

成大精機工業股份有限公司

2012.12

成大齒輪減速機

CHENTA

GEAR

SPEED

REDUCER

CHENTA GEAR Speed Reducers

成大精機工業股份有限公司
JEN WU MACHINERY CO., LTD.
KAOSIUNG TAIWAN R.O.C.





新

創新 Innovation

實

信實 Honesty

勤

勤快 Diligence

效

效益 Efficiency





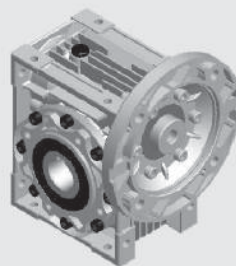
CHENTAI

成大齒輪減速機

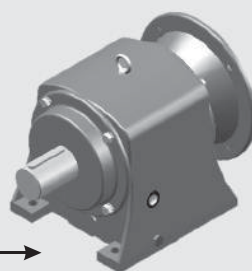
1. 蝸輪減速機
(WORM GEAR REDUCERS)



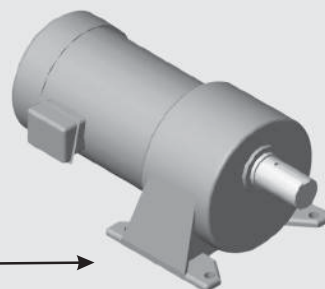
2. 鋁殼中空軸蝸輪減速機
(ALUMINUM HOUSING WORM GEAR REDUCERS)



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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PRESIDENT'S MESSAGE

- 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40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” ”勤” ”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：高雄廠 7000M²

上海廠 6800M²

PRESIDENT'S MESSAGE

- 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 40 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

Plants:Kaohsiung Taiwan-7000M²

Shanghai China-6800M²

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 減速機首度成功外銷至美國芝加哥，開啟外銷市場。董事長陳茂正因公司經營傑出，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 5S 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 國際品保認證。

1999 首度赴德國漢諾威 (HANNOVER MESSE) 參展減速機。

2000 建地面積 7000m²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月水車式增氧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-Chian 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

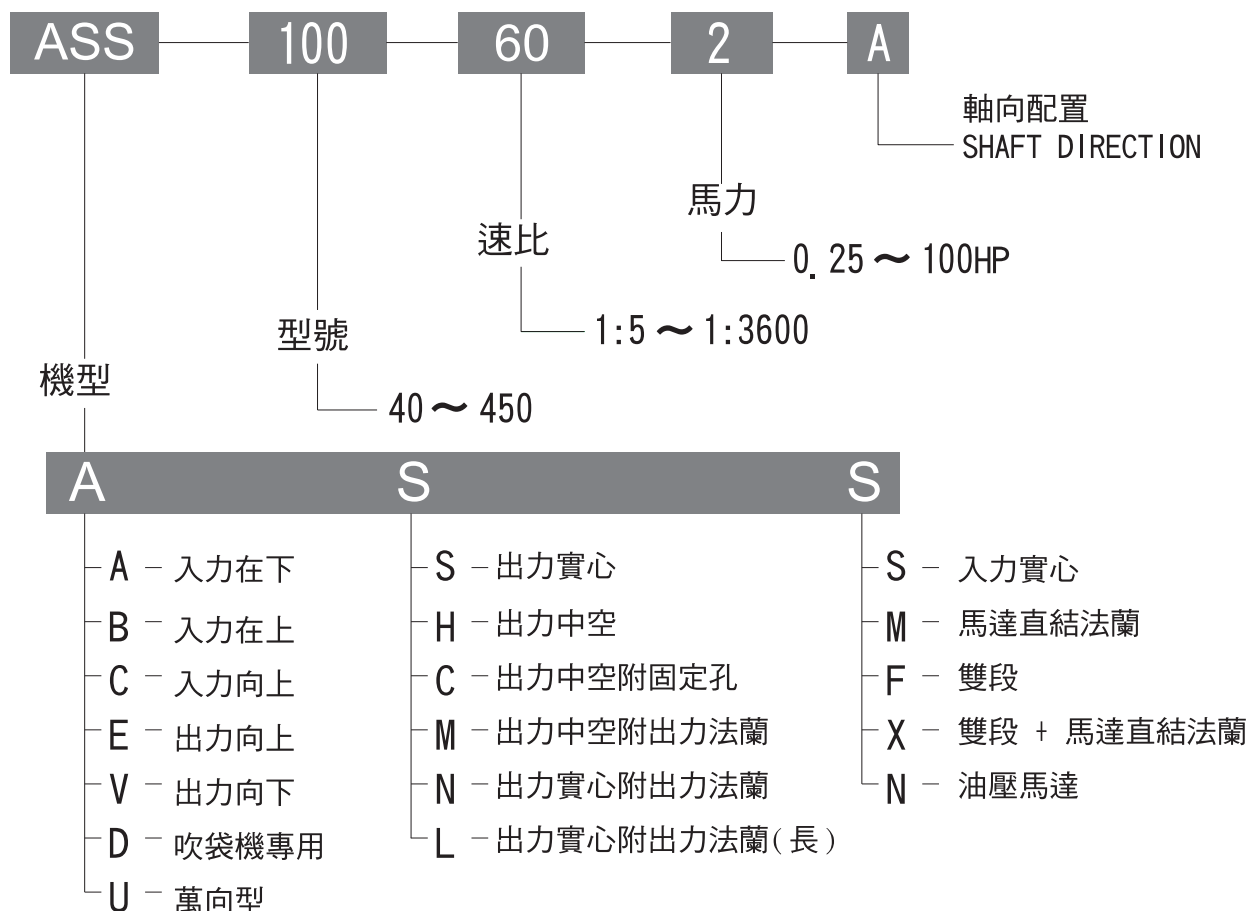
September: obtain ISO9001:2008 certificate

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.

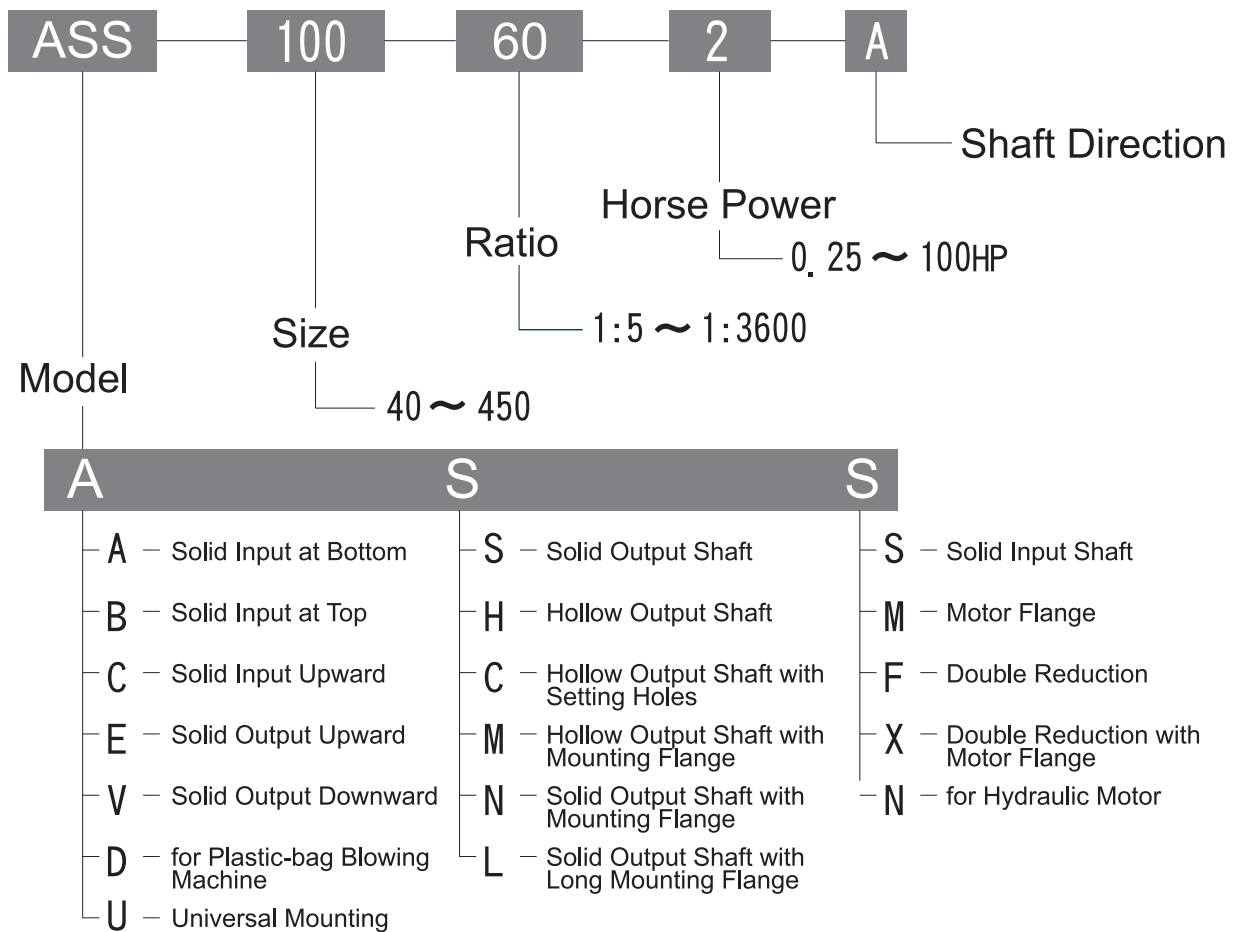
蝸齒輪減速機之型號編碼說明：



CHENTAI 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:

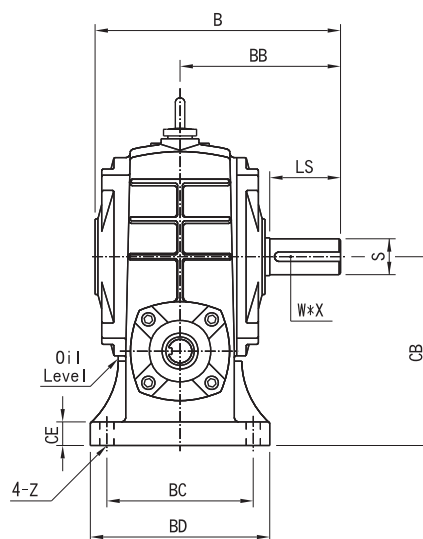
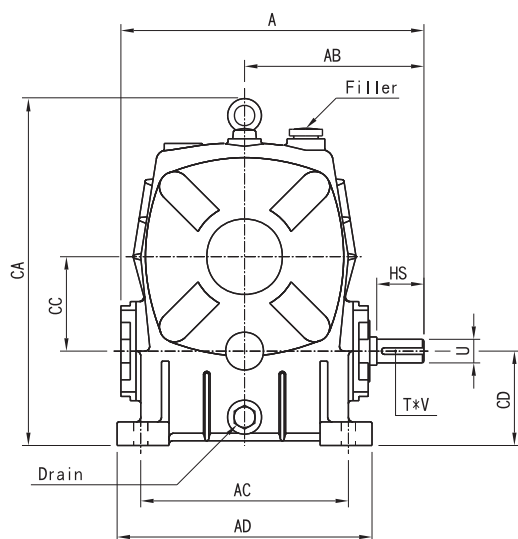
- Motor Flange: both IEC and NEMA flanges are available
- Range of Ratio: 5:1 ~ 3600:1
- Reduced Backlash Designs are available for Chenta Worm Gear Reducers.
- Range of Horse Power: 1/4HP ~ 100HP
- Oil Seals: premium quality double lips oil seals
- Worm Shaft:
 - Under size 300- in medium carbon steel (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

