2200	2200	
SIZE	RATIO	INPUT RPM	1800	1500	1200	900	600	300
225	1/10	1. Input HP (hp)	71.2	52.3	52.3	43.5	33.8	22.1
		2. Output HP (hp)	60.2	44.8	44.8	37.0	28.5	18.3
		3. Output Torque (kg-m)	239	214	267	294	340	437
		4. Output OHL (kg)	1050	1100	1300	1400	1500	2500
	1/15	1. Input HP (hp)	56.8	48.0	40.7	34.2	28.4	17.3
		2. Output HP (hp)	46.9	38.7	34.0	28.3	21.5	13.7
		3. Output Torque (kg-m)	280	277	304	338	385	490
		4. Output OHL (kg)	1300	1400	1500	1600	1800	2500
	1/20	1. Input HP (hp)	38.6	38.6	33.8	27.9	22.0	14.3
		2. Output HP (hp)	31.9	31.9	27.5	23.1	17.5	11.0
		3. Output Torque (kg-m)	254	304	328	367	418	525
		4. Output OHL (kg)	1400	1800	1800	2000	2500	2500
	1/30	1. Input HP (hp)	31.5	31.5	27.0	20.3	18.2	11.7
		2. Output HP (hp)	24.8	24.8	21.0	17.6	13.5	8.30
		3. Output Torque (kg-m)	296	355	376	420	483	594
		4. Output OHL (kg)	1700	1900	2200	2500	2500	2500
	1/40	1. Input HP (hp)	22.5	22.5	19.2	15.8	12.6	8.12
		2. Output HP (hp)	17.2	17.2	14.4	11.6	8.90	5.40
		3. Output Torque (kg-m)	274	328	344	369	425	515
		4. Output OHL (kg)	2000	2200	2500	2500	2500	2500
	1/50	1. Input HP (hp)	18.1	16.3	14.3	12.3	9.81	6.25
		2. Output HP (hp)	13.6	12.0	10.4	8.60	6.60	3.90
		3. Output Torque (kg-m)	270	286	310	342	394	465
		4. Output OHL (kg)	2300	2500	2500	2500	2500	2500
1/60	1. Input HP (hp)	15.1	13.6	11.9	10.1	8.05	5.27	
	2. Output HP (hp)	11.2	9.90	8.50	7.00	5.30	3.20	
	3. Output Torque (kg-m)	259	275	295	324	368	444	
	4. Output OHL (kg)	2500	2500	2500	2500	2500	2500	





# 蝸輪單段減速機型

## 出力軸許可傳達馬力及許可扭力矩表

### Single Reduction Rating Table

每日 8~10 小時連續運轉並在平均負荷  
 \*applies for continuous service free from recurrent shock loading and does not exceed 10 hours per day

SIZE	RATIO	INPUT RPM	1800	1500	1200	900	600	300
350	1/10	1. Input HP (hp)	-	185	165	141	110	73
		2. Output HP (hp)	-	156	139	118	92	59
		3. Output Torque (kg-m)	-	788	876	993	1161	1493
		4. Output OHL (kg)	-	3260	3430	3880	4080	4890
	1/15	1. Input HP (hp)	-	153	138	115	90	59
		2. Output HP (hp)	-	127	114	94	73	46
		3. Output Torque (kg-m)	-	926	1044	1152	1332	1706
		4. Output OHL (kg)	-	3680	3850	4170	4650	5100
	1/20	1. Input HP (hp)	140	129	111	95	74	48
		2. Output HP (hp)	115	106	91	77	59	37
		3. Output Torque (kg-m)	933	1030	1111	1257	1441	1798
		4. Output OHL (kg)	3900	4000	4320	4540	5100	5100
	1/30	1. Input HP (hp)	-	89	78	68	52	34
		2. Output HP (hp)	-	69	60	50	38	24
		3. Output Torque (kg-m)	-	1043	1133	1263	1461	1792
		4. Output OHL (kg)	-	4870	5100	5100	5100	5100
	1/40	1. Input HP (hp)	79	70	62	52	41	27
		2. Output HP (hp)	59	53	47	39	29	18
		3. Output Torque (kg-m)	991	1061	1171	1297	1475	1762
		4. Output OHL (kg)	5100	5100	5100	5100	5100	5100
	1/50	1. Input HP (hp)	62	56	49	41	31	19
		2. Output HP (hp)	46	42	36	30	22	14
		3. Output Torque (kg-m)	926	999	1081	1197	1357	1647
		4. Output OHL (kg)	5100	5100	5100	5100	5100	5100
1/60	1. Input HP (hp)	48	43	38	32	25	16	
	2. Output HP (hp)	36	32	28	23	17	10	
	3. Output Torque (kg-m)	872	933	1011	1115	1249	1512	
	4. Output OHL (kg)	5100	5100	5100	5100	5100	5100	
400	1/10	1. Input HP (hp)	-	277	245	211	165	109
		2. Output HP (hp)	-	235	208	179	139	90
		3. Output Torque (kg-m)	-	1182	1308	1501	1752	2258
		4. Output OHL (kg)	-	3830	4100	4290	4770	5690
	1/15	1. Input HP (hp)	-	214	193	159	125	81
		2. Output HP (hp)	-	177	160	131	102	64
		3. Output Torque (kg-m)	-	1337	1509	1653	1931	2421
		4. Output OHL (kg)	-	4340	4520	4950	5460	6730
	1/20	1. Input HP (hp)	-	168	148	125	97	63
		2. Output HP (hp)	-	137	121	102	78	49
		3. Output Torque (kg-m)	-	1340	1746	1654	1895	2405
		4. Output OHL (kg)	-	4910	5190	5610	6290	7000
	1/30	1. Input HP (hp)	-	137	121	102	81	51
		2. Output HP (hp)	-	107	94	79	62	37
		3. Output Torque (kg-m)	-	1509	1660	1869	2190	2638
		4. Output OHL (kg)	-	5320	5670	6090	6740	7000
	1/40	1. Input HP (hp)	-	100	88	73	58	37
		2. Output HP (hp)	-	75	66	55	42	25
		3. Output Torque (kg-m)	-	1509	1651	1829	2121	2534
		4. Output OHL (kg)	-	6350	6810	7000	7000	7000
	1/50	1. Input HP (hp)	-	79	69	58	45	30
		2. Output HP (hp)	-	59	52	43	33	20
		3. Output Torque (kg-m)	-	1393	1525	1673	1914	2331
		4. Output OHL (kg)	-	7000	7000	7000	7000	7000
1/60	1. Input HP (hp)	-	65	56	47	37	24	
	2. Output HP (hp)	-	48	42	35	28	16	
	3. Output Torque (kg-m)	-	1347	1456	1610	1810	2201	
	4. Output OHL (kg)	-	7000	7000	7000	7000	7000	

# 蝸輪雙段減速機型

## 出力軸許可傳達馬力及許可扭力矩表

### Double Reduction Rating Table

每日 8~10 小時連續運轉並在平均負荷  
 \*applies for continuous service free from recurrent shock loading and does not exceed 10 hours per day

SIZE	RATIO	INPUT RPM	1800	1500	1200	900
34 / 60	1/200	1. Input HP (hp)	0.29	0.25	0.19	0.16
		2. Output HP (hp)	0.14	0.12	0.09	0.07
		3. Output Torque (kg-m)	11.6	11.6	11.6	11.6
		4. Output OHL (kg)	200	200	200	200
	1/300	1. Input HP (hp)	0.20	0.18	0.14	0.12
		2. Output HP (hp)	0.09	0.08	0.06	0.05
		3. Output Torque (kg-m)	11.6	11.6	11.6	11.6
		4. Output OHL (kg)	200	200	200	200
	1/400	1. Input HP (hp)	0.15	0.14	0.12	0.10
		2. Output HP (hp)	0.07	0.06	0.05	0.04
		3. Output Torque (kg-m)	11.6	11.6	11.6	11.6
		4. Output OHL (kg)	200	200	200	200
	1/500	1. Input HP (hp)	0.18	0.14	0.11	0.09
		2. Output HP (hp)	0.05	0.05	0.04	0.03
		3. Output Torque (kg-m)	11.6	11.6	11.6	11.6
		4. Output OHL (kg)	200	200	200	200
	1/600	1. Input HP (hp)	0.13	0.11	0.09	0.06
		2. Output HP (hp)	0.05	0.04	0.03	0.02
		3. Output Torque (kg-m)	11.6	11.6	11.6	11.6
		4. Output OHL (kg)	200	200	200	200
	1/800	1. Input HP (hp)	0.11	0.09	0.06	0.03
		2. Output HP (hp)	0.04	0.03	0.02	0.01
		3. Output Torque (kg-m)	11.6	11.6	11.6	11.6
		4. Output OHL (kg)	200	200	200	200
1/900	1. Input HP (hp)	0.10	0.09	0.06	0.03	
	2. Output HP (hp)	0.03	0.03	0.02	0.01	
	3. Output Torque (kg-m)	11.6	11.6	11.6	11.6	
	4. Output OHL (kg)	200	200	200	200	
SIZE	RATIO	INPUT RPM	1800	1500	1200	900
40 / 70	1/200	1. Input HP (hp)	0.57	0.49	0.40	0.32
		2. Output HP (hp)	0.30	0.25	0.20	0.16
		3. Output Torque (kg-m)	23.8	24.7	25.0	25.0
		4. Output OHL (kg)	300	300	300	300
	1/300	1. Input HP (hp)	0.42	0.35	0.29	0.22
		2. Output HP (hp)	0.21	0.17	0.14	0.10
		3. Output Torque (kg-m)	25.0	25.0	25.0	25.0
		4. Output OHL (kg)	300	300	300	300
	1/400	1. Input HP (hp)	0.34	0.29	0.23	0.19
		2. Output HP (hp)	0.16	0.13	0.10	0.08
		3. Output Torque (kg-m)	25.0	25.0	25.0	25.0
		4. Output OHL (kg)	300	300	300	300
	1/500	1. Input HP (hp)	0.28	0.25	0.20	0.16
		2. Output HP (hp)	0.12	0.10	0.08	0.06
		3. Output Torque (kg-m)	25.0	25.0	25.0	25.0
		4. Output OHL (kg)	300	300	300	300
	1/600	1. Input HP (hp)	0.24	0.22	0.18	0.14
		2. Output HP (hp)	0.10	0.09	0.07	0.05
		3. Output Torque (kg-m)	25.0	25.0	25.0	25.0
		4. Output OHL (kg)	300	300	300	300
	1/800	1. Input HP (hp)	0.21	0.16	0.14	0.12
		2. Output HP (hp)	0.08	0.06	0.05	0.04
		3. Output Torque (kg-m)	25.0	25.0	25.0	25.0
		4. Output OHL (kg)	300	300	300	300
1/900	1. Input HP (hp)	0.21	0.19	0.16	0.10	
	2. Output HP (hp)	0.07	0.06	0.05	0.03	
	3. Output Torque (kg-m)	25.0	25.0	25.0	25.0	
	4. Output OHL (kg)	300	300	300	300	

SIZE	RATIO	INPUT RPM	1800	1500	1200	900
50 / 80	1/200	1. Input HP (hp)	0.68	0.66	0.57	0.46
		2. Output HP (hp)	0.35	0.33	0.28	0.22
		3. Output Torque (kg-m)	28.2	31.7	33.7	35.0
		4. Output OHL (kg)	400	400	400	400
	1/300	1. Input HP (hp)	0.59	0.52	0.42	0.32
		2. Output HP (hp)	0.28	0.24	0.19	0.14
		3. Output Torque (kg-m)	33.7	35.0	35.0	35.0
		4. Output OHL (kg)	400	400	400	400
	1/400	1. Input HP (hp)	0.52	0.43	0.35	0.29
		2. Output HP (hp)	0.22	0.18	0.14	0.11
		3. Output Torque (kg-m)	35.0	35.0	35.0	35.0
		4. Output OHL (kg)	400	400	400	400
	1/500	1. Input HP (hp)	0.43	0.37	0.33	0.25
		2. Output HP (hp)	0.17	0.14	0.12	0.09
		3. Output Torque (kg-m)	35.0	35.0	35.0	35.0
		4. Output OHL (kg)	400	400	400	400
	1/600	1. Input HP (hp)	0.35	0.30	0.27	0.20
		2. Output HP (hp)	0.14	0.12	0.10	0.07
		3. Output Torque (kg-m)	35.0	35.0	35.0	35.0
		4. Output OHL (kg)	400	400	400	400
	1/800	1. Input HP (hp)	0.32	0.28	0.21	0.16
		2. Output HP (hp)	0.11	0.09	0.07	0.05
		3. Output Torque (kg-m)	35.0	35.0	35.0	35.0
		4. Output OHL (kg)	400	400	400	400
1/900	1. Input HP (hp)	0.29	0.24	0.18	0.16	
	2. Output HP (hp)	0.10	0.08	0.06	0.05	
	3. Output Torque (kg-m)	35.0	35.0	35.0	35.0	
	4. Output OHL (kg)	400	400	400	400	
SIZE	RATIO	INPUT RPM	1800	1500	1200	900
60 / 100	1/200	1. Input HP (hp)	1.13	0.96	0.79	0.59
		2. Output HP (hp)	0.63	0.52	0.42	0.31
		3. Output Torque (kg-m)	50.0	50.0	50.0	50.0
		4. Output OHL (kg)	450	450	450	450
	1/300	1. Input HP (hp)	0.75	0.65	0.56	0.43
		2. Output HP (hp)	0.42	0.35	0.28	0.21
		3. Output Torque (kg-m)	50.0	50.0	50.0	50.0
		4. Output OHL (kg)	450	450	450	450
	1/400	1. Input HP (hp)	0.62	0.53	0.44	0.35
		2. Output HP (hp)	0.31	0.26	0.21	0.16
		3. Output Torque (kg-m)	50.0	50.0	50.0	50.0
		4. Output OHL (kg)	450	450	450	450
	1/500	1. Input HP (hp)	0.53	0.45	0.38	0.28
		2. Output HP (hp)	0.25	0.21	0.17	0.12
		3. Output Torque (kg-m)	50.0	50.0	50.0	50.0
		4. Output OHL (kg)	450	450	450	450
	1/600	1. Input HP (hp)	0.45	0.39	0.34	0.25
		2. Output HP (hp)	0.21	0.17	0.14	0.10
		3. Output Torque (kg-m)	50.0	50.0	50.0	50.0
		4. Output OHL (kg)	450	450	450	450
	1/800	1. Input HP (hp)	0.39	0.32	0.26	0.22
		2. Output HP (hp)	0.16	0.13	0.10	0.08
		3. Output Torque (kg-m)	50.0	50.0	50.0	50.0
		4. Output OHL (kg)	450	450	450	450
1/900	1. Input HP (hp)	0.38	0.34	0.28	0.21	
	2. Output HP (hp)	0.14	0.12	0.09	0.07	
	3. Output Torque (kg-m)	50.0	50.0	50.0	50.0	
	4. Output OHL (kg)	450	450	450	450	