型號頁次索引

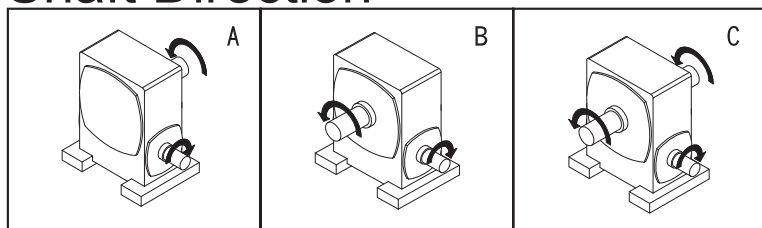
型 式	簡 介	頁次	型 式	簡 介	頁次	型 式	簡 介	頁次
	ASS 單 段 入力實心在下	5		ESX 雙段出力向上 入力附法蘭	34		UHS 單段萬向型 出力中空軸	57
	ASM/ASN 單 段 入力在下附法蘭	8/9		VSS 單 段 出力向下	37		UHM 出力中空軸 入力附法蘭	58
	ASF 雙 段 入，出力實心	10		VSM 單段出力向下 入力附法蘭	40		UHF 雙段萬向型 出力中空軸	59
	ASX 雙 段 入力附法蘭	13		VSF 雙 段 出力向下	42		UHX 雙段出力中空 入力附法蘭	60
	BSS 單 段 入力實心在上	15		VSX 雙段出力向下 入力附法蘭	45		UCS 單段出力中空 大蓋具固定孔	61
	BSM/BSN 單 段 入力在上附法蘭	17/18		DMM 單段出力內孔式 入力附法蘭	48		UCM 出力中空具固定孔 入力附法蘭	62
	CSS 單 段 入力實心向上	20		DNM 出力實心短法蘭 入力附法蘭	49		UCF 雙段出力中空 具固定孔	63
	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
	CHS 單段出力中空 入力實心向上	22		BCB 煞車離合器型 出力實心	51		UMS 出力中空附法蘭 入力實心	65
	CHM 單段出力中空 入力向上附法蘭	23		BSV 無段變速器型 入，出力實心	52		UMM 出力中空附法蘭 入力附法蘭	66
	WSM 單 段 水車專用型	24		USS 單段萬向型 入，出力實心	53		UMF 雙段出力中空附 法蘭入力實心	67
	ESS 單 段 出力向上	25		USM 單段萬向型 入力附法蘭	54		UMX 雙段出力中空 入，出力附法蘭	68
	ESM/ESN 單段出力向上 入力附法蘭	28/30		USF 雙段萬向型 入，出力實心	55		H-BASE 萬向型平底座	69
	ESF 雙 段 出力向上	31		USX 雙段萬向型 入力附法蘭	56		L-BASE 萬向型直角座	69

Model Guide

Mode	Description	Page	Mode	Description	Page	Mode	Description	Page
	ASS: Single reduction, solid input at bottom	5		ESX: Double reduction, output upward in vertical, hollow input with motor flange	34		UHS: Single reduction, solid input, hollow output, universal mounting	57
	ASM/ASN: Single reduction, hollow input at bottom with motor flange	8/9		VSS: Single reduction, solid output downward in vertical	37		UHM: Single reduction, input motor flange, hollow output, universal mounting	58
	ASF: Double reduction, solid input and output shaft	10		VSM: Single reduction, output downward in vertical, input with motor flange	40		UHF: Double reduction, solid input, hollow output, universal mounting	59
	ASX: Double reduction, hollow input with motor flange	13		VSF: Double reduction, solid input and output downward in vertical	42		UHX: Double reduction, input motor flange, hollow output, universal mounting	60
	BSS: Single reduction, solid input at top	15		VSX: Double reduction, output downward in vertical, hollow input with motor flange	45		UCM: Hollow output, output cover with setting holes, input motor flange	61
	BSM/BSN: Single reduction, hollow input at top with motor flange	17/18		DMM: Hollow output with mounting flange, input with motor flange	48		UCS: Hollow output, output cover with setting holes	62
	CSS: Single reduction, solid input upward	20		DNM: Solid output with short mounting flange, input with motor flange	49		UCF: Double reduction, hollow output, output cover with setting holes	63
	CSM: Single reduction, hollow input upward with motor flange	21		DLM: Solid output with long mounting flange, input with motor flange	50		UCS: Double reduction, hollow output, output cover with setting holes, input motor flange	64
	CHS: Single reduction, hollow output, solid input vertical	22		BCB: Solid input with brake and clutch, solid output	51		UMS: Hollow output with mounting flange, solid input	65
	CHM: Single reduction, hollow output, input vertical with motor flange	23		BSV: Special for variable speed drive	52		UMM: Hollow output with mounting flange, input motor flange	66
	WSM: Special for Paddle Wheel Aerator	24		USS: Single reduction, solid input and output, universal mounting	53		UMF: Double reduction, hollow output with mounting flange, solid input	67
	ESS: Single reduction, solid output upward in vertical	25		USM: Single reduction, input motor flange, universal mounting	54		UMX: Double reduction, hollow output with mounting flange, input motor flange	68
	ESM/ESN: Single reduction, output upward in vertical, input with motor flange	28/30		USF: Double reduction, solid input and output, universal mounting	55		H-BASE: H-shape base for universal type	69
	ESF: Double reduction, solid input and output upward in vertical	31		USX: Double reduction, input motor flange, universal mounting	56		L-BASE: L-shape base for universal type	69



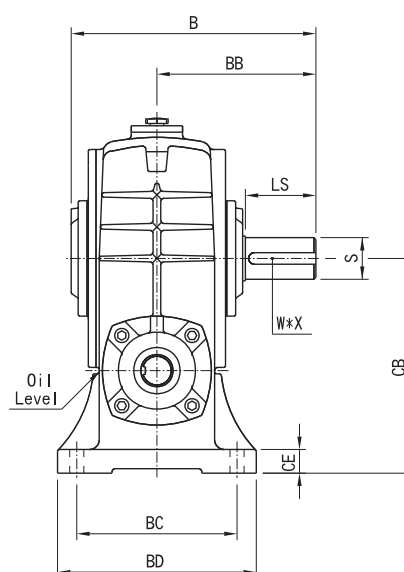
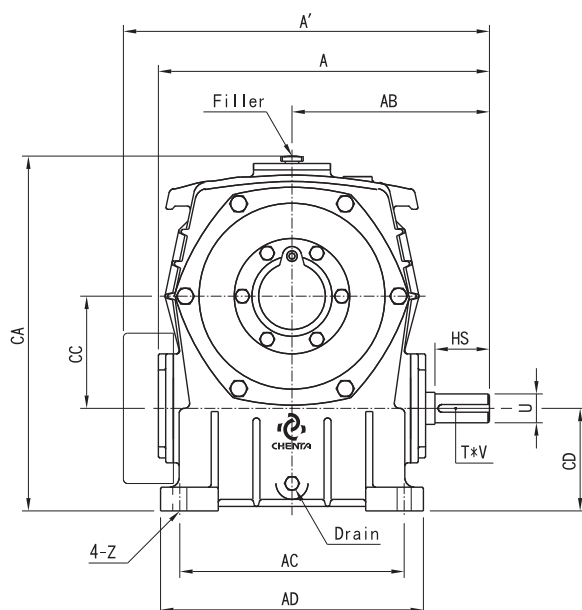
Shaft Direction



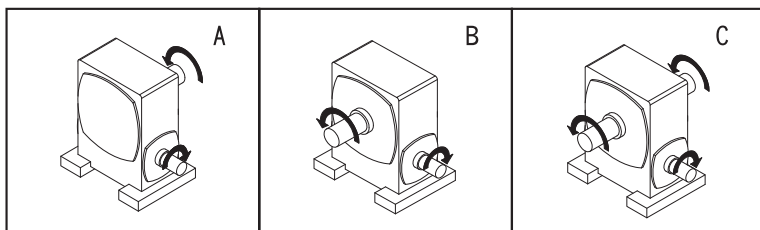
Unit:mm

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	80	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	180	220	216	140	135	170	278	160	80	80	23	15
100	1/40	325	192	220	270	260	170	155	190	376	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	63, 4
135	75	35	10 * 5	95	55	15 * 5	3, 25	83, 2



Shaft Direction



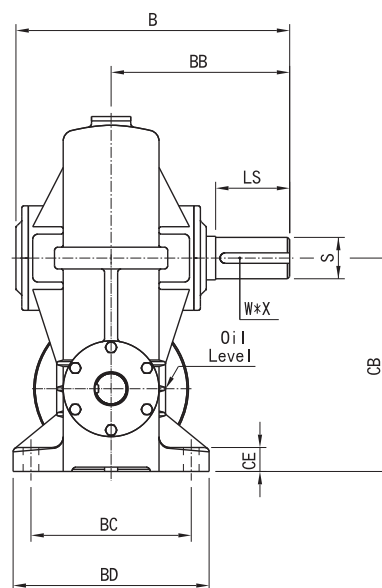
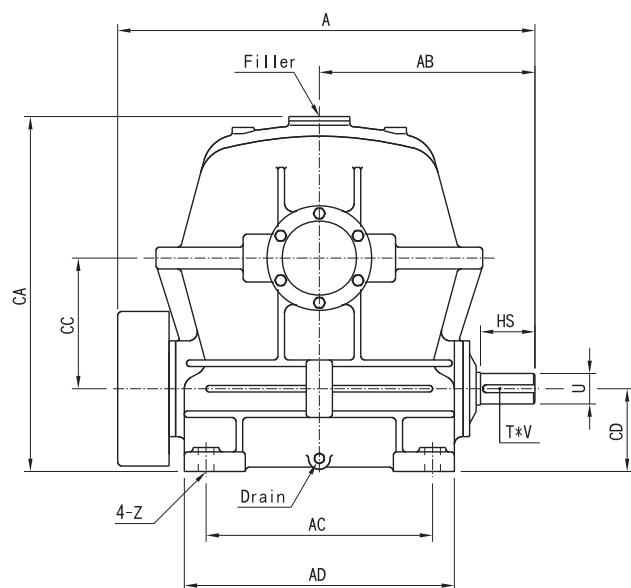
Unit:mm