蝸輪雙段減速機型  
出力軸許可傳達馬力及許可扭力矩表

Double Reduction  
Rating Table

每日 8~10 小時連續運轉並在平均負荷

\*applies for continuous service free from recurrent shock loading and does not exceed 10 hours per day



SIZE	RATIO	INPUT RPM	1800	1500	1200	900
70 / 120	1/200	1. Input HP (hp)	1.84	1.66	1.37	1.06
		2. Output HP (hp)	1.05	0.88	0.70	0.53
		3. Output Torque (kg-m)	84.0	84.0	84.0	84.0
		4. Output OHL (kg)	520	520	520	520
	1/300	1. Input HP (hp)	1.40	1.20	1.00	0.76
		2. Output HP (hp)	0.70	0.58	0.47	0.35
		3. Output Torque (kg-m)	84.0	84.0	84.0	84.0
		4. Output OHL (kg)	520	520	520	520
	1/400	1. Input HP (hp)	1.10	0.93	0.75	0.58
		2. Output HP (hp)	0.53	0.44	0.35	0.26
		3. Output Torque (kg-m)	84.0	84.0	84.0	84.0
		4. Output OHL (kg)	520	520	520	520
	1/500	1. Input HP (hp)	0.87	0.83	0.70	0.53
		2. Output HP (hp)	0.42	0.35	0.28	0.21
		3. Output Torque (kg-m)	84.0	84.0	84.0	84.0
		4. Output OHL (kg)	520	520	520	520
	1/600	1. Input HP (hp)	0.81	0.69	0.57	0.44
		2. Output HP (hp)	0.35	0.29	0.23	0.17
		3. Output Torque (kg-m)	84.0	84.0	84.0	84.0
		4. Output OHL (kg)	520	520	520	520
	1/800	1. Input HP (hp)	0.63	0.58	0.44	0.36
		2. Output HP (hp)	0.26	0.22	0.17	0.13
		3. Output Torque (kg-m)	84.0	84.0	84.0	84.0
		4. Output OHL (kg)	520	520	520	520
1/900	1. Input HP (hp)	0.62	0.52	0.44	0.37	
	2. Output HP (hp)	0.23	0.19	0.15	0.12	
	3. Output Torque (kg-m)	84.0	84.0	84.0	84.0	
	4. Output OHL (kg)	520	520	520	520	
SIZE	RATIO	INPUT RPM	1800	1500	1200	900
80 / 135	1/200	1. Input HP (hp)	2.88	2.52	2.05	1.58
		2. Output HP (hp)	1.73	1.44	1.15	0.87
		3. Output Torque (kg-m)	140	140	140	140
		4. Output OHL (kg)	810	810	810	810
	1/300	1. Input HP (hp)	2.09	1.77	1.48	1.16
		2. Output HP (hp)	1.15	0.96	0.77	0.58
		3. Output Torque (kg-m)	140	140	140	140
		4. Output OHL (kg)	810	810	810	810
	1/400	1. Input HP (hp)	1.64	1.41	1.18	0.89
		2. Output HP (hp)	0.87	0.72	0.58	0.43
		3. Output Torque (kg-m)	140	140	140	140
		4. Output OHL (kg)	810	810	810	810
	1/500	1. Input HP (hp)	1.40	1.20	0.97	0.79
		2. Output HP (hp)	0.69	0.58	0.46	0.35
		3. Output Torque (kg-m)	140	140	140	140
		4. Output OHL (kg)	810	810	810	810
	1/600	1. Input HP (hp)	1.20	1.06	0.84	0.67
		2. Output HP (hp)	0.58	0.48	0.38	0.29
		3. Output Torque (kg-m)	140	140	140	140
		4. Output OHL (kg)	810	810	810	810
	1/800	1. Input HP (hp)	0.95	0.83	0.70	0.55
		2. Output HP (hp)	0.43	0.36	0.29	0.22
		3. Output Torque (kg-m)	140	140	140	140
		4. Output OHL (kg)	810	810	810	810
1/900	1. Input HP (hp)	1.10	0.96	0.81	0.66	
	2. Output HP (hp)	0.38	0.32	0.28	0.20	
	3. Output Torque (kg-m)	140	140	140	140	
	4. Output OHL (kg)	810	810	810	810	

SIZE	RATIO	INPUT RPM	1800	1500	1200	900
100 / 155	1/200	1. Input HP (hp)	4.25	3.72	3.25	2.67
		2. Output HP (hp)	2.41	2.07	1.78	1.42
		3. Output Torque (kg-m)	192	198	210	226
		4. Output OHL (kg)	1700	1700	1700	1700
	1/300	1. Input HP (hp)	3.32	2.95	2.58	2.10
		2. Output HP (hp)	1.76	1.52	1.29	1.01
		3. Output Torque (kg-m)	210	234	242	242
		4. Output OHL (kg)	1700	1700	1700	1700
	1/400	1. Input HP (hp)	2.71	2.44	2.06	1.58
		2. Output HP (hp)	1.41	1.22	1.01	0.76
		3. Output Torque (kg-m)	225	234	242	242
		4. Output OHL (kg)	1700	1700	1700	1700
	1/500	1. Input HP (hp)	2.36	2.08	1.68	1.32
		2. Output HP (hp)	1.18	1.01	0.81	0.61
		3. Output Torque (kg-m)	236	242	242	242
		4. Output OHL (kg)	1700	1700	1700	1700
	1/600	1. Input HP (hp)	2.19	1.86	1.55	1.19
		2. Output HP (hp)	1.01	0.84	0.67	0.50
		3. Output Torque (kg-m)	242	242	242	242
		4. Output OHL (kg)	1700	1700	1700	1700
	1/800	1. Input HP (hp)	1.68	1.46	1.21	0.95
		2. Output HP (hp)	0.76	0.63	0.51	0.38
		3. Output Torque (kg-m)	242	242	242	242
		4. Output OHL (kg)	1700	1700	1700	1700
1/900	1. Input HP (hp)	2.23	1.86	1.50	1.13	
	2. Output HP (hp)	0.87	0.58	0.45	0.34	
	3. Output Torque (kg-m)	242	242	242	242	
	4. Output OHL (kg)	1700	1700	1700	1700	
SIZE	RATIO	INPUT RPM	1800	1500	1200	900
120 / 175	1/200	1. Input HP (hp)	5.86	5.12	4.35	3.58
		2. Output HP (hp)	3.40	2.87	2.48	1.99
		3. Output Torque (kg-m)	271	284	296	317
		4. Output OHL (kg)	2000	2000	2000	2000
	1/300	1. Input HP (hp)	4.44	3.94	3.43	2.76
		2. Output HP (hp)	2.48	2.16	1.83	1.44
		3. Output Torque (kg-m)	298	309	327	345
		4. Output OHL (kg)	2000	2000	2000	2000
	1/400	1. Input HP (hp)	3.73	3.30	2.80	2.18
		2. Output HP (hp)	2.00	1.73	1.44	1.08
		3. Output Torque (kg-m)	318	331	345	345
		4. Output OHL (kg)	2000	2000	2000	2000
	1/500	1. Input HP (hp)	3.14	2.73	2.28	1.79
		2. Output HP (hp)	1.68	1.44	1.16	0.87
		3. Output Torque (kg-m)	334	345	345	345
		4. Output OHL (kg)	2000	2000	2000	2000
	1/600	1. Input HP (hp)	2.91	2.50	2.05	1.60
		2. Output HP (hp)	1.44	1.20	0.98	0.72
		3. Output Torque (kg-m)	345	345	345	345
		4. Output OHL (kg)	2000	2000	2000	2000
	1/800	1. Input HP (hp)	2.35	2.01	1.67	1.31
		2. Output HP (hp)	1.08	0.90	0.72	0.45
		3. Output Torque (kg-m)	345	345	345	345
		4. Output OHL (kg)	2000	2000	2000	2000
1/900	1. Input HP (hp)	3.20	2.66	2.13	1.60	
	2. Output HP (hp)	0.96	0.80	0.64	0.48	
	3. Output Torque (kg-m)	345	345	345	345	
	4. Output OHL (kg)	2000	2000	2000	2000	

# 蝸輪雙段減速機型

## 出力軸許可傳達馬力及許可扭力矩表

### Double Reduction Rating Table

每日 8~10 小時連續運轉並在平均負荷  
 \*applies for continuous service free from recurrent shock loading and does not exceed 10 hours per day

SIZE	RATIO	INPUT RPM	1800	1500	1200	900
120 / 200	1/200	1. Input HP (hp)	8.18	7.26	6.29	5.17
		2. Output HP (hp)	4.82	4.18	3.53	2.81
		3. Output Torque (kg-m)	384	369	421	448
		4. Output OHL (kg)	2200	2200	2200	2200
	1/300	1. Input HP (hp)	6.16	5.45	4.74	3.84
		2. Output HP (hp)	3.82	3.05	2.58	2.04
		3. Output Torque (kg-m)	421	437	462	488
		4. Output OHL (kg)	2200	2200	2200	2200
	1/400	1. Input HP (hp)	5.06	4.50	3.83	2.96
		2. Output HP (hp)	2.81	2.47	2.04	1.53
		3. Output Torque (kg-m)	447	471	488	488
		4. Output OHL (kg)	2200	2200	2200	2200
	1/500	1. Input HP (hp)	4.37	3.82	3.14	2.46
		2. Output HP (hp)	2.37	2.04	1.63	1.23
		3. Output Torque (kg-m)	473	488	488	488
		4. Output OHL (kg)	2200	2200	2200	2200
	1/600	1. Input HP (hp)	4.01	3.42	2.83	2.18
		2. Output HP (hp)	2.04	1.70	1.36	1.02
		3. Output Torque (kg-m)	488	488	488	488
		4. Output OHL (kg)	2200	2200	2200	2200
	1/800	1. Input HP (hp)	3.13	2.67	2.19	1.72
		2. Output HP (hp)	1.53	1.28	1.02	0.76
		3. Output Torque (kg-m)	488	488	488	488
		4. Output OHL (kg)	2200	2200	2200	2200
1/900	1. Input HP (hp)	3.32	2.87	2.39	1.85	
	2. Output HP (hp)	1.36	1.14	0.91	0.58	
	3. Output Torque (kg-m)	488	488	488	488	
	4. Output OHL (kg)	2200	2200	2200	2200	
SIZE	RATIO	INPUT RPM	1800	1500	1200	900
135 / 225	1/200	1. Input HP (hp)	11.0	9.86	8.50	7.03
		2. Output HP (hp)	6.85	5.98	5.02	4.03
		3. Output Torque (kg-m)	545	571	599	642
		4. Output OHL (kg)	2500	2500	2500	2500
	1/300	1. Input HP (hp)	8.65	7.65	6.85	5.37
		2. Output HP (hp)	5.02	4.35	3.66	2.89
		3. Output Torque (kg-m)	599	623	655	690
		4. Output OHL (kg)	2500	2500	2500	2500
	1/400	1. Input HP (hp)	7.19	6.39	5.39	4.18
		2. Output HP (hp)	4.03	3.49	2.89	2.17
		3. Output Torque (kg-m)	642	666	690	690
		4. Output OHL (kg)	2500	2500	2500	2500
	1/500	1. Input HP (hp)	6.27	5.43	4.44	3.46
		2. Output HP (hp)	3.40	2.89	2.31	1.73
		3. Output Torque (kg-m)	676	690	690	690
		4. Output OHL (kg)	2500	2500	2500	2500
	1/600	1. Input HP (hp)	5.64	4.83	4.02	3.10
		2. Output HP (hp)	2.89	2.41	1.93	1.45
		3. Output Torque (kg-m)	690	690	690	690
		4. Output OHL (kg)	2500	2500	2500	2500
	1/800	1. Input HP (hp)	4.42	3.79	3.15	2.46
		2. Output HP (hp)	2.17	1.80	1.45	1.08
		3. Output Torque (kg-m)	690	690	690	690
		4. Output OHL (kg)	2500	2500	2500	2500
1/900	1. Input HP (hp)	4.21	3.63	3.10	2.43	
	2. Output HP (hp)	1.82	1.61	1.28	0.96	
	3. Output Torque (kg-m)	690	690	690	690	
	4. Output OHL (kg)	2500	2500	2500	2500	