Size	Ratio	A'	A	AB	AC	AD	B	BB	BC	BD	CA	CB	CC	CD	CE	Z
155	1/10	---	479	286	320	385	377	242	220	280	487	290	155	135	30	20
175	1/15	---	517	308	350	410	381	248	250	310	536	335	175	160	37	20
200	1/20	---	517	308	350	410	381	248	250	310	536	335	175	160	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
225	1/50	720	---	361	390	470	530	345	330	410	670	415	225	190	45	27
250	1/60	815	---	420	440	520	565	360	380	440	742	450	250	200	40	27

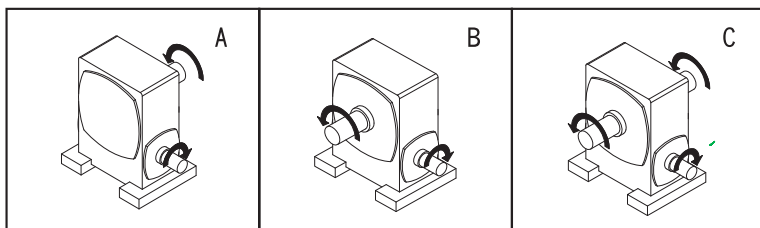
Size	Input Shaft			Output Shaft			Oil (l)	Weight (kg)
	HS	U	T * V	LS	S	W * X		
155	85	40	10 * 5	100	60	15 * 5	4.1	115.3
175	85	45	12 * 5	110	65	18 * 6	5.8	158.3
200	95	50	12 * 5	125	70	20 * 7	6.5	210
225	95	55	15 * 5	140	80	20 * 7	7	282
250	110	60	15 * 5	145	90	24 * 8	9	337

註：風扇罩裝置於 200 型以上。

*cooling fan is set for size 200 to up



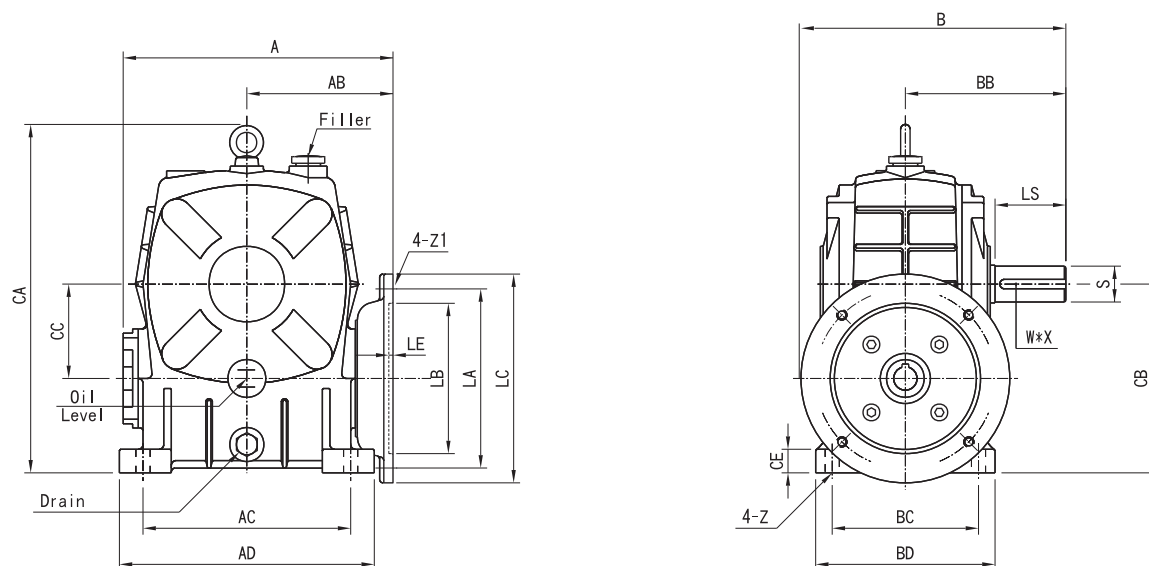
Shaft Direction



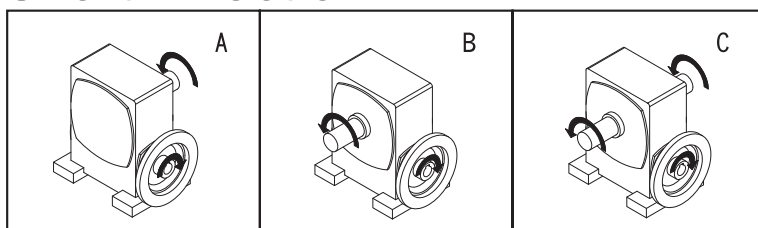
Unit:mm

Size	Ratio	A	AB	AC	AD	B	BB	BC	BD	CA	CB	CC	CD	CE	Z
300	1/10 1/40	958	495	520	620	628	410	368	450	815	490	300	190	55	36
350	1/15 1/50	1068	570	597	700	748	480	432	520	940	565	350	215	55	43
400	1/20 1/60	1160	620	660	780	775	500	470	580	1070	650	400	250	55	43
450		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



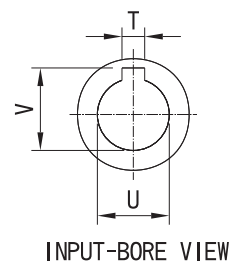
Shaft Direction

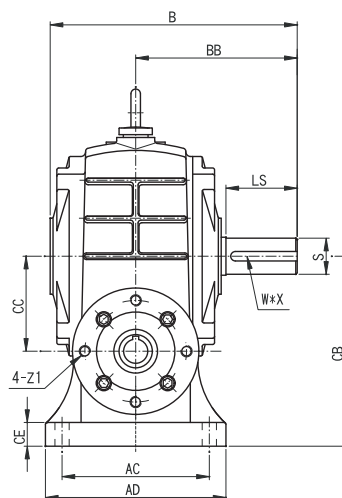
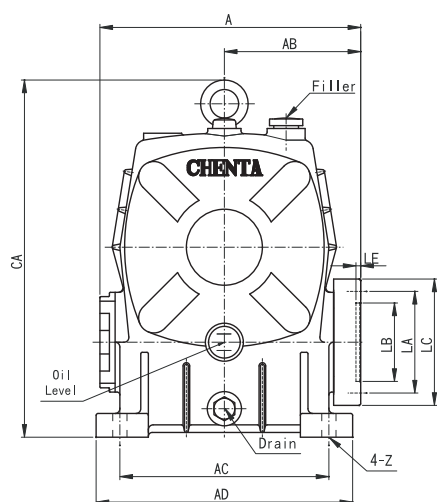


Unit:mm

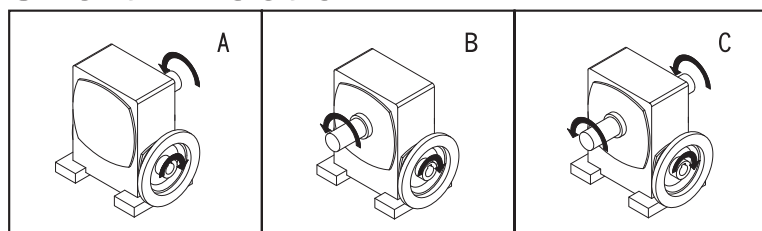
Size	Ratio	A	AB	AC	AD	B	BB	BC	BD	CA	CB	CC	CE	Z	Input Bore		
															U	T	V
50	1/10	174	97	110	140	175	95	95	120	180	100	50	18	11	11 14	4 5	12.8 16
60	1/15	177	97	120	150	190	110	105	130	210	120	60	20	11	11 14	4 5	12.8 16
70	1/20	213 223	118 120	150	190	210 230	130	115	150	240	140	70	22	15	14 19	5 6	16 21.8
80	1/30	234	130	180	220	240	140	135	170	278	160	80	23	15	19 24	6 8	21.8 27.3
100	1/40	273 296	140 165	220	270	270 295	170	155	190	376	200	100	25	15	24 28	8 8	27.3 31.3
120	1/50	336	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	0.55	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





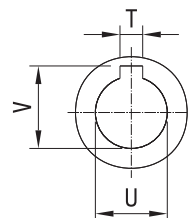
Shaft Direction



Unit:mm

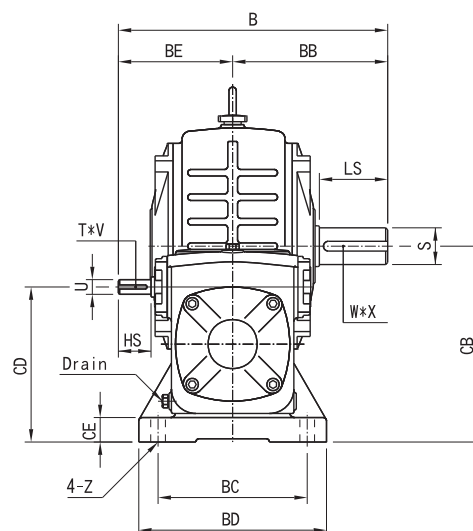
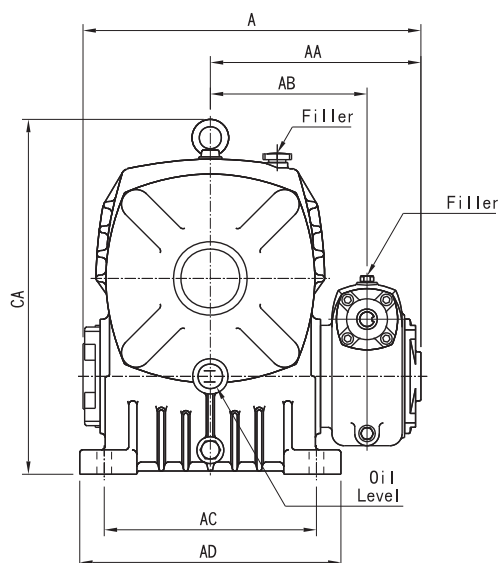
Size	Ratio	A	AB	AC	AD	B	BB	BC	BD	CA	CB	CC	CE	Z	Input Bore		
															U	T	V
100	1/10 1/40	275	143,5	220	270	260	170	155	190	376	200	100	25	15	25,4	6,35	28,5
120	1/15	311	155	260	320	291	190	180	230	435	240	120	30	18	25,4	6,35	28,5
	1/20 1/50																
135	1/30 1/60	348	178	290	350	320	210	200	250	490	270	135	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