SIZE	RATIO	INPUT RPM	1800	1500	1200	900
155 / 250	1/200	1. Input HP (hp)	14.0	12.6	10.8	8.93
		2. Output HP (hp)	8.71	7.74	6.48	5.18
		3. Output Torque (kg-m)	693	739	774	825
		4. Output OHL (kg)	2700	2700	2700	2700
	1/300	1. Input HP (hp)	11.0	9.74	8.50	6.94
		2. Output HP (hp)	6.48	5.60	4.75	3.56
		3. Output Torque (kg-m)	774	803	850	850
		4. Output OHL (kg)	2700	2700	2700	270
	1/400	1. Input HP (hp)	9.16	8.09	6.60	5.09
		2. Output HP (hp)	5.18	4.45	3.56	2.67
		3. Output Torque (kg-m)	824	850	850	850
		4. Output OHL (kg)	2700	2700	2700	2700
	1/500	1. Input HP (hp)	7.62	6.47	5.28	4.10
		2. Output HP (hp)	4.27	3.56	2.85	2.14
		3. Output Torque (kg-m)	850	850	850	850
		4. Output OHL (kg)	2700	2700	2700	2700
	1/600	1. Input HP (hp)	6.93	5.97	4.88	3.81
		2. Output HP (hp)	3.56	2.97	2.37	1.78
		3. Output Torque (kg-m)	850	850	850	850
		4. Output OHL (kg)	2700	2700	2700	2700
	1/800	1. Input HP (hp)	5.40	4.64	3.82	3.01
		2. Output HP (hp)	2.67	2.23	1.78	1.34
		3. Output Torque (kg-m)	850	850	850	850
		4. Output OHL (kg)	2700	2700	2700	2700
1/900	1. Input HP (hp)	5.31	4.56	3.74	2.97	
	2. Output HP (hp)	2.37	1.98	1.58	1.19	
	3. Output Torque (kg-m)	850	850	850	850	
	4. Output OHL (kg)	2700	2700	2700	2700	
SIZE	RATIO	INPUT RPM	1800	1500	1200	900
175 / 300	1/200	1. Input HP (hp)	15.8	13.9	12.0	9.9
		2. Output HP (hp)	9.7	8.4	7.1	5.7
		3. Output Torque (kg-m)	1012	1059	1122	1195
		4. Output OHL (kg)	3800	3800	3800	3800
	1/300	1. Input HP (hp)	12.3	10.9	9.1	7.1
		2. Output HP (hp)	7.1	6.2	5.1	3.8
		3. Output Torque (kg-m)	1122	1170	1200	1200
		4. Output OHL (kg)	3800	3800	3800	3800
	1/400	1. Input HP (hp)	10.2	8.6	7.0	5.5
		2. Output HP (hp)	5.7	4.7	3.8	2.8
		3. Output Torque (kg-m)	1197	1200	1200	1200
		4. Output OHL (kg)	3800	3800	3800	3800
	1/500	1. Input HP (hp)	8.2	7.0	5.7	4.5
		2. Output HP (hp)	4.4	3.7	3.0	2.2
		3. Output Torque (kg-m)	1200	1200	1200	1200
		4. Output OHL (kg)	3800	3800	3800	3800
	1/600	1. Input HP (hp)	7.5	6.4	5.2	4.1
		2. Output HP (hp)	3.8	3.2	2.5	1.9
		3. Output Torque (kg-m)	1200	1200	1200	1200
		4. Output OHL (kg)	3800	3800	3800	3800
	1/800	1. Input HP (hp)	5.9	5.0	4.1	3.2
		2. Output HP (hp)	2.8	2.4	1.9	1.4
		3. Output Torque (kg-m)	1200	1200	1200	1200
		4. Output OHL (kg)	3800	3800	3800	3800
1/900	1. Input HP (hp)	5.7	4.9	4.0	3.2	
	2. Output HP (hp)	2.5	2.1	1.7	1.3	
	3. Output Torque (kg-m)	1200	1200	1200	1200	
	4. Output OHL (kg)	3800	3800	3800	3800	



## 蝸輪雙段減速機型

出力軸許可傳達馬力及許可扭力矩表

### Double Reduction Rating Table

SIZE	RATIO	INPUT RPM	1800	1500	1200	900
200 / 350	1/200	1. Input HP (hp)	24.5	21.6	17.9	13.8
		2. Output HP (hp)	15.2	13.2	10.7	8.0
		3. Output Torque (kg-m)	1700	1773	1800	1800
		4. Output OHL (kg)	5100	5100	5100	5100
	1/300	1. Input HP (hp)	18.3	15.5	12.6	9.8
		2. Output HP (hp)	10.7	8.9	7.2	5.4
		3. Output Torque (kg-m)	1800	1800	1800	1800
		4. Output OHL (kg)	5100	5100	5100	5100
	1/400	1. Input HP (hp)	14.6	12.4	10.1	7.9
		2. Output HP (hp)	8.3	6.9	5.5	4.2
		3. Output Torque (kg-m)	1800	1800	1800	1800
		4. Output OHL (kg)	5100	5100	5100	5100
	1/500	1. Input HP (hp)	12.0	10.2	8.5	6.5
		2. Output HP (hp)	6.7	5.5	4.4	3.3
		3. Output Torque (kg-m)	1800	1800	1800	1800
		4. Output OHL (kg)	5100	5100	5100	5100
	1/600	1. Input HP (hp)	10.5	8.9	7.2	5.7
		2. Output HP (hp)	5.4	4.5	3.6	2.7
		3. Output Torque (kg-m)	1800	1800	1800	1800
		4. Output OHL (kg)	5100	5100	5100	5100
1/800	1. Input HP (hp)	8.4	7.1	5.9	4.6	
	2. Output HP (hp)	4.2	3.5	2.8	2.1	
	3. Output Torque (kg-m)	1800	1800	1800	1800	
	4. Output OHL (kg)	5100	5100	5100	5100	
1/900	1. Input HP (hp)	7.8	6.7	5.5	4.3	
	2. Output HP (hp)	3.7	3.1	2.5	1.8	
	3. Output Torque (kg-m)	1800	1800	1800	1800	
	4. Output OHL (kg)	5100	5100	5100	5100	

每日8~10小時連續運轉並在平均負荷  
\*applies for continuous service free from recurrent shock loading and does not exceed 10 hours per day

SIZE	RATIO	INPUT RPM	1800	1500	1200	900
225 / 400	1/200	1. Input HP (hp)	32.9	28.8	25.0	20.1
		2. Output HP (hp)	20.7	18.0	15.3	11.9
		3. Output Torque (kg-m)	2239	2342	2482	2580
		4. Output OHL (kg)	7000	7000	7000	7000
	1/300	1. Input HP (hp)	25.5	22.4	18.2	14.1
		2. Output HP (hp)	15.3	13.2	10.6	7.9
		3. Output Torque (kg-m)	2482	2580	2580	2580
		4. Output OHL (kg)	7000	7000	7000	7000
	1/400	1. Input HP (hp)	20.6	17.4	14.2	11.1
		2. Output HP (hp)	11.9	9.9	7.9	6.0
		3. Output Torque (kg-m)	2580	2580	2580	2580
		4. Output OHL (kg)	7000	7000	7000	7000
	1/500	1. Input HP (hp)	16.8	14.3	11.7	9.1
		2. Output HP (hp)	9.5	7.9	6.4	4.8
		3. Output Torque (kg-m)	2580	2580	2580	2580
		4. Output OHL (kg)	7000	7000	7000	7000
	1/600	1. Input HP (hp)	14.9	12.6	10.3	8.0
		2. Output HP (hp)	7.9	6.6	5.3	4.0
		3. Output Torque (kg-m)	2580	2580	2580	2580
		4. Output OHL (kg)	7000	7000	7000	7000
1/800	1. Input HP (hp)	11.8	10.0	8.2	6.4	
	2. Output HP (hp)	6.0	5.0	4.0	3.0	
	3. Output Torque (kg-m)	2580	2580	2580	2580	
	4. Output OHL (kg)	7000	7000	7000	7000	
1/900	1. Input HP (hp)	11.5	9.8	8.1	6.3	
	2. Output HP (hp)	5.5	4.6	3.7	2.7	
	3. Output Torque (kg-m)	2580	2580	2580	2580	
	4. Output OHL (kg)	7000	7000	7000	7000	

### 重要說明 (IMPORTANT NOTICE)

為降低蝸桿牙口和蝸輪齒部嚙合時之集中磨耗，本公司產品中下列型號 (SIZE) 之實際速比，採用「追逐輪齒」(Hunting Tooth) 速比設計為非整數比，敬請用戶注意。

1. 型號 (SIZE) 50, 60, 70, 100, 120, 135, 155, 175 及 225 型之速比 10:1，其實際速比為 10.3333:1 (RATIO 10:1, Actual ratio is 10.3333:1)。80 型為正速比 10:1 (RATIO 10:1)。
2. 型號 (SIZE) 50, 60, 70, 80, 100, 120, 135, 155 及 175 型之速比 20:1，其實際速比為 20.5:1 (RATIO 20:1, Actual ratio is 20.5:1)。
3. 型號 (SIZE) 50、60 及 70 型之速比 5:1，其實際速比為 5.25:1 (RATIO 5:1, Actual ratio is 5.25:1)，40 型為正速比 5:1 (Ratio 5:1)。



# Compact Helical Gear Motor

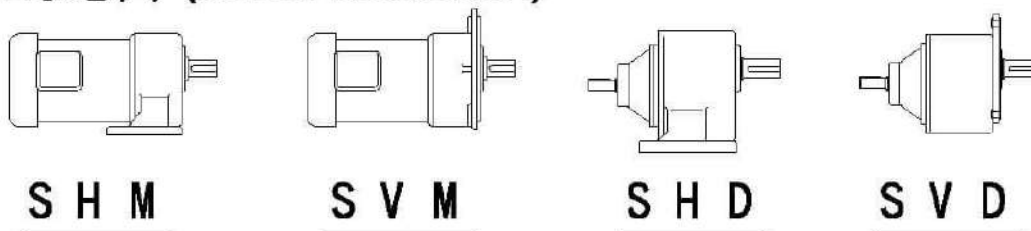
## 小型齒輪減速馬達之型號編碼說明：

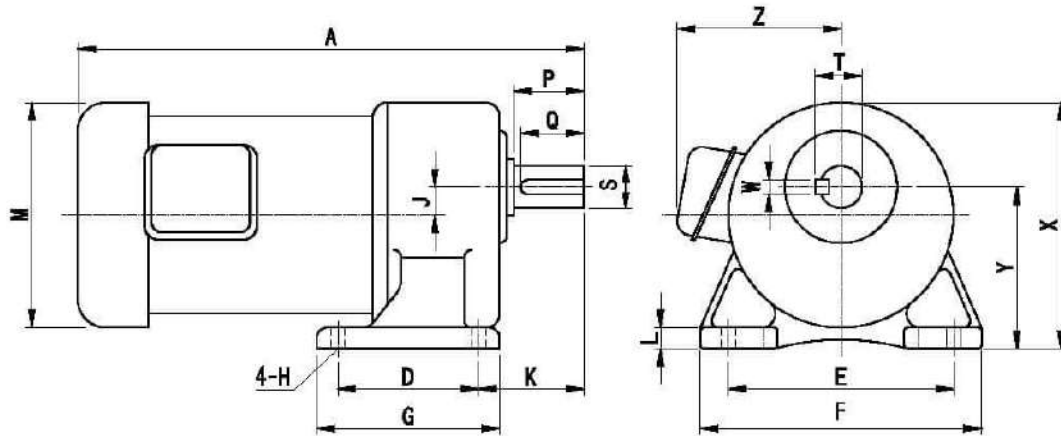


### Motor & Brake

PHASE	HP (4P)	VOLT	Hz	RATING			CLASS	Kgf·m	Release Time (sec)		Adjust Gap (mm)		With Brake		
				R. P. M	AMP'S	Kg·m			AC Switch	DC Switch	Specified Value	Boundary Value	Brake Volt	In/Out Volt	Operation Times
3	1/8	240/480	60	1650	0.7	0.06	E	0.1	0.1	0.06	0.3	0.7	DC90V AC220 240V	10/min	
	1/4	240/480	60	1650	1.0	0.110	E	0.2	0.07	0.03	0.3	0.7			
	1/2	240/480	60	1680	1.9	0.216	E	0.4	0.10	0.03	0.3	0.7			
	1	240/480	60	1700	3.4	0.427	E	0.8	0.12	0.05	0.4	1.0			
	2	240/480	60	1710	6.1	0.849	E	1.6	0.14	0.05	0.4	1.0			
	3	240/480	60	1725	8.7	1.262	E	2.5	0.15	0.03	0.4	1.0			
1	1/8	120/240	60	1730	2	0.06	E	0.1	0.1	0.06	0.3	0.7	DC90V AC100 110V	10/min	
	1/4	120/240	60	1730	4.7	0.110	E	0.2	0.07	0.03	0.3	0.7			
	1/2	120/240	60	1750	7.5	0.216	E	0.4	0.10	0.03	0.3	0.7			
	1	120/240	60	1740	14	0.427	E	0.8	0.12	0.15	0.4	1.0			