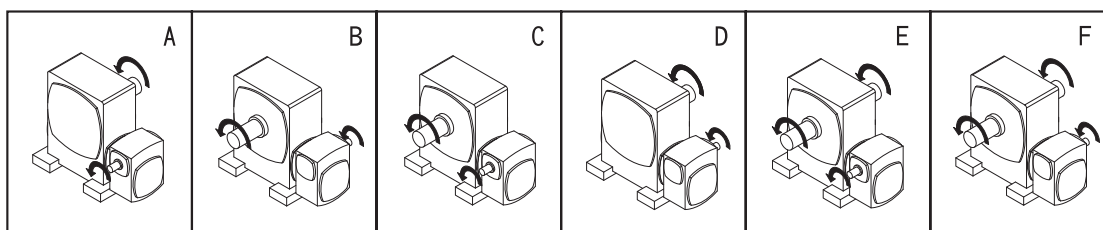


INPUT-BORE VIEW

Size : 50/80~80/135



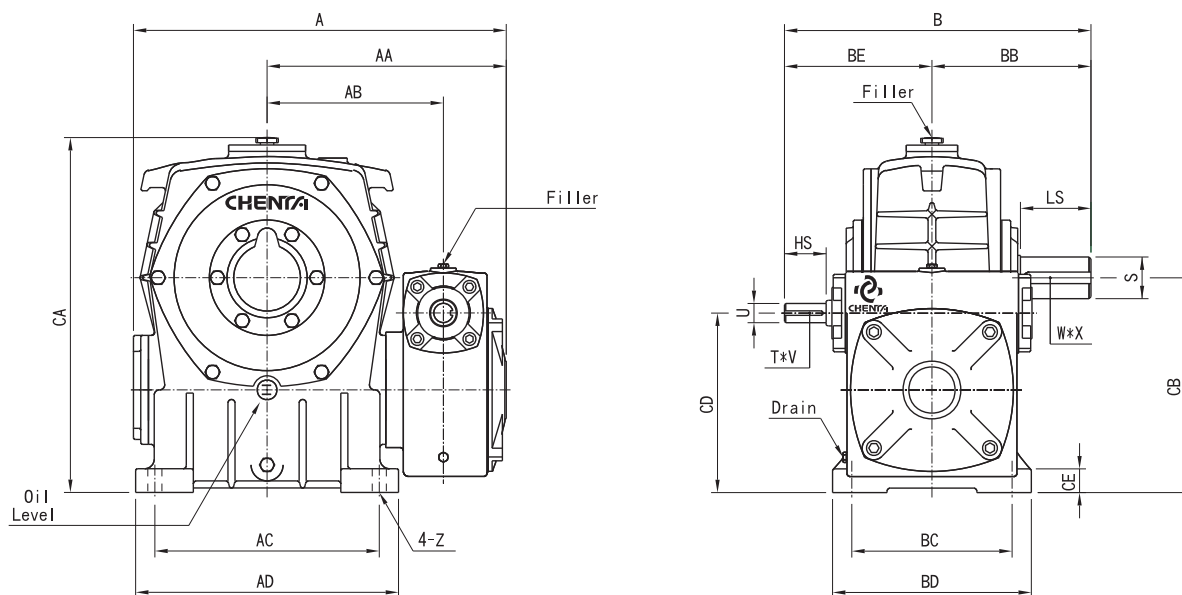
Shaft Direction



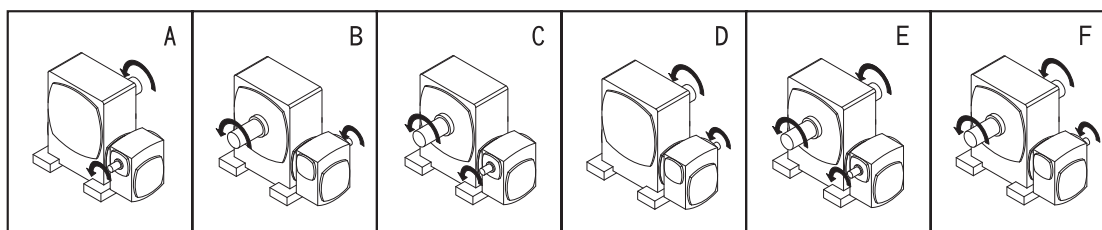
Unit:mm

Size	Ratio	A	AA	AB	AC	AD	B	BB	BC	BD	BE	CA	CB	CD	CE	Z
50-80	1/100 1/3600	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	160	25	15
70-120		417	258	192	260	320	330	190	180	230	140	430	240	190	30	18
80-135		463	287	211	290	350	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



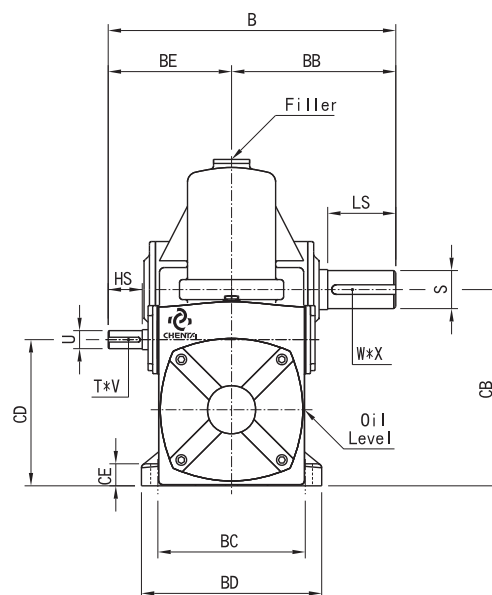
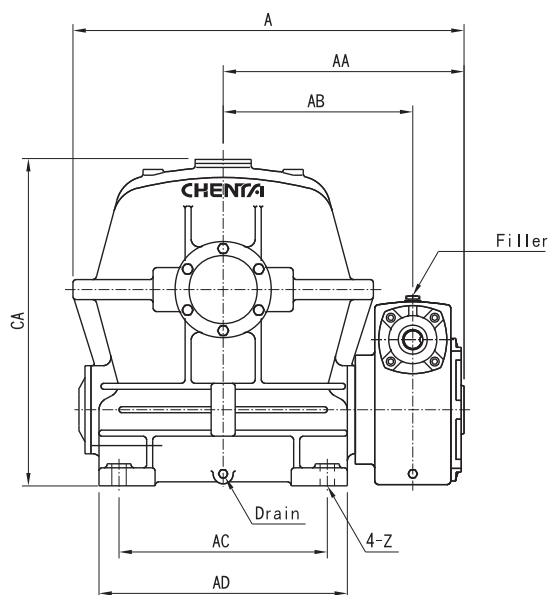
Shaft Direction



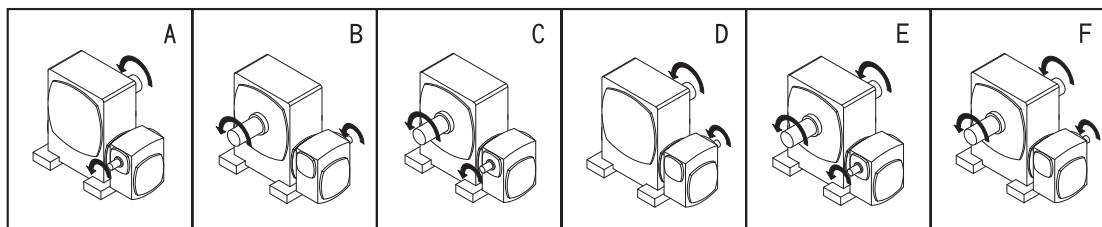
Unit:mm

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	280	192	487	290	235	30	20
120-175		585	376	275	350	410	478	248	250	310	230	553	335	280	37	20
120-200		660	414	312, 5	350	420	535	305	280	350	230	637	390	310	35	22
135-225	1/3600	672	425	315	390	470	605	345	330	410	260	680	415	325	45	27
155-250		750	483	365	440	520	646	360	380	440	286	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	367
155-250	85	40	10*5	145	90	24*8	22	428



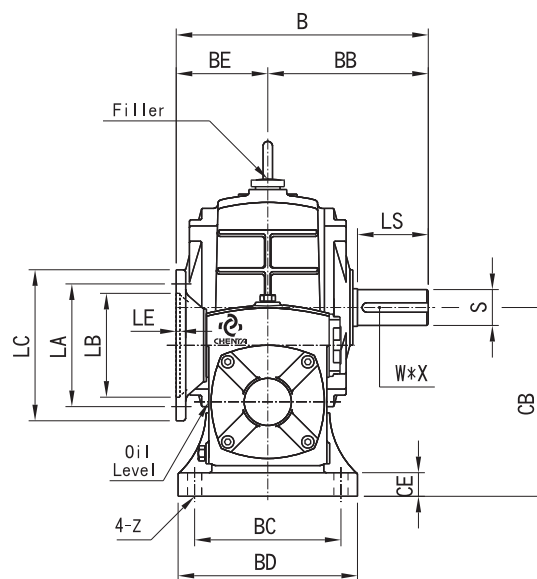
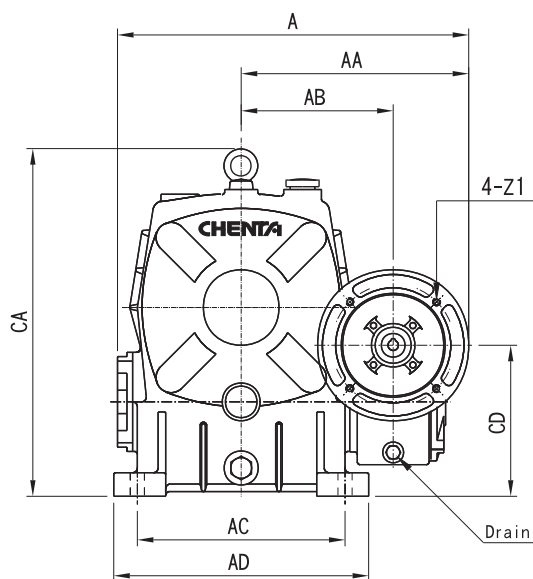
Shaft Direction



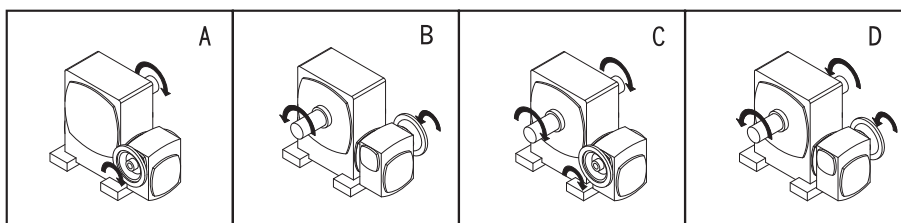
Unit:mm

Size	Ratio	A	AA	AB	AC	AD	B	BB	BC	BD	BE	CA	CB	CD	CE	Z
175-300	1/100 1/3600	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		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	560
200-350	95	50	12*5	190	115	32*10	80	860
225-400	95	55	15*5	205	130	35*11	110	1215