### 機型示意圖 (Model Illustration)





UNIT: mm

馬力 HP	減速比 Gear Ratio	型號 Size	A	D	E	G	F	H	L	J	K	M	X	Y	Z	出力軸端 OUTPUT SHAFT END				
																P	Q	S	T	W
0.1KW 1/8HP-4P	5-50	18	245 (270)	40	110	85	135	10	10	14	50	128	130	85	115	30	27	18	20	5
	60-200	22	245 (270)	65	130	90	166	11	13	18	65	126	136	90	116	40	36	22	25	7
	250-1800	28	340 (385)	80	140	120	170	11	14	22	65	126	164	110	115	45	40	28	31	7
0.2KW 1/4HP-4P	5-10	18	280 (305)	40	110	85	135	10	10	14	50	126	130	85	116	30	27	18	20	5
	15-90	22	300 (325)	65	130	90	166	11	13	18	55	126	135	90	115	40	35	22	25	7
	100-200	28	335 (360)	90	140	120	170	11	14	22	65	126	164	110	116	45	40	28	31	7
	250-1800	32	405 (430)	130	170	167	208	13	17	27	73	126	197	130	115	55	50	32	35.5	10
0.4KW 1/2HP-4P	5-10	22	325 (375)	65	130	90	166	11	13	18	65	142	136	90	120	40	36	22	25	7
	15-90	28	360 (410)	90	140	120	170	11	14	22	65	142	164	110	120	45	40	28	31	7
	100-200	32	390 (440)	130	170	167	208	13	17	27	73	142	197	130	120	55	50	32	35.5	10
	250-1800	40	480 (530)	150	210	198	252	15	18	32.5	93	142	227	150	120	65	60	40	43.5	10
0.75KW 1HP-4P	5-25	28	375 (425)	90	140	120	170	11	14	22	65	156	164	110	130	45	40	28	31	7
	30-120	32	410 (460)	130	170	167	208	13	17	27	73	156	197	130	130	55	50	32	35.5	10
	125-200	40	450 (500)	160	210	198	252	15	18	32.5	93	156	227	150	130	65	60	40	43.5	10
	250-1800	50	570 (620)	180	230	201	291	18	25	40	100	156	267	170	130	75	70	50	53.5	14
1.5KW 2HP-4P	5-30	32	420 (470)	130	170	167	208	13	17	27	73	179	197	130	145	65	60	32	35.5	10
	40-100	40	480 (510)	150	210	198	252	15	18	32.5	93	179	227	150	145	65	60	40	43.5	10
	120-200	40	470 (520)	150	210	198	252	15	18	32.5	93	179	227	150	145	65	60	40	43.5	10
	250-900	50	580 (630)	180	230	201	291	18	25	40	100	179	267	170	145	75	70	50	53.5	14
2.2KW 3HP-4P	5-30	40	475 (525)	150	210	198	252	15	18	32.5	93	179	227	150	160	65	60	40	43.5	10
	40-120	50	485 (535)	180	230	201	291	18	25	40	100	179	267	170	160	75	70	50	53.5	14
3.7KW 5HP-4P	5-30	50	610 (660)	180	230	201	291	18	25	40	100	208	267	170	160	75	70	50	53.5	14

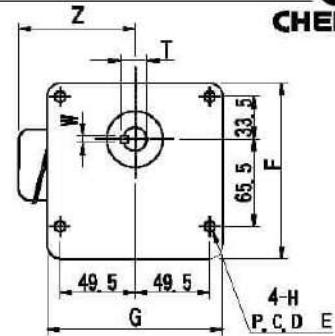
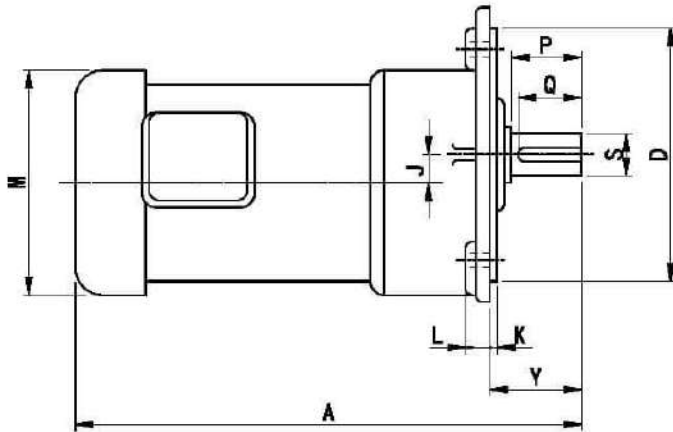


FIG 1

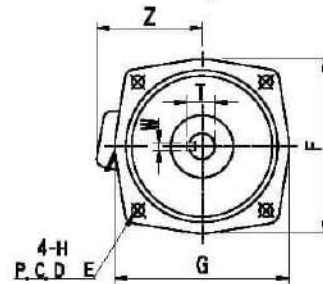
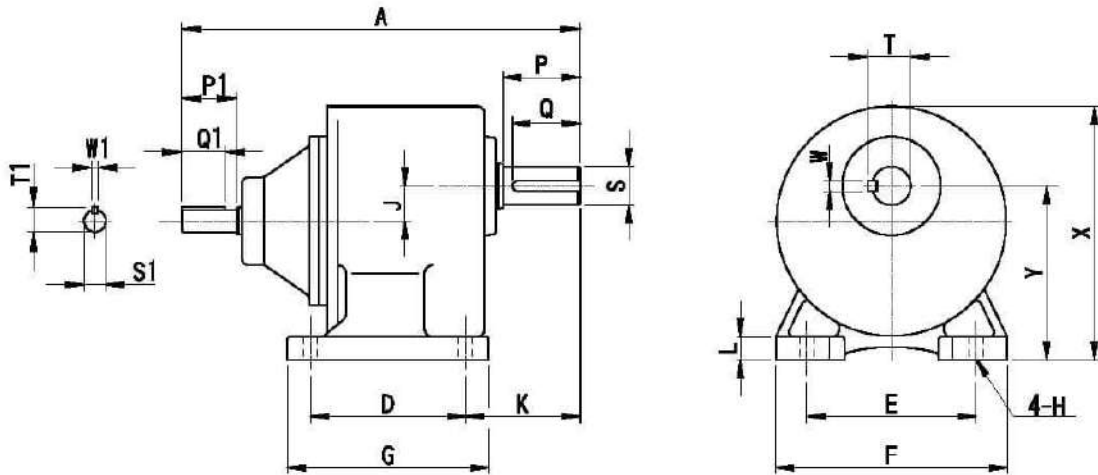


FIG 2

UNIT : mm

馬力 HP	減速比 Gear Ratio	型號 Size	A	D	E	G	F	H	L	J	K	M	X	Y	Z	出力軸端 OUTPUT SHAFT END					Flange
																P	Q	S	T	W	
0.1KW 1/8HP-4P	5-50	18	280 (280)	50	140	120	120	10	13	16	4	126	-	36	115	30	27	18	20	5	FIG.1
	60-200	22	290 (310)	148	185	165	165	11	12	18	4	126	-	46	115	40	35	22	25	7	FIG.2
	250-1800	28	340 (365)	170	215	193	188	11	14	22	4	126	-	52	115	45	40	28	31	7	FIG.2
0.2KW 1/4HP-4P	5-10	18	280 (320)	50	140	120	120	10	13	14	4	126	-	36	115	30	27	18	20	5	FIG.1
	15-90	22	310 (340)	148	185	185	185	11	12	18	4	126	-	46	115	40	35	22	25	7	FIG.2
	100-200	28	325 (352)	170	215	193	195	11	14	22	4	126	-	52	115	45	40	28	31	7	FIG.2
	250-1800	32	435 (450)	180	250	215	230	13	15	27	4	126	-	82	115	55	50	32	35.5	10	FIG.2
0.4KW 1/2HP-4P	5-10	22	330 (360)	148	185	185	185	11	12	18	4	142	-	48	120	40	35	22	25	7	FIG.2
	15-90	28	332 (364)	170	215	193	198	11	14	22	4	142	-	52	120	45	40	28	31	7	FIG.2
	100-200	32	395 (445)	180	250	215	230	13	15	27	5	142	-	82	120	55	50	32	35.5	10	FIG.2
	250-1800	40	480 (580)	230	310	285	285	15	20	32.5	5	142	-	72	120	65	60	40	43.5	10	FIG.2
0.75KW 1HP-4P	5-25	28	371 (396)	170	215	193	198	11	14	22	4	156	-	52	130	45	40	28	31	7	FIG.2
	30-120	32	410 (480)	180	250	215	230	13	15	27	5	156	-	82	130	55	50	32	35.5	10	FIG.2
	125-200	40	485 (505)	230	310	285	285	15	20	32.5	5	156	-	72	130	65	60	40	43.5	10	FIG.2
	250-1800	50	570 (620)	270	360	300	325	22	22	40	5	156	-	83	130	75	70	50	53.5	14	FIG.2
1.5KW 2HP-4P	5-30	32	420 (470)	180	250	215	230	13	15	27	5	179	-	82	145	55	50	32	35.5	10	FIG.2
	40-100	40	460 (510)	230	310	285	285	15	20	32.5	5	179	-	72	145	65	60	40	43.5	10	FIG.2
	120-200	40	470 (520)	230	310	285	285	15	20	32.5	5	179	-	72	145	65	60	40	43.5	10	FIG.2
	250-900	50	580 (630)	270	360	300	325	22	22	40	5	179	-	83	145	75	70	60	53.5	14	FIG.2
2.2KW 3HP-4P	5-30	40	475 (525)	230	310	285	285	15	20	32.5	5	179	-	72	180	65	60	40	43.5	10	FIG.2
	40-120	50	485 (535)	270	360	300	325	22	22	40	5	179	-	83	180	75	70	60	53.5	14	FIG.2
3.7KW 5HP-4P	5-30	50	610 (680)	270	360	300	325	22	22	40	5	208	-	83	180	75	70	50	53.5	14	FIG.2



UNIT : mm

馬力 HP	減速比 Gear Ratio	型號 Size	A	D	E	G	F	H	L	J	K	X	Y	入力軸端 INPUT SHAFT END					出力軸端 OUTPUT SHAFT END				
														P1	Q1	S1	T1	W1	P	Q	S	T	W
1/8HP	5-50	18	166	40	110	65	135	10	10	14	50	130	85	25	22	11 (14)	13.5 (17)	4 (5)	30	27	18	20	5
	60-200	22	193	65	130	90	156	11	13	18	55	135	90	25	22	11 (14)	13.5 (17)	4 (5)	40	35	22	25	7
	250-1800	28	259	90	140	120	170	11	14	22	65	164	110	25	22	11 (14)	13.5 (17)	4 (5)	45	40	28	31	7
1/4HP	5-10	18	166	40	110	65	135	10	10	14	50	130	85	25	22	11 (14)	13.5 (17)	4 (5)	30	27	18	20	5
	15-90	22	193	65	130	90	156	11	13	18	55	135	90	25	22	11 (14)	13.5 (17)	4 (5)	40	35	22	25	7
	100-200	28	204	90	140	120	170	11	14	22	65	164	110	25	22	11 (14)	13.5 (17)	4 (5)	45	40	28	31	7
1/2HP	260-1800	32	288	130	170	167	208	13	17	27	73	197	130	25	22	11 (14)	13.5 (17)	4 (5)	56	50	32	35.5	10
	5-10	22	201	65	130	90	156	11	13	18	55	135	90	30	27	14	17	5	40	35	22	25	7
	15-90	28	219	90	140	120	170	11	14	22	65	164	110	30	27	14	17	5	45	40	28	31	7
	100-200	32	241	130	170	167	208	13	17	27	73	197	130	30	27	14	17	5	55	50	32	35.5	10
1HP	260-1800	40	243	150	210	198	252	15	18	32.5	93	227	150	30	27	14	17	5	66	60	40	43.5	10
	5-25	28	226	90	140	120	170	11	14	22	65	164	110	35	32	19	22	6	45	40	28	31	7
	30-120	32	260	130	170	167	208	13	17	27	73	197	130	35	32	19	22	6	56	50	32	35.5	10
	125-200	40	266	150	210	198	252	15	18	32.5	93	227	150	35	32	19	22	6	65	60	40	43.5	10
2HP	260-1800	50	400	160	230	210	291	18	25	40	100	267	170	35	32	19	22	6	75	70	50	53.5	14
	5-30	32	275	130	170	167	208	13	17	27	73	197	130	40	35	24	28	8	55	50	32	35.5	10
	40-100	40	312	150	210	198	252	15	18	32.5	93	227	150	40	35	24	28	8	65	60	40	43.5	10
	120-200	40	312	150	210	198	252	15	18	32.5	93	227	150	40	35	24	28	8	65	60	40	43.5	10
3HP	260-900	50	420	160	230	201	291	18	25	40	100	267	170	40	35	24	28	8	75	70	50	53.5	14
	5-30	40	316	160	230	198	252	15	18	32.5	93	227	150	45	40	28	32	8	65	60	40	43.5	10
5HP	40-120	50	318	270	380	201	291	18	25	40	100	267	170	45	40	28	32	8	75	70	50	53.5	14
	5-30	50	316	270	380	201	291	18	25	40	100	267	170	45	40	28	32	8	75	70	50	53.5	14