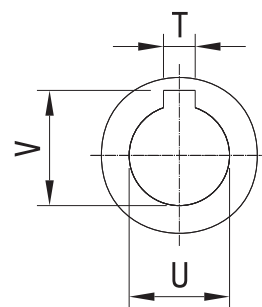
Shaft Direction



Unit:mm

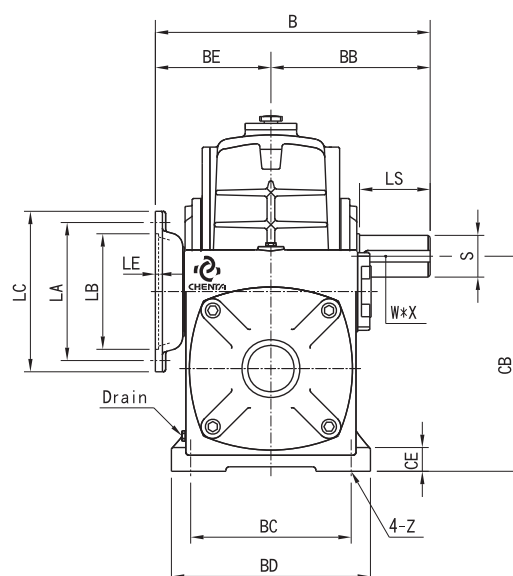
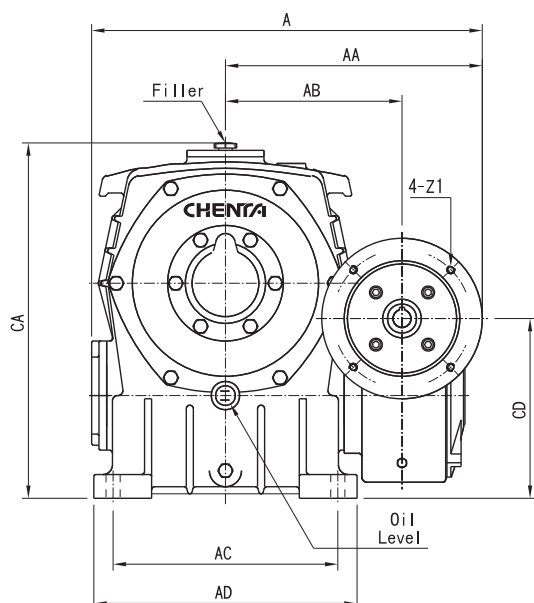
Size	Ratio	A	AA	AB	AC	AD	B	BB	BC	BD	BE	CA	CB	CD	CE	Z	Input Bore		
																	U	T	V
50-80	1/100 ~ 1/3600	316	212	132	180	220	237	140	135	170	96	271	160	130	23	15	11 14	4 5	12.8 16
60-100		372	241	161	220	270	267	170	155	190	97	372	200	160	25	15	11 14	4 5	12.8 16
70-120		428 448	272 292	192	260	320	308 310	190	180	230	118 120	435	240	190	30	18	14 19	5 6	16 21.8
80-135		481	311	211	290	350	340	210	200	250	130	490	270	215	30	18	19 24	6 8	21.8 27.3

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	160	4	M8	1/4 1/2	1, 2	24, 9
60-100	75	38	10*5	130	110	160	4	M8	1/4 1/2	2, 2	48, 1
70-120	85	45	12*5	130 165	110 130	160 200	4 5	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

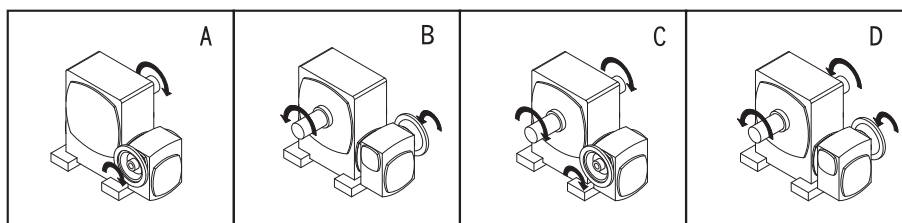


INPUT-BORE VIEW

Size : 100/155~155/250



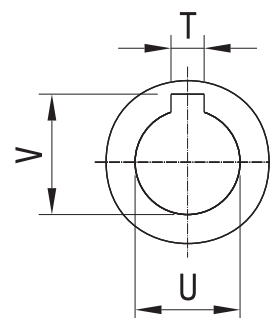
Shaft Direction



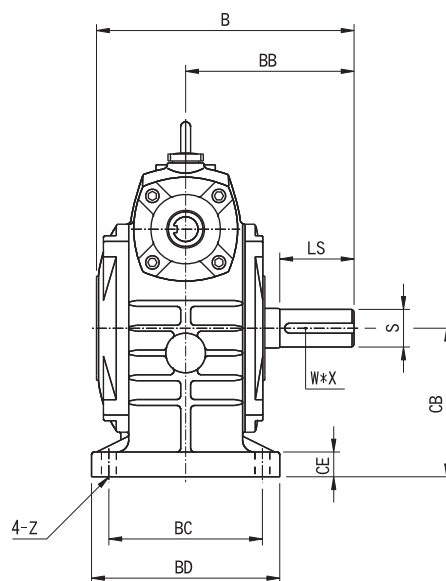
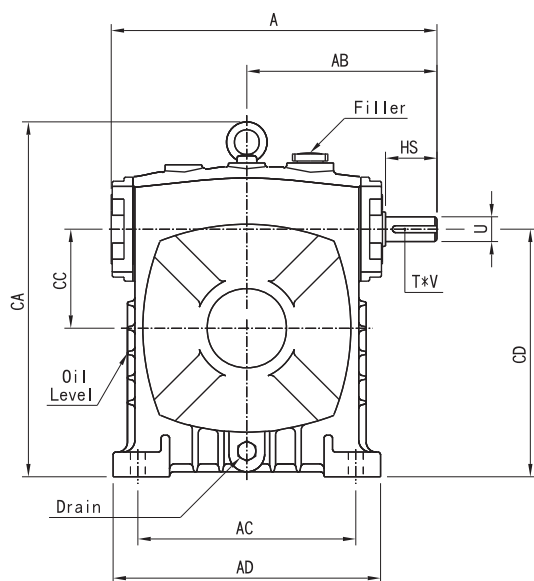
Unit:mm

Size	Ratio	A	AA	AB	AC	AD	B	BB	BC	BD	BE	CA	CB	CD	CE	Z	Input Bore		
																	U	T	V
100-155	1/100 1/3600	545 574	357 382	257	320	385	382 384	242	220	280	140 142	487	290	235	32	20	24 28	8 8	27.3 31.3
120-175		608	400	275	350	410	428	248	250	310	180	553	335	280	37	20	28	8	31.3
120-200		687	437	312.5	350	420	485	305	280	350	180	637	390	310	35	22	28	8	31.3
135-225		692 717	440 465	315	390	470	540 563	345	330	410	195 218	680	415	325	45	27	28 38	8 10	31.3 41.3
155-250		817	515	365	440	520	596	360	380	440	236	742	450	355	40	27	38	10	41.3

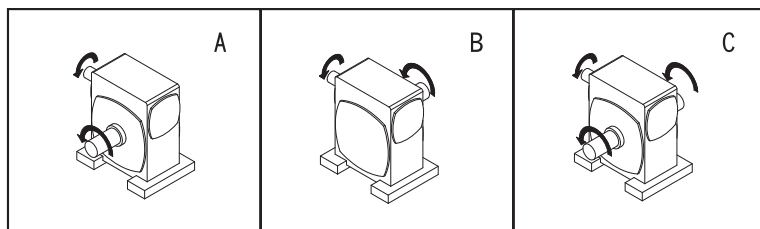
Size	Output Shaft			Flange					HP	Oil (l)	Weight (kg)
	LS	S	W*X	LA	LB	LC	LE	Z1			
100-155	100	60	15*5	165 215	130 180	200 250	5	M10 M12	2 3	6.1	138.7
120-175	110	65	18*6	215	180	250	5	M12	3 5	9.2	199.6
120-200	125	70	20*7	215	180	250	5	M12	5	15	261
135-225	140	80	20*7	215 265	180 230	250 300	5	M12 15	5 7.5	17	365
155-250	145	90	24*8	265	230	300	5	15	10	22	425



INPUT-BORE VIEW



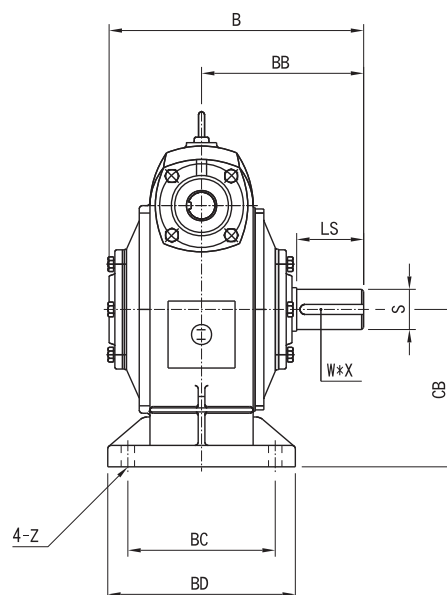
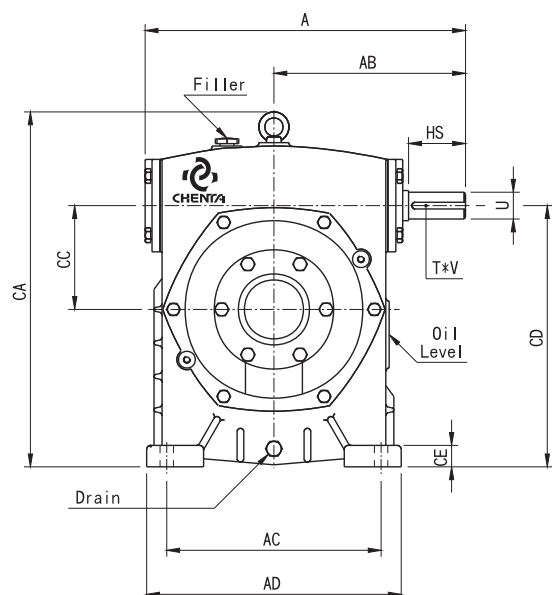
Shaft Direction