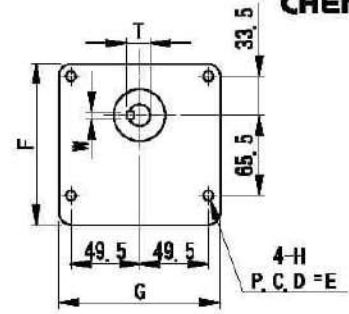
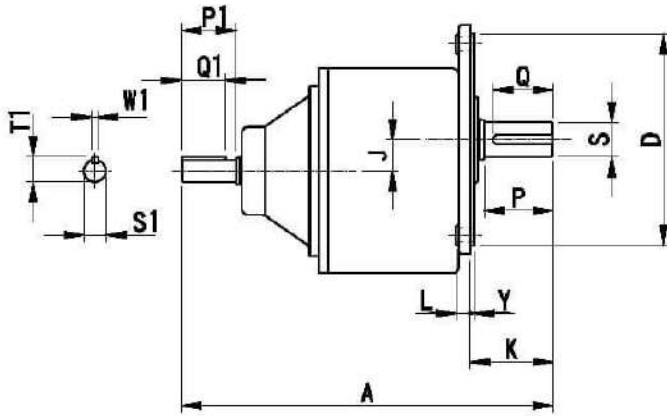


FIG 1

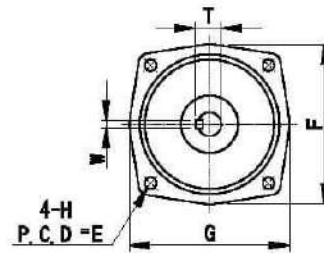


FIG 2

UNIT : mm

馬力 HP	減速比 Gear Ratio	型號 Size	A	D	E	G	F	H	L	J	Y	K	入力軸端 INPUT SHAFT END				出力軸端 OUTPUT SHAFT END					
													P1	Q1	S1	T1	W1	P	Q	S	T	W
1/8HP	5-50	18	188	50	140	120	120	10	13	16	4	38	25	22	11 (14)	13.5	4 (5)	30	27	18	20	5
	60-200	22	193	148	185	185	185	11	12	18	4	46	25	22	11 (14)	13.5	4 (5)	40	35	22	25	7
	250-1800	28	259	170	215	193	198	11	14	22	4	52	25	22	11 (14)	13.5	4 (5)	45	40	28	31	7
1/4HP	5-10	18	166	50	140	120	120	10	13	14	4	36	25	22	11 (14)	13.5	4 (5)	30	27	18	20	5
	15-90	22	193	148	185	185	185	11	12	18	4	46	25	22	11 (14)	13.5	4 (5)	40	35	22	25	7
	100-200	28	204	170	215	193	198	11	14	22	4	52	25	22	11 (14)	13.5	4 (5)	45	40	28	31	7
	250-1800	32	288	180	250	215	230	13	15	27	5	62	25	22	11 (14)	13.5	4 (5)	55	50	32	35.5	10
1/2HP	5-10	22	201	148	185	185	185	11	12	18	4	46	30	27	14	17	5	40	35	22	25	7
	15-90	28	219	170	215	193	198	11	14	22	4	52	30	27	14	17	5	45	40	28	31	7
	100-200	32	241	180	250	215	230	13	15	27	5	62	30	27	14	17	5	55	50	32	35.5	10
	250-1800	40	343	230	310	285	285	15	20	32.5	5	72	30	27	14	17	5	65	60	40	43.5	10
1HP	5-25	28	228	170	215	193	198	11	14	22	4	52	35	32	19	22	6	45	40	28	31	7
	30-120	32	280	180	250	215	230	13	15	27	5	62	35	32	19	22	6	55	50	32	35.5	10
	125-200	40	286	230	310	285	285	15	20	32.5	5	72	35	32	19	22	6	65	60	40	43.5	10
	250-1800	50	400	270	360	300	325	22	22	40	5	83	35	32	19	22	6	75	70	50	53.5	14
2HP	5-30	32	275	180	250	215	230	13	15	27	5	62	40	35	24	28	8	55	50	32	35.5	10
	40-100	40	312	230	310	285	285	15	20	32.5	5	72	40	35	24	28	8	65	60	40	43.5	10
	120-200	40	312	230	310	285	285	15	20	32.5	5	72	40	35	24	28	8	65	60	40	43.5	10
	250-800	50	420	270	360	300	325	22	22	40	5	83	40	35	24	28	8	75	70	50	53.5	14
3HP	5-30	40	318	230	310	285	285	15	20	32.5	5	72	45	40	28	32	8	65	60	40	43.5	10
	40-120	50	318	270	360	300	325	22	22	40	5	83	45	40	28	32	8	75	70	50	53.5	14
5HP	5-30	50	425	270	360	300	325	22	22	40	5	83	45	40	28	32	8	75	70	50	53.5	14

## Selection Table of HP &amp; Type (小型減速馬達及速比搭配型號之選配)

Input HP (4P)	Ratio	Type
1/8 (0.1KW)	5	18
	10	
	15	
	20	
	25	
	30	
	40	22
	50	
	60	
	80	
	100	
	120	
	160	
	200	
	300	
375		
450		

Input HP (4P)	Ratio	Type	
1 (0.75KW)	5	28	
	10		
	15		
	20		
	25		
	30		
	40	32	
	50		
	60		
	80		
	100		
	120		
	160		
	200		40

Input HP (4P)	Ratio	Type	
1/4 (0.2KW)	5	18	
	10		
	15		
	20		
	25		
	30		
	40	22	
	50		
	60		
	80		
	100		
	120		
	160		
	200		28
	300		
375			
450	32		

Input HP (4P)	Ratio	Type
2 (1.5KW)	5	32
	10	
	15	
	20	
	25	
	30	
	40	40
	50	
	60	
	80	
	100	

Input HP (4P)	Ratio	Type	
1/2 (0.4KW)	5	22	
	10		
	15		
	20		
	25		
	30		
	40	28	
	50		
	60		
	80		
	100		
	120		
	160		
	200		32
	300		
375			
450	40		

Input HP (4P)	Ratio	Type
3 (2.2KW)	5	32
	10	
	15	40
	20	
	25	
	30	
	40	
	50	
	60	

Type Selection Table 型號選擇對照表

INPUT RPM: 1750, Permissible Transmission Horsepower and Torque on Output Shaft

入力1750RPM : 出力軸許可傳達馬力及許可扭力矩表

型號 Size	功率 Kw	減速比 Gear Ratio	輸出軸轉速 Output Shaft R.P.M		輸出軸轉矩 Output Torque (Kg-M)		重量 Wt (Kg)	輸出軸徑 Output Shaft Dia.	功率 Kw	減速比 Gear Ratio	輸出軸轉速 Output Shaft R.P.M		輸出軸轉矩 Output Torque (Kg-M)		重量 Wt (Kg)
			50HZ	60HZ	50HZ	60HZ					50HZ	60HZ			
18	0.1 1/8 HP-4P	1/5	300	360	0.28	0.24	20	32	0.4 1/2 HP-4P	1/160	9.4	11.2	37.45	31.2	510
		1/10	150	180	0.58	0.47	50			1/200	7.5	9	44	39.4	520
		1/15	100	120	0.85	0.71	75			1/30	50	60	13.8	11.4	350
		1/20	75	92	1.1	0.94	105			1/40	37.5	45	18.3	15.2	425
		1/25	60	72	1.4	1.2	120			1/50	30	36	22.7	18.9	500
		1/30	50	60	1.7	1.4	135			1/60	25	30	27.8	23.2	560
		1/40	37.5	45	2.3	1.9	150			1/80	18.8	22.5	35.7	30.5	595
	0.2 1/4 HP-4P	1/50	30	36	2.5	2.4	160		1/100	15	18	38.7	31.5	750	
		1/60	25	30	3.36	2.82	165		1/5	300	360	4.7	3.9	170	
		1/5	300	360	0.57	0.48	25		1/10	150	180	9.4	7.8	250	
		1/10	150	180	1.1	0.96	55		1/15	100	120	14.3	11.9	370	
		1/15	100	120	1.7	1.4	80		1/20	75	90	19	15.8	410	
		1/20	75	90	2.3	1.9	110		1/25	60	72	23.4	19.7	470	
		1/25	60	72	2.9	2.4	120		40	0.1 1/8 HP-4P	1/800	2.5	3	70	68.2
0.1 1/8 HP-4P	1/60	25	30	3.3	2.7	165	1/750	2			2.4	87.3	72.8	820	
	1/80	18.8	22.5	4.5	3.8	170	1/900	1.7			2	104.8	87.3	1150	
	1/100	15	18	5.6	4.7	175	1/1200	1.3			1.5	139.7	116	1530	
	1/120	12.5	15	6.6	5.5	230	1/300	5			6	61.2	51.1	650	
	1/160	9.4	11.2	9.2	7.7	280	0.2 1/4 HP-4P	1/375			4	4.8	76.5	63.9	700
	1/200	7.5	9	11.2	9.4	320		1/450		3.3	4	78.4	75.8	770	
0.2 1/4 HP-4P	1/30	50	60	3.4	2.9	155		1/100		15	18	44.8	37.1	750	
	1/40	37.5	45	4.6	3.8	160		1/120		12.5	15	55.1	45.8	840	
	1/50	30	36	5.7	4.7	165		0.75 1/2 HP-4P		1/160	9.4	11.2	70.2	58.5	950
	1/60	25	30	7.0	5.9	170				1/200	7.5	9	78.4	75.2	1050
	1/80	18.8	22.5	9.3	7.7	175	1/30			50	60	27.4	22.8	520	
	1/100	15	18	9.6	7.9	180	1/40			37.5	45	36.9	30.7	630	
0.4 1/2 HP-4P	1/5	300	360	1.3	1	40	1/50			30	36	45.6	38	750	
	1/10	150	180	2.4	2	80	1/60		25	30	54.8	45.6	880		
	1/15	100	120	3.7	3.1	110	1/80	18.8	22.5	72.2	60.1	1010			
	1/20	75	90	4.9	4.1	140	1/100	15	18	74.5	61.9	1160			
	1/25	60	72	6.1	5.1	150	1.5 2 HP-4P	1/5	300	360	7	5.8	210		
	0.1 1/8 HP-4P	1/300	5	6	17.4	14.6		260	1/10	150	180	14	11.7	320	
1/375		4	4.8	21.8	18.1	336		2.2 3 HP-4P	1/15	100	120	20.8	17.3	430	
1/450		3.3	4	26.2	21.8	408			1/20	75	90	28.3	23.5	515	
1/100		15	18	11.4	9.5	250			1/25	60	72	33.5	28	615	
1/120		12.5	15	14.1	11.8	265			26	0.1 1/8 HP-4P	1/300	5	6	17.4	14.6
0.2 1/4 HP-4P		1/160	9.4	11.2	18.3	15.3	275				1/375	4	4.8	21.8	18.1
	1/200	7.5	9	23.1	19.3	280	1/450				3.3	4	26.2	21.8	408
	0.4 1/2 HP-4P	1/30	50	60	7.1	5.9	220	1/100			15	18	11.4	9.5	250
		1/40	37.5	45	9.6	8	265	1/120			12.5	15	14.1	11.8	265
		1/50	30	36	12.1	10.1	330	1/160			9.4	11.2	18.3	15.3	275
		1/60	25	30	14.2	11.8	360	1/200		7.5	9	23.1	19.3	280	
1/80		18.8	22.5	18.1	15.9	430	0.75 1/2 HP-4P	1/30		50	60	7.1	5.9	220	
1/100		15	18	19.7	16.4	505		1/40		37.5	45	9.6	8	265	
0.1 1/8 HP-4P	1/5	300	360	2.4	2	88		1/50		30	36	14.2	11.8	360	
	1/10	150	180	4.8	4	170		1/60		25	30	17.3	14.4	430	
	1/15	100	120	7.1	5.9	195		1/80		18.8	22.5	19.1	15.9	430	
	1/20	75	90	9.4	7.8	260		1/100		15	18	19.7	16.4	505	
	1/25	60	72	11.7	9.7	320	0.1 1/8 HP-4P	1/5		300	360	2.4	2	88	
	0.2 1/4 HP-4P	1/160	9.4	11.2	28.4	23.8		520	1/10	150	180	4.8	4	170	
1/750		2	2.4	36	30.3	590		1/15	100	120	7.1	5.9	195		
1/900		1.7	2	44	36.3	720		1/20	75	90	9.4	7.8	260		
1/1200		1.3	1.5	69.3	58	1020		1/25	60	72	11.7	9.7	320		
0.2 1/4 HP-4P		1/300	5	6	30.2	25.3		500	1/60	25	30	14.2	11.8	360	
		1/375	4	4.8	38.8	32.4	630	1/80	18.8	22.5	18.1	15.9	430		
	1/450	3.3	4	44	36.4	740	1/100	15	18	19.7	16.4	505			
	0.4 1/2 HP-4P	1/100	15	18	23.6	19.7	470	1/5	300	360	2.4	2	88		
		1/120	12.5	15	28.96	24.1	480	1/10	150	180	4.8	4	170		

單位：扭力 kg-m  
 \* UNIT: TORQUE: kg-m  
 OVERHUNG LOAD (OHL): kg  
 \* Applies for continuous service free from recurrent shock loading and does not exceed 10 hours per day, 1KG-M-88, 7961N-LB  
 每日 8~10 小時連續運轉並在平均負荷  
 \* Service Factor: 1.0  
 操作係數：1.0



## 選訂方法／範例說明

### 入力軸迴轉數

以聯結器直結或以皮帶傳動時之入力軸迴轉數，一般為1,800~800 rpm。本公司之標準齒輪減速機規定周速度為10 m/sec 以內，入力軸迴轉數最高為2,000rpm。