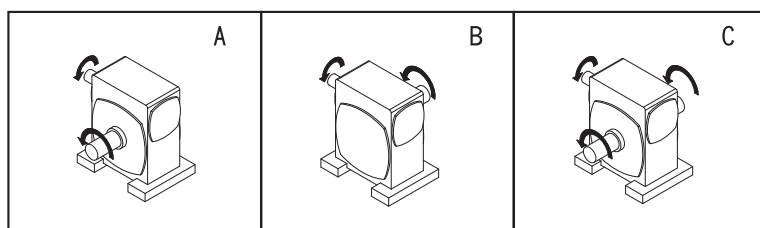
Unit:mm

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	60	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	1/20	265	160	180	220	216	140	135	170	260	120	80	200	20	15
100		328	192	220	270	262	170	155	190	359	150	100	250	25	15
120	1/30	389	230	260	320	288	190	180	230	425	180	120	300	30	18
135		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



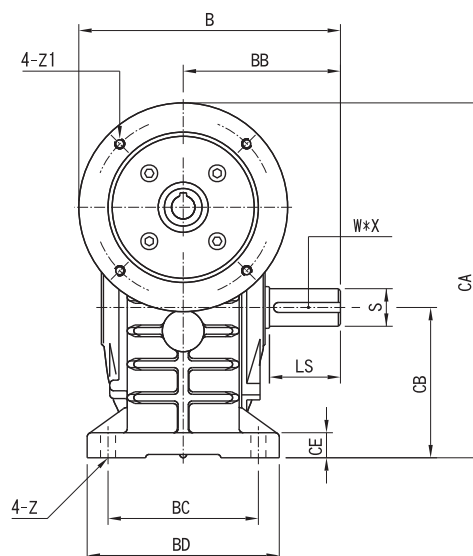
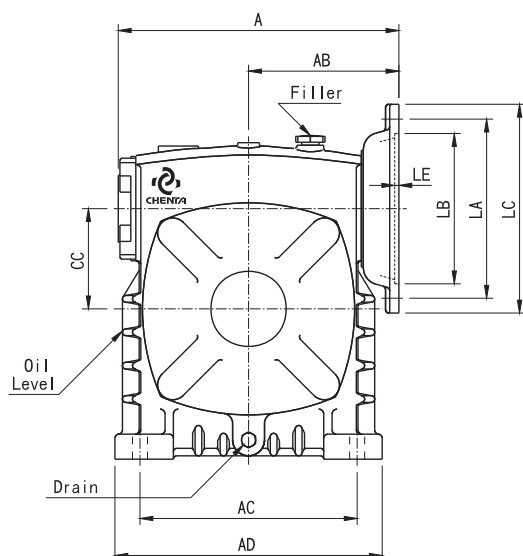
Shaft Direction



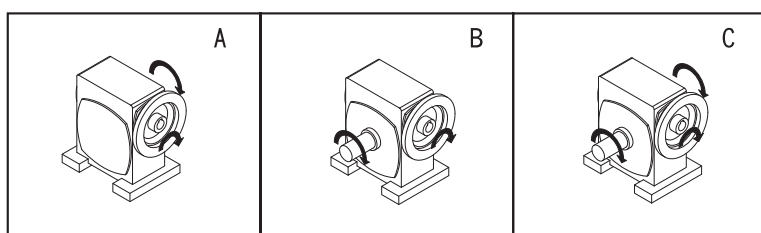
Unit:mm

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	1/15 1/50	517	308	350	410	381	248	250	310	587	260	175	435	35	20
200	1/20 1/60	697	357	350	420	479	305	280	350	650	290	200	490	35	22
225		709	361	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



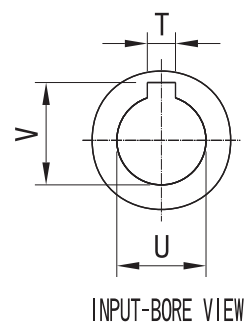
Shaft Direction



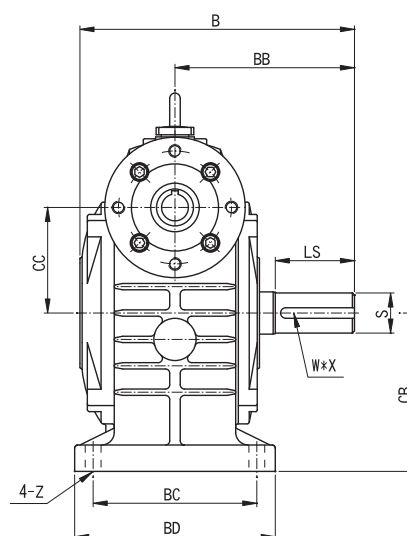
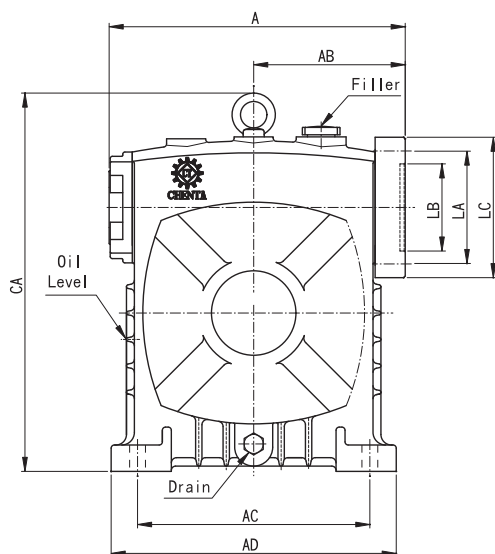
Unit:mm

Size	Ratio	A	AB	AC	AD	B	BB	BC	BD	CA	CB	CC	CE	Z	Input Bore		
															U	T	V
50	1/10	173	96	110	140	175	95	95	120	210	80	50	18	11	11 14	4 5	12.8 16
60	1/15	177	97	120	150	190	110	105	130	230	90	60	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 6	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

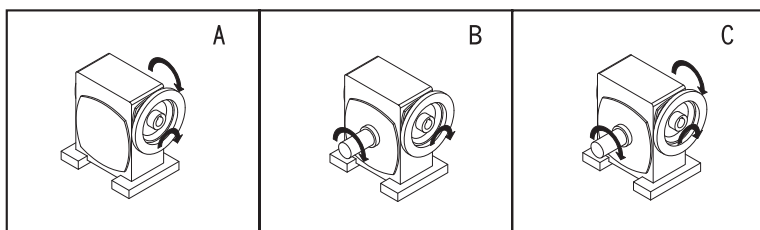
Size	Output Shaft			Flange					HP	Oil (l)	Weight (kg)
	LS	S	W * X	LA	LB	LC	LE	Z1			
50	40	17	5 * 3	130	110	160	4	M8	1/4 1/2	0.22	7.2
60	50	22	7 * 4	130	110	160	4	M8	1/4 1/2	0.32	10
70	60	28	7 * 4	130 165	110 130	160 200	4 5	M8 M10	1/2 1	0.55	15
80	65	32	10 * 5	165	130	200	4	M10	1 2	0.77	20.2
100	75	38	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



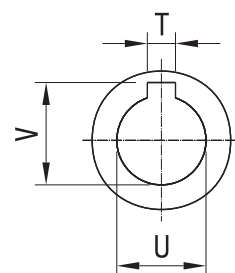
Shaft Direction



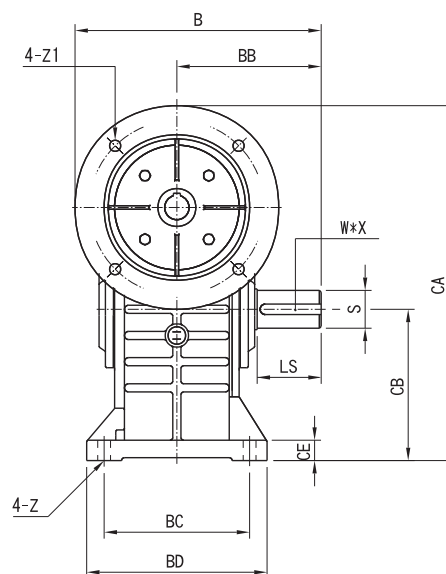
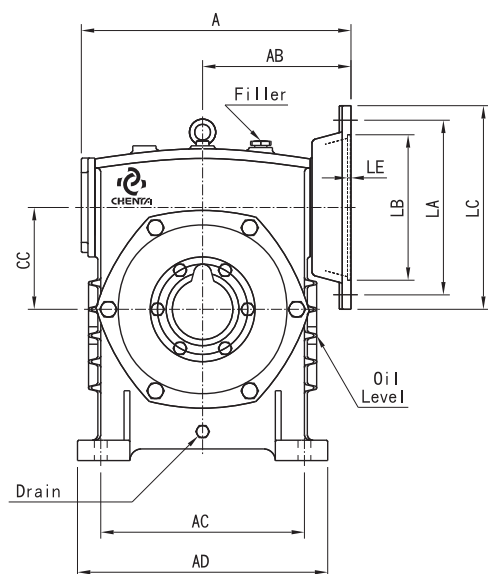
Unit:mm

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 1/50	311	155	260	320	288	190	180	230	425	180	120	30	18	25,4	6,35	28,5
135	1/20 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

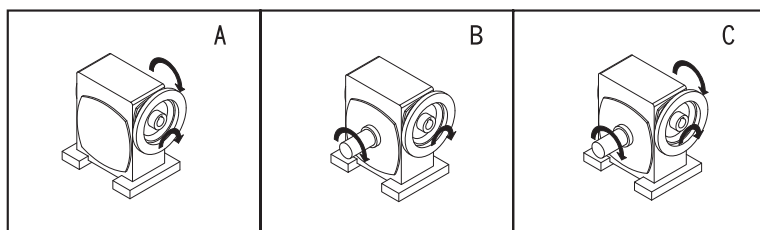
Size	Output Shaft			Flange				
	LS	S	W * X	LA	LB	LC	LE	Z1
100	75	38	10 * 5	107	82,55	133	5	M12
120	85	45	12 * 5	107	82,55	145	7	M12
135	95	55	15 * 5	107	82,55	153	10	M12



INPUT-BORE VIEW



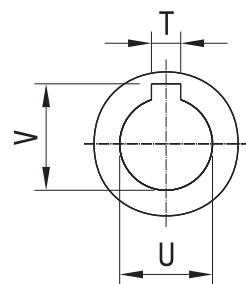
Shaft Direction



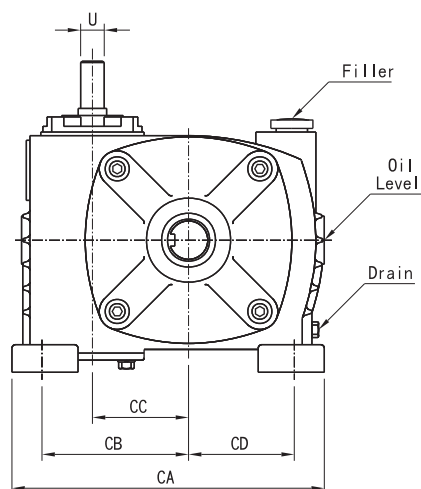
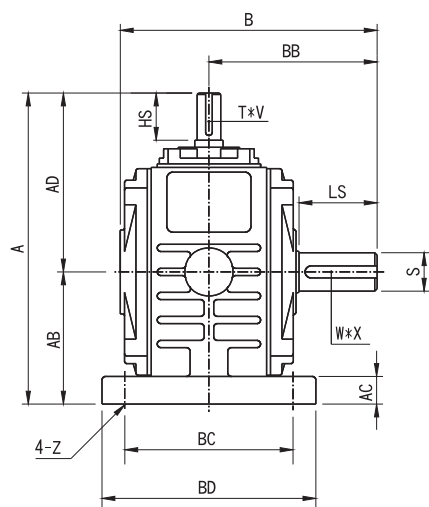
Unit:mm