600rpm以下之低轉速，尤其100rpm以下時，因考慮效率之降低及出力軸扭力矩之增大，而須選大一級型號，並特別考慮潤滑問題。

### 出力軸迴轉數

出力軸迴轉數依入力軸迴轉數及速比而決定之，如下公式：

$$\text{出力軸迴轉數} = \text{入力軸迴轉數} \times \text{速比} \\ = 1800 \times 1/20 = 90 \text{ rpm}$$

### 效率

齒輪之效率決定於其進角(螺旋角)，周速度及其材質之摩擦係數。

可按下列公式計算運轉中之各減速機之效率。

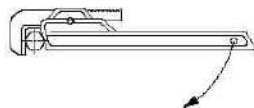
$$\text{效率} = \frac{\text{出力軸kW}}{\text{入力軸kW}} \times 100\% \dots \text{公式(1)}$$

### 扭力 (扭矩) (Torque)

能使物體迴轉之外力為扭矩。

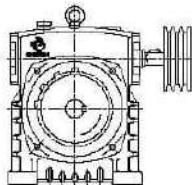
如圖1使用管板鉗鎖螺絲時，管板鉗以螺絲中心為中心而迴轉。

圖1



如圖2乃表示減速機將迴轉動力傳達，入力軸上之皮帶輪(或聯結器)迴轉時，將動力傳到出力軸上之齒齒輪。

圖2



### <例題1>

如圖3有直徑500mm之迴轉體(滑輪)，其圓周吊掛重量50kg之物體時，請問其迴轉體(滑輪)軸，扭矩有多少kgf-m?

$$T = W \times R \dots \text{公式(2)}$$

$$R = \frac{500\text{mm}}{2 \times 1000\text{mm}} = 0.25\text{m}$$

$$T = 50\text{kg} \times 0.25 = 12.5\text{kgf-m}$$

### 動力與扭矩之關係 (Relation between horsepower and torque)

圖3之迴轉體受(kgf-m)之扭力而迴轉時，可依下列公式。

$$KW = \frac{N \times T}{974} \dots \dots \dots$$

Kw: 入力動力[kW]

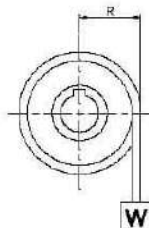
N: 出力迴轉數[rpm]

T: 出力扭力[kgf-m]

所以，

$$T = \frac{974 \times Kw}{N} \text{ [kgf-m]}$$

圖3



### <例題2>

圖3之迴轉體承受10kgf-m之扭力，而以每分鐘30rpm迴轉時，

入力馬力為幾kW? (依公式3)

依公式(3)

$$KW = \frac{30\text{rpm} \times 10\text{kgf-m}}{974} = 0.308\text{kW}$$

答案為0.308kW。

按上式可知，在固定動力之下，若迴轉數增加則扭矩減少。反之，若迴轉數減少，則扭矩增大。換句話說，以固定動力馬達迴轉之減速機，其減速比愈大，扭力矩亦愈大，而齒面上承受之力愈大，反之，若減速比小其扭力矩及齒面所承受力亦小。

### 荷重係數 (荷載係數) (Load factor)

齒輪減速機之傳遞容量強度，其計算公式是按10小時連續迴轉之正常條件下設計的。故若扭力矩及速度會因速率的不同而要換時，或者常受衝擊荷重時，則可由下列荷重係數表中選出適合之型號來使用。

### 荷重係數表

電機機(馬力) 每日	荷重之範圍		
	平均中荷重	中級衝擊	過剩衝擊
30分以內之迴轉	0.70	0.80	1.00
2小時以內之迴轉	0.80	0.90	1.25
12小時以內之迴轉	1.00	1.25	1.50
24小時以內之迴轉	1.25	1.50	1.75

若1小時內有10次以上之起動停止時，則照下表

電機機(馬力) 每日	荷重之範圍		
	平均中荷重	中級衝擊	過剩衝擊
30分以內之迴轉	0.80	1.00	1.25
2小時以內之迴轉	1.00	1.25	1.50
12小時以內之迴轉	1.25	1.50	1.75
24小時以內之迴轉	1.50	1.75	2.00

若用於捲揚機、水壓機等可變動速度時，則照下表

電機機(馬力) 每日	入力軸正迴轉	
	入力軸正迴轉	入力軸正、逆迴轉
30分以內之迴轉	1.00	1.25
2小時以內之迴轉	1.25	1.50
12小時以內之迴轉	1.50	1.75
24小時以內之迴轉	1.75	2.00

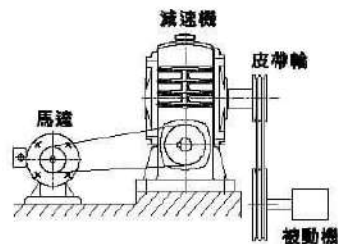
### 超吊荷重 (Overhung Load) 扭力與超吊荷重之關係

使減速機輪變形彎曲，或外殼破裂的原因之一為超吊荷重所引起的。

超吊荷重就是作用於軸上之懸吊荷重，是選擇減速機時必須考慮之條件之一。

一般將扭力矩除以迴轉體之半徑就是超吊荷重。

圖4





## 超吊荷重係數 (Overhung load coefficient)

在聯結減速機輸入軸及輸出軸，使用聯結器 (coupling) 時，僅考慮扭力荷重就可以。但若使用鏈條齒輪，三角皮帶輪及平皮帶輪傳動時，就必需考慮超吊荷重係數：

下表為超吊荷重係數：

超吊荷重係數			
鏈齒輪	齒輪	三角皮帶輪	平皮帶
1.00	1.25	1.50	2.50

## 超吊荷重之計算基準

設其作用點在軸心伸出總LS尺寸之中心位置來計算軸承，軸心，及外觀之強度。所以若作用點移動而不在LS尺寸之中心時，以下列兩條公式來計算之。

1) 荷重作用位置在外側過時之超吊荷重  

$$L_a = L_c \frac{l}{l + l_b} \dots \dots \dots \text{公式(4)}$$

2) 荷重作用位置在內側過時之超吊荷重  

$$L_a = L_c \frac{l}{l - l_b} \dots \dots \dots \text{公式(5)}$$

- La: 所要求之超吊荷重 (Overhung load)
- Lc: 型錄中所配之超吊荷重
- l: La中心到軸承中心的距離
- lb: 由荷重作用點到Lc中心之距離

圖5

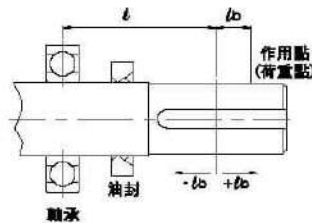
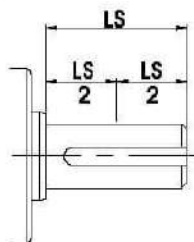


圖6



## 各型號之出力軸之尺寸表 (mm)

型號	32	40	50	60
φ尺寸	38	38.5	47	54.5
型號	70	80	100	120
φ尺寸	82	84	83.5	87.5
型號	135	155	175	200
φ尺寸	98.5	100	112.5	142
型號	225	250	300	350
φ尺寸	172	171	186	205
型號	400			
φ尺寸	229			

## 超吊荷重之檢討公式

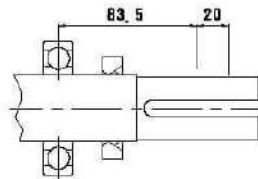
$$L_r = \frac{T}{R} \times f \dots \dots \dots \text{公式(6)}$$

$$R = \frac{T}{L_r} \times f \dots \dots \dots \text{公式(7)}$$

- Lr: 實際上的超吊荷重 (kg)
- T: 扭力矩 (kgf-m)
- R: 鏈條齒輪，齒輪，三角皮帶輪等之半徑 (m)
- f: 超吊荷重係數

## <例題3>

CTA100型1/30輸入軸迴轉數1500rpm時之許可OHL是340kg (可由型錄中找出)，若出力軸中心點外移20mm位置為荷重點時，實際上的OHL是多少？



以公式(4)

$$L_a = L_c \frac{l}{l + l_b}$$

$$= 340 \times \frac{83.5}{83.5 + 20}$$

$$= 274.3 \text{ [kg]}$$

所以274.3kg

## <例題4>

傳達27kgf-m之減速機出力軸上套150mm之齒輪時，實際之超吊荷重是多少kg？以公式(6)

$$L_r = \frac{T}{R} \times f$$

$$= \frac{27}{0.075} \times 1.25 = 450 \text{ kg}$$

所以450kg

## <例題5>

CTB120型1/50，入力回轉數1800rpm，傳達扭力矩40kgf-m之減速機出力軸套上250mm之鏈齒輪，而超吊荷重作用於出力軸尺寸中心偏外10mm時，請檢討此型號可以嗎？

## 實際超吊荷重

按(6)式

$$L_r = \frac{T}{R} \times f$$

$$= \frac{40}{0.125} \times 1 = 320 \text{ kg}$$

## 依許可超吊荷重

按(4)式

$$L_a = L_c \frac{l}{l + l_b}$$

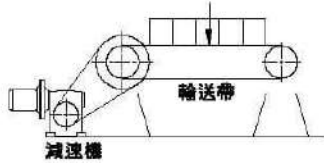
$$= 500 \times \frac{87.5}{87.5 + 10} = 449 \text{ kg}$$

而449kg大於320kg，所以知許可超吊荷重比實際超吊荷重大，即為安全可靠。

## <例題6>

### 減速機之選訂範例 (以使用於輸送帶為例)

使用條件：  
 入力軸迴轉數1500rpm  
 出力軸迴轉數30rpm  
 出力軸與輸送帶速比1:2鏈條傳動  
 需要驅動輸送帶之扭力矩為70 (kgf-m)  
 平均荷重，24小時連續運轉，荷重係數為1.25  
 減速機出力軸套上φ250mm之鏈齒輪，而其超吊荷重作用於Lc尺寸中心向外移20mm處。  
 (註：未考慮鏈條效率損失)



2. 減速比:  $\frac{30}{1500} = 1/50$

3. 減速機出力軸扭力矩 =  $\frac{70}{2}$   
(1:2 速傳動)  
= 35 [kgf-m]

荷重係數 1.25

$35 \times 1.25 = 43.8$  [kgf-m]

從型錄中可找出

120型-1/50之許可扭力矩為55.2kgf-m  
(比實際43.8 kgf-m 過大, 故安全。)

許可O. H. L. 為520kg

實際超吊荷重

$$Lr = \frac{35}{0.125} \times 1 = 280 \text{ [kg]}$$

因超吊荷重之作用點在L尺寸中心偏外20mm, 所以調整後之許可O. H. L. 為:

$$La = Lc \frac{L}{L+20} \dots \dots \dots \text{公式(4)}$$

$$= 520 \times \frac{87.5}{87.5+20} = 423 \text{ [kg]}$$

則423kg比實際超吊荷重280kg過大, 故安全可用。

### <例題7>

#### 減速機之選定

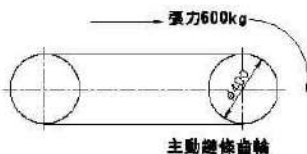
鏈條輸送機之條件:

鏈條張力為600kg

主動鏈條齒輪之直徑為 400mm

輸送速度為3.7m/min, 而主動鏈條齒輪以聯結器(Coupling)與減速機出力軸直結。

問需何種減速機?



已知:

入力軸迴轉數=1800rpm

8小時/日平均負荷

設O.H.L.=600kg

#### 主動鏈條齒輪之迴轉數是

$$\pi D N = 3.7 \text{ m/min}$$

$$N = \frac{30}{\pi D}$$

$$= \frac{3.7}{3.14 \times 0.4 \text{ (m)}}$$

$$= 2.94 \approx 3 \text{ rpm}$$

#### 主動部鏈條齒輪上之扭力矩T是

$$T = W \cdot R$$

$$= 600 \times 0.2 = 120 \text{ [kgf-m]}$$

減速比=1/600

選減速機為變段式80-135-1/600, 其容許扭力矩(許可扭力矩)為140kgf-m (大於120kgf-m), 故安全可用。

容許O. H. L. 810 [kg] (大於600kg), 亦安全。

### <例題8>

請選出減速比1/40, 入力軸套上1:3之減速皮帶輪, 以動力0.75kW馬達驅動之減速機型號。

#### 入力軸(蝸桿)迴轉數為

(已知馬達轉速為1800rpm)

$$\frac{1800}{3} = 600 \text{ rpm}$$

則由型錄中可找出是80型

(型錄表列入力軸許可馬力為0.86kw)

### <例題9>

入力軸套上φ400mm之把手搖輪, 要以

20kg之手動力來迴轉時, 所能使用之最大減速機型號是多大? (速比為1/50)

#### 入力軸扭力矩是

$$20 \text{ kg (W)} \times 0.2 \text{ m (R)} = 4 \text{ kgf-m}$$

所傳達於出力軸上之扭力矩為  
 $4 \text{ kgf-m} \times 50 \times 0.3$  (啟動率耗係數)  
= 60kgf-m

則由型錄中可找出是120型

### <例題10>

馬達1.5kW, 60Hz (週率) · 6P (極), 以聯結器(Coupling)直結於入力軸, 減速比1/30時, 請算出減速機之大小型號, 效率及出力軸動力?

●由型錄扭力矩表上找出入力1200rpm (60Hz X 6P), 速比1/30, 可得選1.5kW之減速機型為100型。(表列2.93HP) 則型號為100型

●效率 =  $\frac{\text{出力軸W}}{\text{入力軸W}}$

$$= \frac{2.06}{2.93} = 0.7 \text{ (70\%)} \text{ (由型錄附表查出)}$$

●出力軸動力 = 1.5kW X 70% = 1.05kW (1.4HP)

●若已知出力軸上之荷重及負荷時其選定法如下:

### <例題11>

出力軸迴轉數30rpm, 減速比1/60, 出力軸扭力矩需要為45kgf-m時, 請選出減速機之型號來。

入力軸迴轉數是30x60=1800rpm

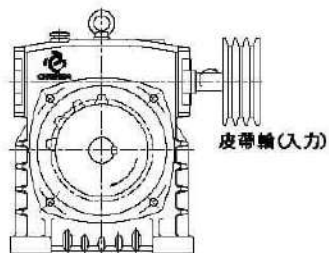
則由型錄表中可找出120型

(表列47.4kgf-m)

### <例題12>

出力軸扭力矩70kgf-m, 減速比1/40, 減速機出力軸上套裝 100之鏈齒輪驅動時, 請問超吊荷重有多少, 又要用何型號之減速機?

(設入力軸迴轉數1800rpm)



$$\bullet \text{O. H. L.} = \frac{T}{R} \times f$$

$$= \frac{70}{0.05} \times 1 = 1400 \text{ kg (超吊荷重)}$$

由型錄中選出可容許超吊荷重1400kg之減速機為

型號155型(1/40) (表列1490kg)

常用之設計參考資料:

馬達公式			
直流馬達	交流馬達		
	單相 Single Phase	三相 Three Phase	
AMP = (HPx746) / (VOLTxEFF) Or (HPx1000) / (VOLT)	(HPx746) / (VOLTxEFFxPF) (Or 1000) / (VOLTxF)	(HPx746) / (VOLTxEFFx1.73) Or (HPx1000) / (VOLTxFx1.73)	
KW = (AMPxVOLT) / 1000	(AMPxVOLTxF) / 1000	(AMPxVOLTxFx1.73) / 1000	
HP = (AMPxVOLTxEFF) / 746	(AMPxVOLTxEFFxPF) / 746	(AMPxVOLTxEFFx1.73) / 746	

PF= 功率因數約 80%  
EFF= 效率, 約 80% - 90%  
若欲取得精確資料, 則請與原廠銷售工程師

常用公式集			
欲知的條件	代碼	公式	單位
扭力 Torque	T	$T = F \times R$	(Kg-m)
扭力 Torque	T	$T = (718.2 \times Hp) / N$	(Kg-m)
扭力 Torque	T	$T = (974 \times kW) / N$	(Kg-m)
馬力 HP	Hp	$Hp = (T \times N) / 718.2$	(Hp)
動力 kW	kW	$kW = (T \times N) / 974$	(kW)
馬力 HP	Hp	$Hp = (F \times V) / 75$	(Hp)
動力 kW	kW	$kW = (F \times V) / 102$	(kW)
速度 SPEED	V	$V = (6 \times D \times N) / 60$	(m/sec)
減速比 RATIO	i	$i = N1 / N2$	
牙輪效率 Dynamic efficient	$\eta$	$\eta = 394 \times (F \times V)^{-1.75} \times N^{-2}$	(%)

F : 直徑 (m)  
D : 直徑 (m)  
N : 出力轉速 (RPM)  
R : 半徑 (m)

單位換算 Conversion Factors					
kW	HP	kg-m	Nm	in-lb	ft-lb
1.34kW	0.746HP	9.807 Nm	0.10197kg-m	0.1129 Nm	1.356 Nm
1.36PS	1.01PS	7.233ft-lb	0.7875ft-lb	0.0115kg-m	0.1383kg-m
102.0kg-m/s	70.07kg-m/s	88.706in-lb	8.8507in-lb	0.083ft-lb	12in-lb

潤滑油選定 Selection of Lubricant Oil  
標準負荷, 入力轉速 600RPM 或之上

環境溫度 (°C)	中國石油	ISO VG	Mobil	Shell
-30 ~ -15	HD 100	VG 100	Mobilgear 627	Omala 100
-15 ~ -3	HD 150	VG 150	Mobilgear 629	Omala 150
-3 ~ 23	HD 220	VG 220	Mobilgear 630	Omala 220
23 ~ 40	HD 320	VG 320	Mobilgear 632	Omala 320
40 ~ 80	HD 460	VG 460	Mobilgear 634	Omala 460

超重負荷, 入力轉速 600RPM 或之上

環境溫度 (°C)	中國石油	ISO VG	Mobil	Shell
-30 ~ -15	HD 150	VG 150	Mobilgear 629	Omala 150
-15 ~ -3	HD 220	VG 220	Mobilgear 630	Omala 220
-3 ~ 23	HD 320	VG 320	Mobilgear 632	Omala 320
23 ~ 40	HD 460	VG 460	Mobilgear 634	Omala 460
40 ~ 80	HD 680	VG 680	Mobilgear 636	Omala 680

零件規格 Part Specification  
ASS - BSS - USS (CTA.CTB.CTU)

型號 Type	入力軸 Shaft Input			出力軸 Shaft Output		
	軸承 Bearing	油封 Oil Seal	鍵 Key	軸承 Bearing	油封 Oil Seal	鍵 Key
40	6202	15, 25, 8	4x4x22 (圓)	6203	17, 30, 7	5x5x30 (圓) 5x5x26 (平)
50	6203	17, 30, 7	4x4x25 (圓)	6204	20, 35, 8	5x5x35 (圓) 7x7x30 (平)
60	30204	20, 35, 8	5x5x35 (圓)	6205	25, 40, 8	10x8x30 (平) 7x7x35 (圓)
70	30205	25, 40, 8	5x5x35 (圓)	6206	30, 50, 11	10x8x45 (平)

型號 Type	入力軸 Shaft Input			出力軸 Shaft Output		
	軸承 Bearing	油封 Oil Seal	鍵 Key	軸承 Bearing	油封 Oil Seal	鍵 Key
80	30208	30, 50, 11	7x7x45 (圓)	6207	35, 55, 11	10x8x60 (圓) 10x8x50 (平)
100	30207	35, 55, 11	7x7x45 (圓)	6208	40, 62, 12	10x8x70 (圓) 12x8x60 (平)
120	30308	40, 62, 12	7x7x60 (圓)	6210	50, 72, 12	12x8x80 (圓) 15x10x75 (平)
135	30309	45, 68, 12	10x8x70 (圓)	6212	60, 82, 12	15x10x90 (圓) 18x12x80 (平)
155	30309	45, 68, 12	10x8x80 (圓)	32213	65, 88, 12	15x10x95 (圓) 20x13x95 (平)
175	30311	50, 72, 12	12x8x80 (圓)	32214	70, 95, 13	18x12x105 (圓) 20x13x100 (平)
200	30311x2 6311	52, 75, 12	12x8x90 (圓)	32215	75, 100, 13	20x13x120 (圓) 24x16x135 (平)
	30312x2 6312	57, 75, 12	15x10x90 (圓)	32217	85, 120, 13	20x13x135 (圓) 24x16x135 (平)
250	30313x2 6313	82, 85, 12	15x10x105 (圓)	32219	95, 120, 13	24x16x140 (圓) 28x18x150 (平)

ESS, VSS (CTE-U, D)

型號 Type	入力軸 Shaft Input			出力軸 Shaft Output		
	軸承 Bearing	油封 Oil Seal	鍵 Key	軸承 Bearing	油封 Oil Seal	鍵 Key
40	6202	15, 25, 8	4x4x22 (圓)	6203	17, 30, 7	5x5x30 (圓) 5x5x26 (平)
50	6203	17, 30, 7	4x4x25 (圓)	30204	20, 35, 8	5x5x35 (圓) 7x7x30 (平)
60	30204	20, 35, 8	5x5x35 (圓)	30205	25, 40, 8	7x7x35 (圓) 10x8x30 (平)
70	30205	25, 40, 8	5x5x35 (圓)	30206	30, 50, 11	10x8x45 (圓) 10x8x30 (平)
80	30206	30, 50, 11	7x7x45 (圓)	30207	35, 55, 11	10x8x60 (圓) 10x8x50 (平)
100	30207	35, 55, 11	7x7x45 (圓)	30208	40, 62, 12	10x8x70 (圓) 12x8x60 (平)
120	30308	40, 62, 12	7x7x60 (圓)	30210	50, 72, 12	12x8x80 (圓) 15x10x75 (平)
135	30309	45, 68, 12	10x8x70 (圓)	30212	60, 82, 12	15x10x90 (圓) 18x12x80 (平)
155	30309	45, 68, 12	10x8x80 (圓)	32213	65, 88, 12	15x10x95 (圓) 20x13x95 (平)
175	30311	50, 72, 12	12x8x80 (圓)	32214	70, 95, 13	18x12x105 (圓) 20x13x100 (平)
200	30311x2 6311	52, 75, 12	12x8x90 (圓)	32215	75, 100, 13	20x13x120 (圓) 24x16x135 (平)
	30312x2 6312	57, 75, 12	15x10x90 (圓)	32217	85, 120, 13	20x13x135 (圓) 24x16x135 (平)
250	30313x2 6313	82, 85, 12	15x10x105 (圓)	32219	95, 120, 13	24x16x140 (圓) 28x18x150 (平)

直結式入力軸, 中空型出力軸

型號 Type	直結式入力軸 Bore Input			中空型出力軸 Bore output	
	軸承 Bearing	油封 Oil Seal	馬力 Power	軸承 Bearing	油封 Oil Seal
40	6203 6203MR	25, 35, 8	1/4-HP	6008	30, 50, 8
50	6202	00, 35, 5 25, 35, 8	1/4-HP 1/2-HP	6008	40, 62, 12
60	6005 6204	25, 38, 8	1/4-HP 1/2-HP	6009	45, 68, 12
70	30205	25, 40, 8	1/2-HP	6010	50, 72, 12
	32004	00, 40, 5 35, 42, 7	1HP		
80	30205	40, 50, 8	1HP 2HP	6012	60, 82, 12
100	30208	40, 55, 8 48, 68, 12	2HP 3HP	6012	60, 82, 12
120	30308 32210	50, 72, 12	3HP 5HP	6214	70, 95, 13
135	30309	45, 68, 12	5HP	6219	95, 120, 13
	30309 32211	55, 75, 12	7 1/2 HP		

(備註: 油封規格孔徑 00 表示為全密封)

## 減速機使用說明

### 壹、安裝

1. 減速機入力軸直接與馬達聯結時，應採彈性聯軸器；出力軸直接與工作機聯結時，宜採用齒輪聯軸器。
2. 減速機應安裝在穩固的基礎座，且須注意空氣流通及換油時，注油及洩油之方便性。
3. 減速機入力軸及馬達出力軸之中心線必須對準確，誤差不得大於所用聯軸器之允許值。
4. 減速機安裝後，用手轉動需靈活，不可有卡死現象。
5. 減速機安裝好，使用前應先進行空負荷運轉，確定機器各部分都無異狀後，方可正式使用，如有故障應先排除。

### 貳、潤滑

1. 新減速機使用時，於運轉300小時後，需更換新油，其後每使用2500小時需換油；但在使用過程中仍應定期檢查油的質、量，若油有雜質、老化、變質情況，必須隨時更換。
2. 減速機應使用固定品牌、號碼之齒輪油，不應將不同品牌，號碼或不同類型的油相混合使用。
3. 在換油過程中，應先將減速機內部清除乾淨，再注入新油。
4. 在使用期間，當發現油溫過高（超過80°C以上）時，以及有不正常的噪音等現象，應立即停止使用、檢查原因，等排除故障或更換潤滑油後，才可繼續使用。
5. 推薦用油：ISO HD-460極壓機油或中油HD-320之極壓機油，或中油90#多效齒輪油。

### 參、維護

1. 減速機應定期檢修，發現異狀或有顯著磨損，必須立即採取有效措施制止，備用零件之材質、精度亦須照標準製造。更新零件後，應先進行空負荷運轉，確定正常後再正式使用。
2. 使用單位應建立合理的維護制度，對減速機的使用狀況及檢修中發現的問題，做仔細紀錄。

## CHENTA WORM GEAR REDUCERS

### I .Installation

1. **Input shaft connects to motor directly, a flexible coupling is perferably applied; output shaft connects to machine, it is better to use a gear coupling.**
2. **Install on a stable foundation and good air ventilation and the convenience of oil filling / draining should be considered.**
3. **The input shaft of the reducer and the motor shaft should be in alignment and the tolerance should fit the allowance.**
4. **After installation, please check input shaft by hand first to check whether running smoothly of nut.**
5. **Before start-up, no-load running test should be proceeded and any abnormal status occurred should be corrected immediately.**

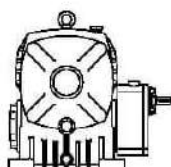
### II .Lubrication

1. **A new reducer needs replace oil in the beginning of 300 hrs operation; and then, each 2,500 hrs change again. Moreover, a regular oil checking is requierd and changed necessarily.**
2. **Please change by equivalent specification of oil and don't mix with other brands of specification of oil.**
3. **Before changing oil, the inside of reducer should be flushed and drained out, then fill in new oil.**
4. **During operation, if the heat is over 80 °C or any abnormal noise occurred, please shut down the reducer for checking immediately and start running only after the cause is resolved.**
5. **Lubricant recommendation: MOBIL gear 632, SHELL omala 320 or MOBIL mobilube HD80W-90, SHELL spirax E.P.90.**