Size	Ratio	A	AB	AC	AD	B	BB	BC	BD	CA	CB	CC	CE	Z	Input Bore			
															U	T	V	
155	1/10	1/40	430	236	320	380	392	242	220	280	540	235	155	32	20	38	10	41.3
	1/15	1/50	420	212	350	410	398	248	250	310	585	260	175	35	20	38	10	41.3
175	1/20	1/60	465	255	350	410	423	248	250	310	610	260	175	35	20	42	12	45.3
	1/30	1/60	465	255	350	410	423	248	250	310	610	260	175	35	20	42	12	45.3

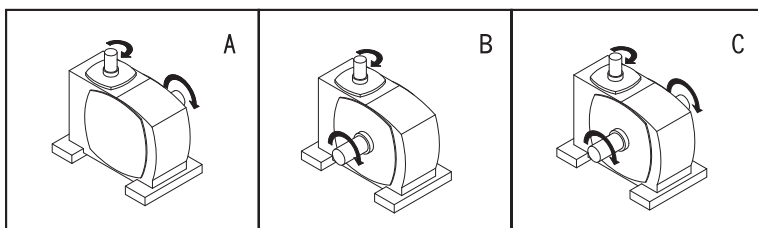
Size	Output Shaft			Flange					HP	Oil (l)	Weight (kg)
	LS	S	W * X	LA	LB	LC	LE	Z1			
155	100	60	15 * 5	265	230	300	4.5	15	7.5 10	11.5	115
175	110	65	18 * 6	265 300	230 250	300 350	5 6	M12 19	10 15	7.4	160



INPUT-BORE VIEW



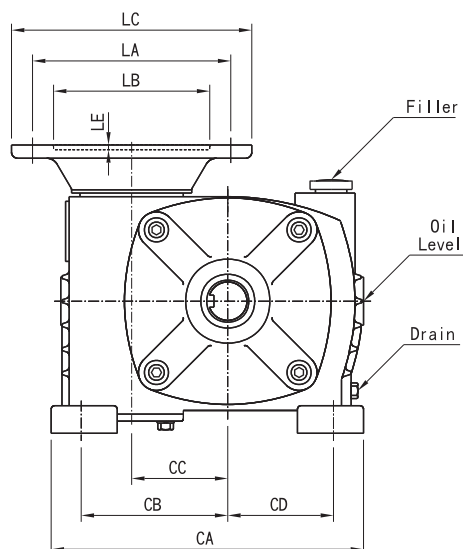
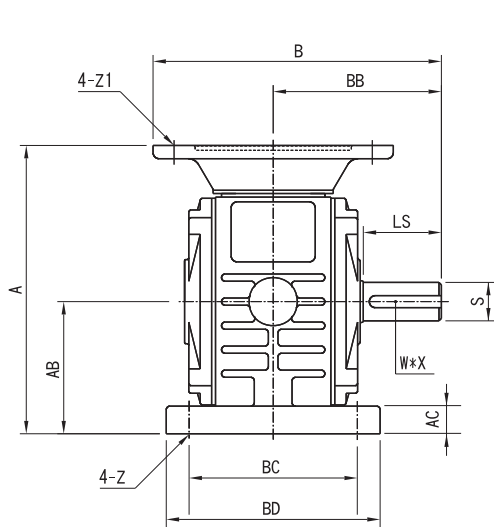
Shaft Direction



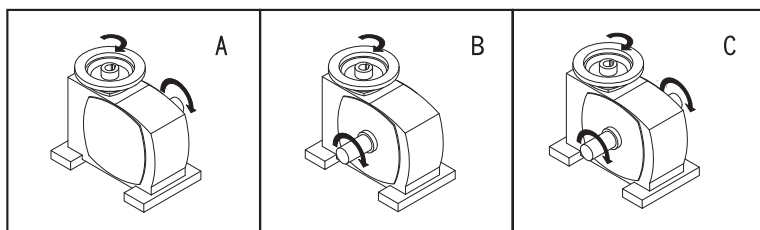
Unit:mm

Size	Ratio	A	AB	AC	AD	B	BB	BC	BD	CA	CB	CC	CD	Z
50	1/10	177	70	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	55	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



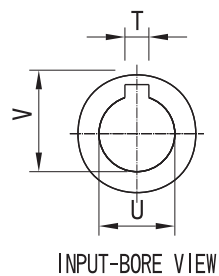
Shaft Direction



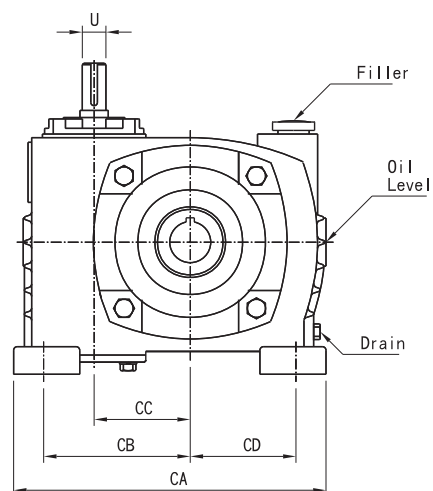
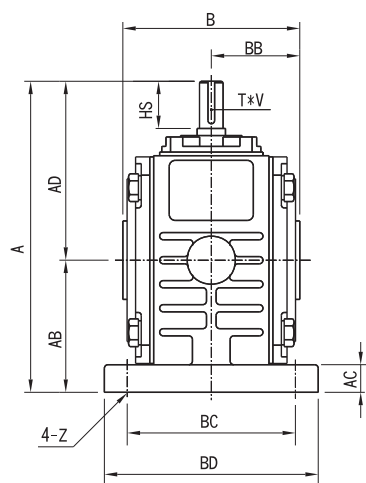
Unit:mm

Size	Ratio	A	AB	AC	B	BB	BC	BD	CA	CB	CC	CD	Z	Input Bore		
														U	T	V
50	1/10	162	70	15	175	95	100	125	161	77	50	53	11	11 14	4 5	12.8 16.3
60	1/15	187	90	20	190	110	105	136	205	98	60	67	10	11 14	4 5	12.8 16.3
70	1/20	228 230	110	20	210 230	130	120	155	196	100	70	55	15	14 19	5 6	16.3 21.8
80	1/30	235	105	20	240	140	125	160	264	125	80	90	15	19 24	6 8	21.8 27.3
100	1/40	277 279	135	25	270 295	170	170	205	320	157	100	115	15	24 28	8 8	27.3 31.3
120	1/50	335	155	30	315	190	180	230	352	170	120	120	18	28	8	31.3
135	1/60	365 388	170	30	335 360	210	200	250	390	200	135	130	18	28 38	8 10	31.3 41.5

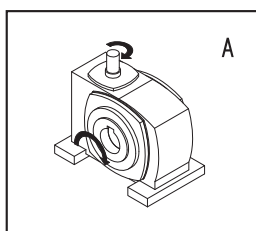
Size	Output Shaft			Flange					HP	Oil (l)	Weight (kg)
	LS	S	W * X	LA	LB	LC	LE	Z1			
50	40	17	5 * 3	130	110	160	4	M8	1/4 1/2	0.3	9
60	50	22	7 * 4	130	110	160	4	M8	1/4 1/2	0.5	13
70	60	28	7 * 4	130 165	110 130	160 200	4 5	M8 M10	1/2 1	1	16
80	65	32	10 * 5	165	130	200	5	M10	1 2	1.2	23
100	75	38	10 * 5	165 215	130 180	200 250	5	M10 M12	2 3	2.8	40
120	85	45	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



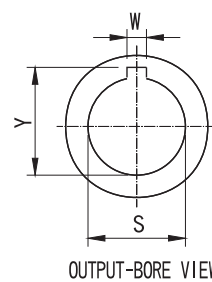
Shaft Direction

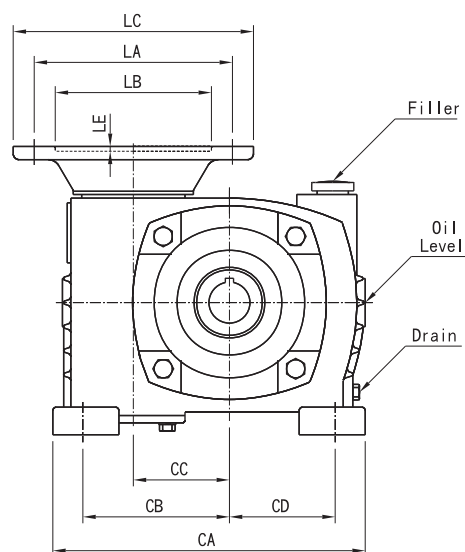
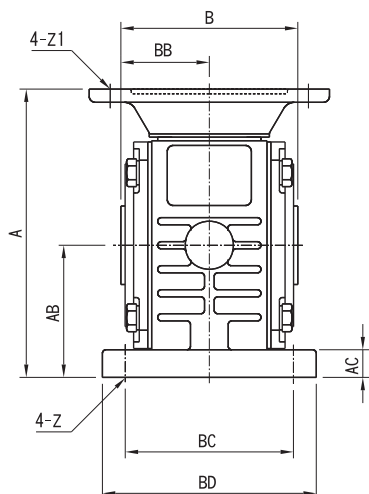


Unit:mm

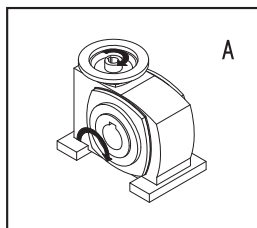
Size	Ratio	A	AB	AC	AD	B	BB	BC	BD	CA	CB	CC	CD	Z
50	1/10	177	70	15	107	110	55	100	125	161	77	50	53	11
60	1/15	214	90	20	124	117	58.5	105	136	205	98	60	67	11
70	1/20	250	110	20	140	130	65	120	155	196	100	70	55	15
80	1/30	265	105	20	160	144	72	125	160	264	125	80	90	15
100	1/40	327	135	25	192	175	87.5	170	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