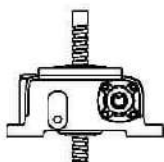
### III .Maintenance

1. **A regular maintenance is required and if found any worn out, corrective action should be taken. The accuracy of spare parts replaced should be exactly the same as the original standard and no-load running test in advance is required.**
2. **Build maintenance system and data collection of failure carefully for all problems been met.**

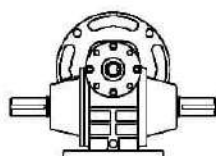
特殊型式簡介 ( 訂單生產 )



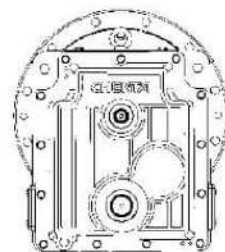
CT-ASG



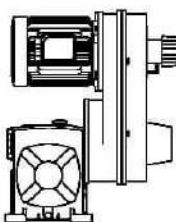
CT-ETS



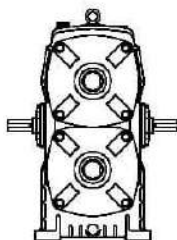
CT-DSM



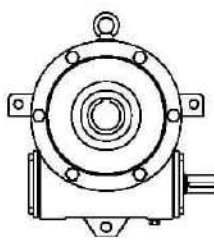
Gearbox of water pump  
(Power from diesel cagine)  
移動式抽水泵浦用齒輪箱



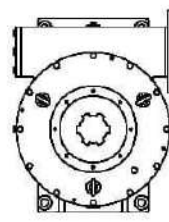
CT-BSV



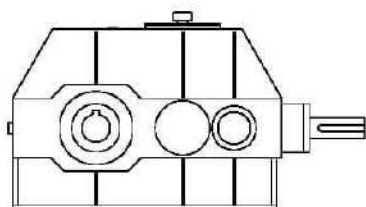
CT-TAB



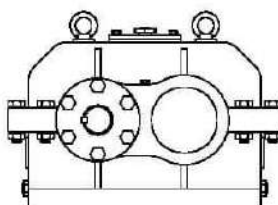
CT-RHS



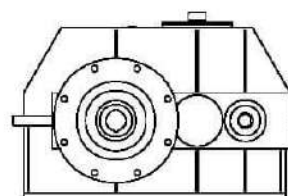
CT-EHM



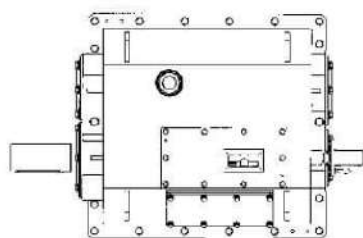
GEAR BOX  
BEVEL HELICAL GEAR



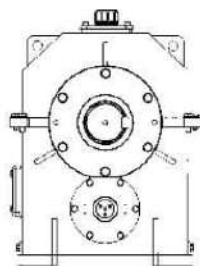
GEAR BOX  
HELICAL GEAR



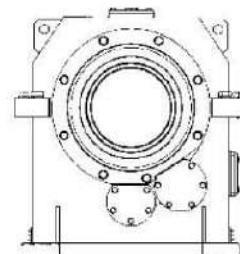
GEAR BOX WITH FLANGE  
HELICAL GEAR



Gearbox of wind power generator  
風力發電機用變速齒輪箱



Gear speed increaser  
風力發電機用增速機

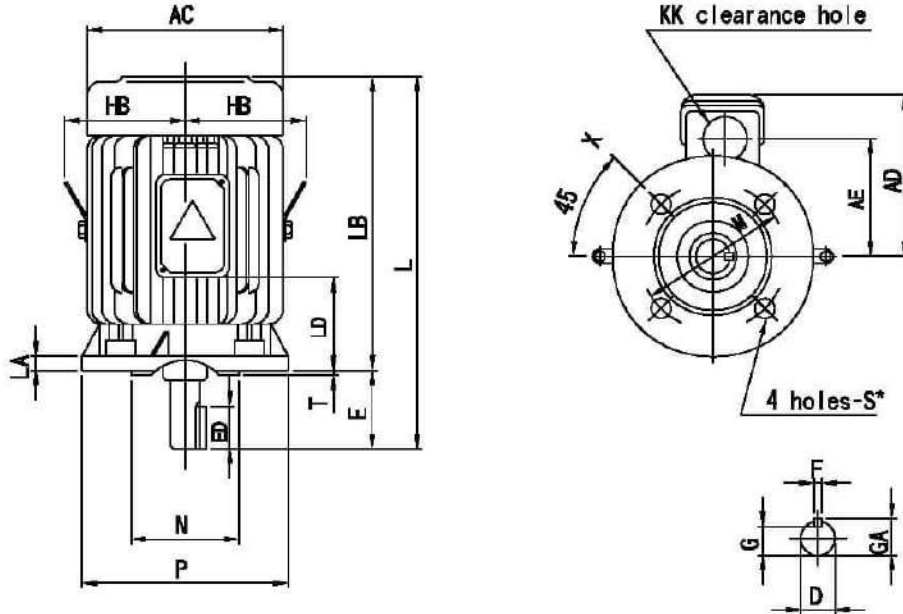


Gear speed increaser  
for wind power generator  
(with hollow bore output)  
風力發電機用增速機

# 公制IEC標準馬達尺寸圖(參考用)

## IEC STANDARD

### Motor Dimensions Reference

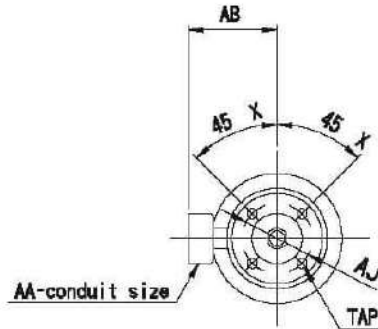
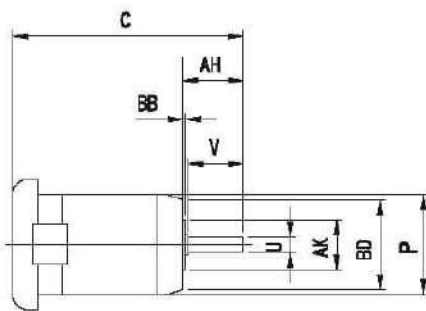
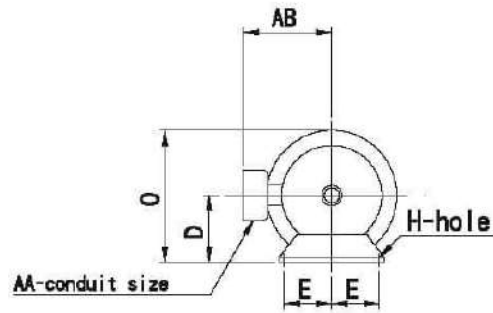
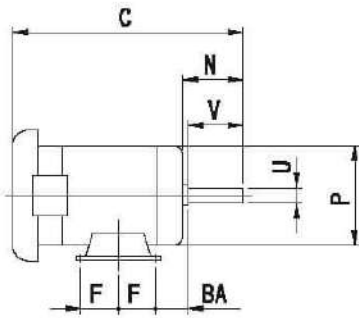


輸出 OUTPUT (HP)				框號 FRAME		AC	AD	AE	HB	KK	L	LA	LB	LD	M	N	P	S	T	軸端 END OF SHAFT								
2P	4P	6P	8P	標準 IEC	東元 TECO															D	E	ED	F	G	GA			
0.25	0.25	---	---	63	---	144	123	93	---	22	248	12	225	74	115	95	140	10	3.5	11	23	10	4	8.5	12.5			
0.25	0.25	---	---	---	---	83	144	123	93	---	22	248	12	225	74	130	110	150	10	3.5	11	23	10	4	8.5	12.5		
0.5	0.5	---	---	71	71	182	133	103	---	22	277.5	12	247.5	82	130	110	180	10	3.5	14	30	14	5	11.0	16.0			
1	1	0.5	0.25	80	80	177	144	112	---	22	282	12	242	80	185	130	200	12	3.5	19	40	25	6	15.5	21.5			
2	3	2	1	0.5	90L	90L	200	157	125	---	22	371.5	12	321.5	113	185	130	200	12	3.5	24	50	32	8	20.0	27.0		
---	3	2	1	100L	100L	219	180	145	140	28	374.5	16	314.5	88	215	180	250	14.5	4.0	28	80	40	8	24.0	31.0			
5	5	3	2	112M	112M	238	189	154	150	28	431	16	371	135	215	180	250	14.5	4.0	28	80	40	8	24.0	31.0			
7.5	7.5	5	3	132S	132S	273	224	180	169	35	454	20	374	97	285	230	300	14.5	4.0	38	90	56	10	33.0	41.0			
10	10	7.5	5	132M	132M	273	224	190	169	35	492	20	412	116	285	230	300	14.5	4.0	38	90	56	10	33.0	41.0			
15	20	15	10	7.5	160M	160M	334	263	218	217	35	608	20	486	151	300	250	350	18.5	5.0	42	110	80	12	37.0	45.0		
25	20	15	10	160L	160L	334	263	218	217	35	652	20	642	173	300	260	350	18.5	5.0	42	110	80	12	37.0	45.0			
30	---	---	---	---	180MA	382	305	250	241	52	572	20	552	170.5	350	300	400	18.5	5.0	48	110	80	14	42.5	51.5			
---	25	30	20	15	180MC	382	305	250	241	52	572	20	552	170.5	350	300	400	18.5	5.0	48	110	80	14	42.5	51.5			
---	25	20	15	180M	---	382	304	250	241	52	572	20	552	170.5	300	250	350	18.5	5.0	48	110	80	14	42.5	51.5			
---	30	25	20	160L	---	382	304	250	241	52	572	20	552	170.5	300	250	350	18.5	5.0	48	110	80	14	42.5	51.5			
40	---	---	---	---	180LA	382	305	250	241	52	710	20	800	189.5	350	300	400	18.5	5.0	55	110	80	16	49.5	59.5			
50	40	25	30	20	200L	180LC	382	305	250	241	52	710	20	600	189.5	350	300	400	18.5	5.0	55	110	80	16	49.0	59.0		
50	60	---	---	---	225M	200LA	458	362	299	286	65	774.5	20	664.5	194.5	400	350	450	18.5	5.0	55	110	80	16	49.0	59.5		
---	50	60	40	50	30	40	225S/M	200LC	458	362	299	286	65	804.5	20	664.5	194.5	400	350	450	18.5	5.0	60	140	110	18	53.0	64.0
75	---	---	---	---	225SA	510	411	337	312	92	786	22	676	190	500	450	500	18.5	5.0	55	110	80	16	49.0	59.0			
---	75	60	50	250M	225SC	510	411	337	312	92	816	22	676	190	500	450	550	18.5	5.0	65	140	110	18	58.0	69.0			
100	---	---	---	---	250SA	545	499	384	329.5	92	882.5	22	742.5	182.5	500	450	550	18.5	5.0	55	110	80	16	49.0	59.0			
---	100	75	60	250S	250SC	545	499	384	329.5	92	882.5	22	742.5	182.5	500	450	550	18.5	5.0	75	140	110	20	67.5	79.5			
125	---	---	---	---	250MA	545	499	384	329.5	92	890.5	22	780.5	201.5	500	450	550	18.5	5.0	55	110	80	16	49.0	59.0			
---	125	100	75	250M	250MC	545	499	384	329.5	92	920.5	22	780.5	201.5	500	450	550	18.5	5.0	75	140	110	20	67.5	79.5			

\*註: "S", 東元≤180LC為4孔, ≥200LC為8孔。  
標準IEC≤132M為4孔, ≥160L為8孔。

## 美制NEMA標準馬達尺寸圖(參考用)

### NEMA STANDARD Motor Dimensions Reference



NEMA FRAME	D	E	F	H	MIN N	D	P	U	MIN V	AA	AB	AH	AJ	AK	BA	BB	BD	TAP
48	3	2-1/8	1-3/8	11/32 SLOT	1-7/8	5-7/8	5-11/16	1/2	1-1/2	1/2	4-3/8	1-11/16	3-3/4	3	2-1/2	5/32	5-5/8	1/2-20
56	3-1/2	2-7/16	1-1/2	11/32 SLOT	2-1/4	6-7/8	6-5/8	5/8	1-7/8	1/2	5	2-1/16	5-7/8	4-1/2	2-3/4	5/32	6-1/2	3/8-16
143T 145T	3-1/2	2-3/4	2-1/2	11/32	2	6-7/8	6-5/8	7/8	2	3/4	5-1/4	2-1/8	5-7/8	4-1/2	2-1/4	5/32	6-1/2	3/8-16
182 184 182T 184T	4-1/4	3-3/4	2-1/4 2-3/4 2-1/4 2-3/4	13/32	2	8-11/16	7-7/8	7/8	2	3/4	5-7/8	2-1/8 2-7/8	5-7/8 7-1/4	4-1/2 8-1/2	2-3/4	5/32	6-1/2	3/8-16 1/2-13
213 215 213T 215T	5-1/4	4-1/4	2-3/4 3-1/2 2-3/4 3-1/2	13/32	3-3/8	10-1/4	9-9/16	1-1/8 1-3/8	2-3/4 3-3/8	3/4	7-3/8	3 3-3/8	7-1/4	8-1/2	3-1/2	1/4	9	1/2-13
254U 256U 254T 256T	6-1/4	5	4-1/8 5 4-1/8 5	17/32	4-1/4	13	13-1/2	1-3/8 1-5/8	3-1/2 4	1	9-5/8	3-3/4 4	7-1/4	8-1/2	4-1/4	1/4	10	1/2-13





CHENTA