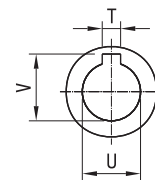
Shaft Direction



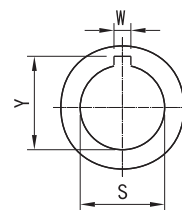
Unit:mm

Size	Ratio	A	AB	AC	B	BB	BC	BD	CA	CB	CC	CD	Z	Input Bore		
														U	T	V
50	1/10	162	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	196	100	70	55	15	14 19	5 6	16.3 21.8
80	1/30	235	105	20	144	72	125	160	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

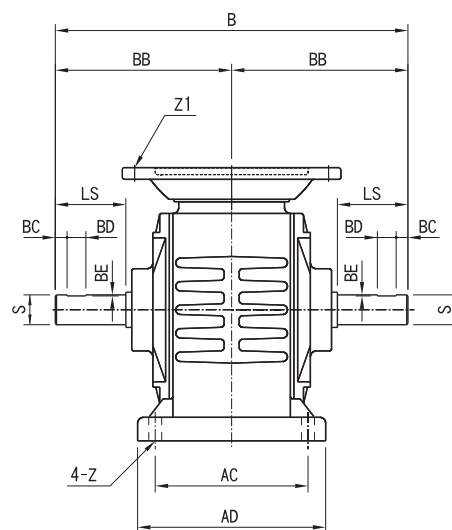
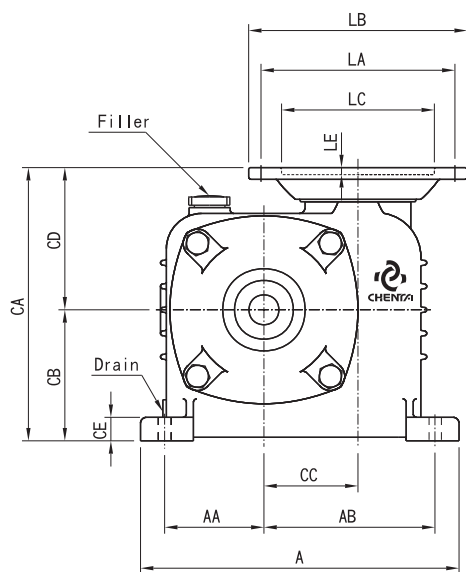
Size	Output Bore			Flange					HP	Oil (l)	Weight (kg)
	S	W	Y	LA	LB	LC	LE	Z1			
50	20	5	22.3	130	110	160	4	M8	1/4 1/2	0.3	9
60	25	7	28	130	110	160	4	M8	1/4 1/2	0.5	13
70	30	8	33.3	130 165	110 130	160 200	4 5	M8 M10	1/2 1	1	16
80	35	10	38.5	165	130	200	5	M10	1 2	1.2	23
100	40	12	43.5	165 215	130 180	200 250	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



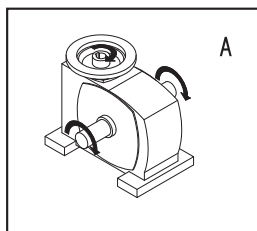
INPUT-BORE VIEW



OUTPUT-BORE VIEW



Shaft Direction



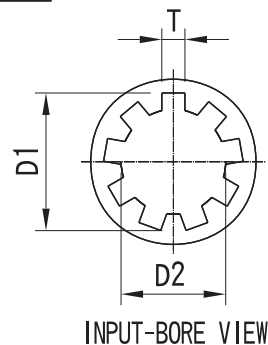
Unit:mm

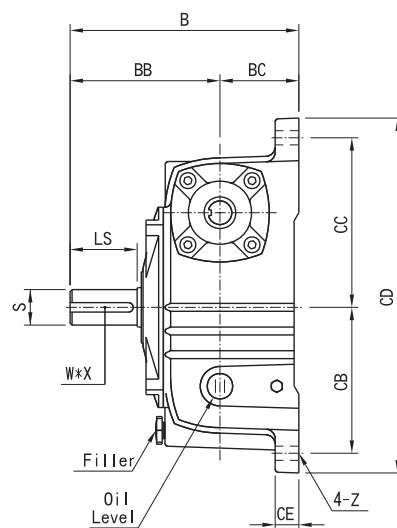
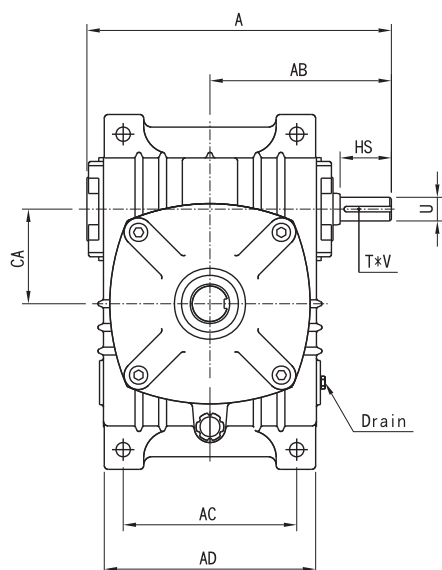
Size	Ratio	A	AA	AB	AC	AD	B	BB	CA	CB	CC	CD	CE	Z	Input Bore		
															D1	D2	T
W80	1/15	265	85	145	130	155	300	155	232	112	80	120	17	1/2"	25	19	4, 2

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	186	130	6	3/8" UNC	1 2	1, 2	25

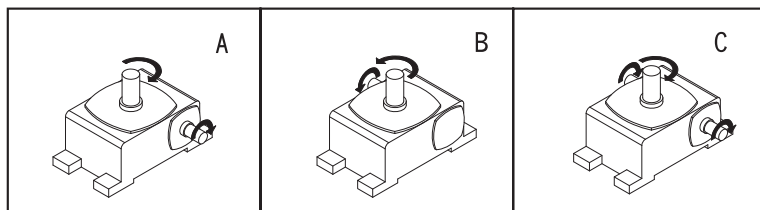
註：螺絲及出力軸皆採用 SUS304

*SUS304 for output shaft and screws





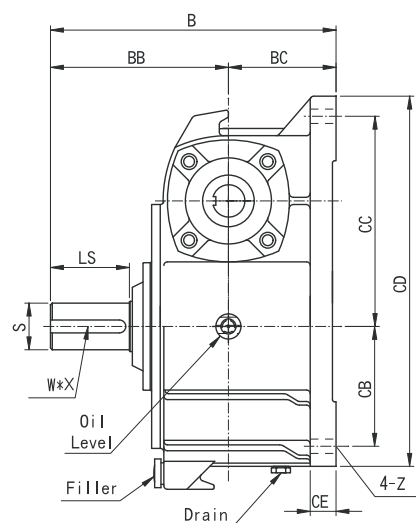
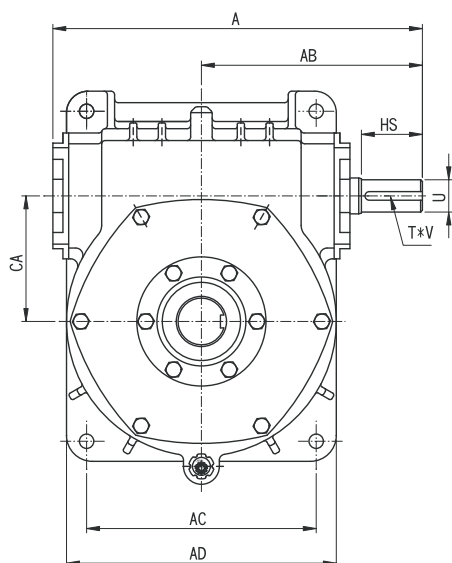
Shaft Direction



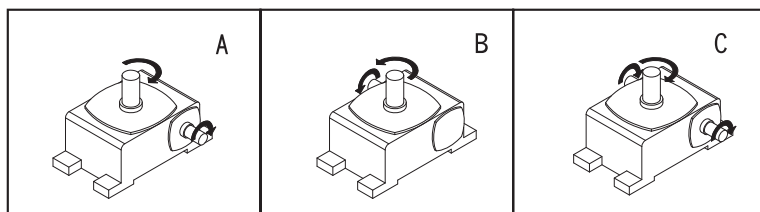
Unit:mm

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	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	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	176	213	140	73	80	130	150	320	20	15
100	1/50	328	192	190	226	260	170	90	100	155	180	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	75	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



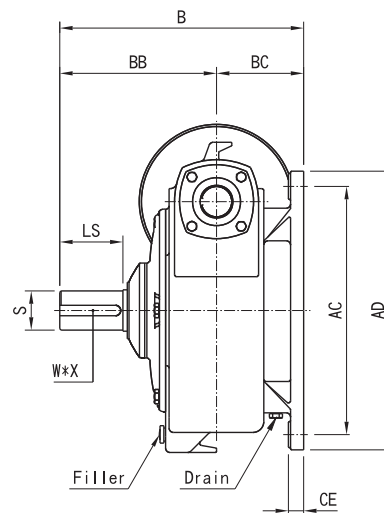
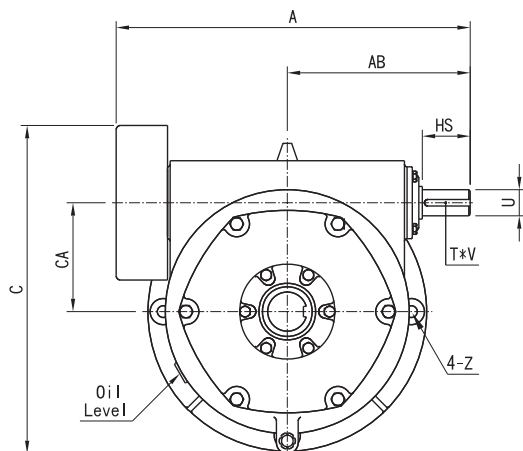
Shaft Direction



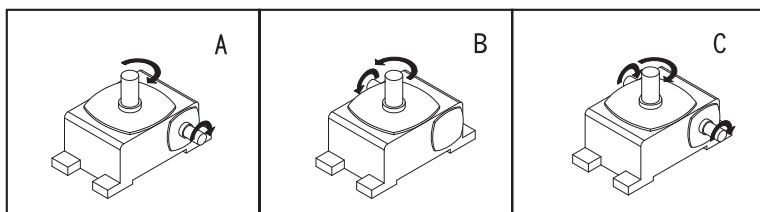
Unit:mm

Size	Ratio	A	AB	AC	AD	B	BB	BC	CA	CB	CC	CD	CE	Z
155	1/10 1/40 1/15 1/50	479	286	290	336	382	242	140	155	145	265	456	30	20
175	1/20 1/60 1/30	515	308	320	376	398	248	150	175	167	293	516	35	20

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	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	495	305	190	643	200	30	22
225	1/15	709	361	510	580	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	495	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	60	15 * 5	145	90	24 * 8	23	365
300	125	70	18 * 6	170	95	24 * 8	45	520