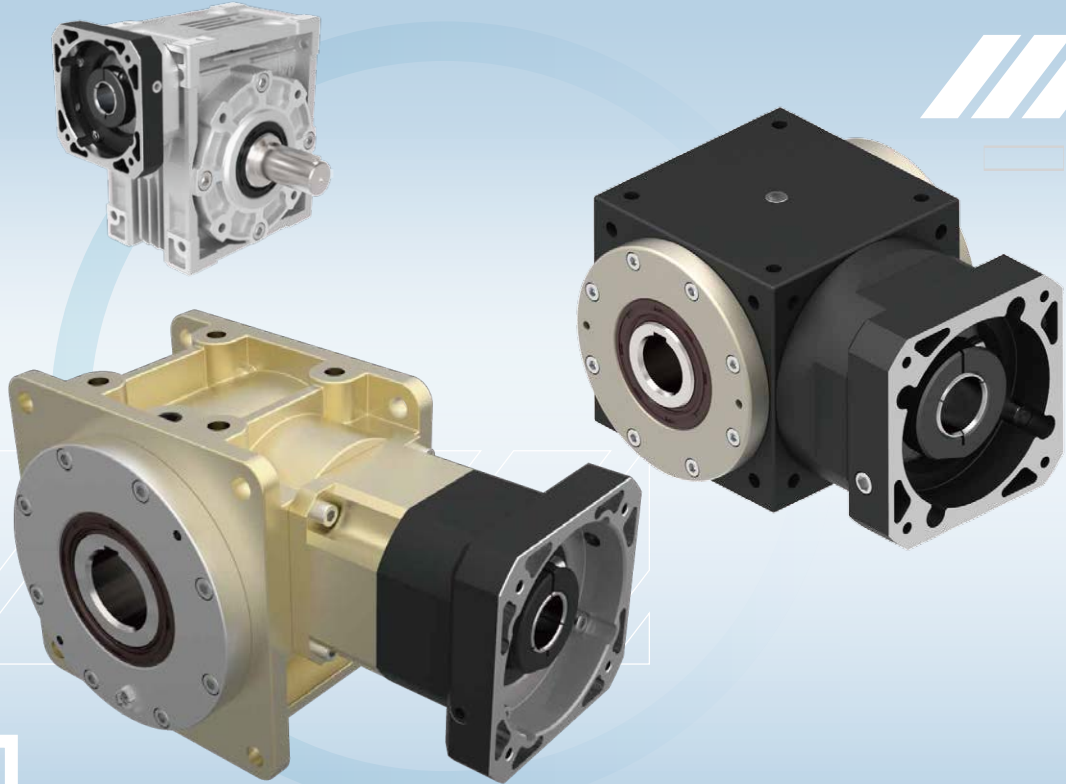


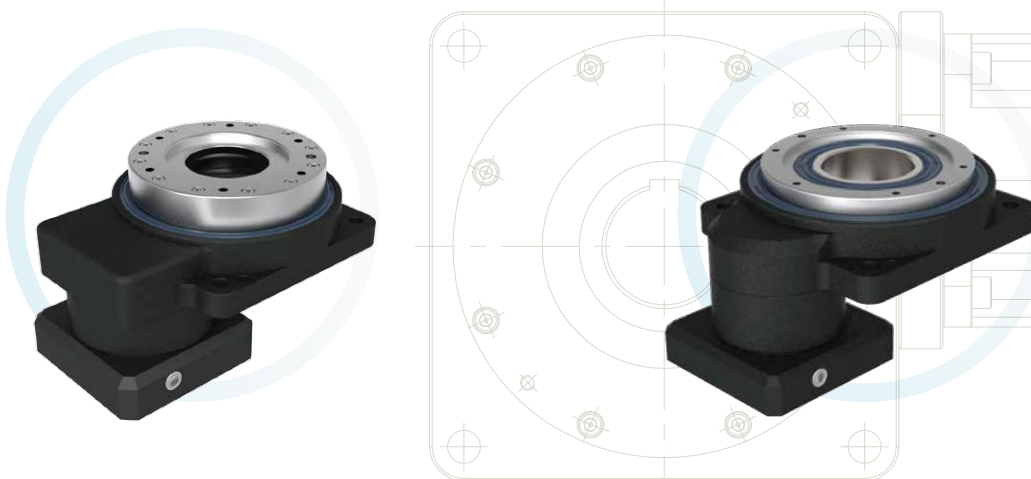
[SERVOBOX 2020]

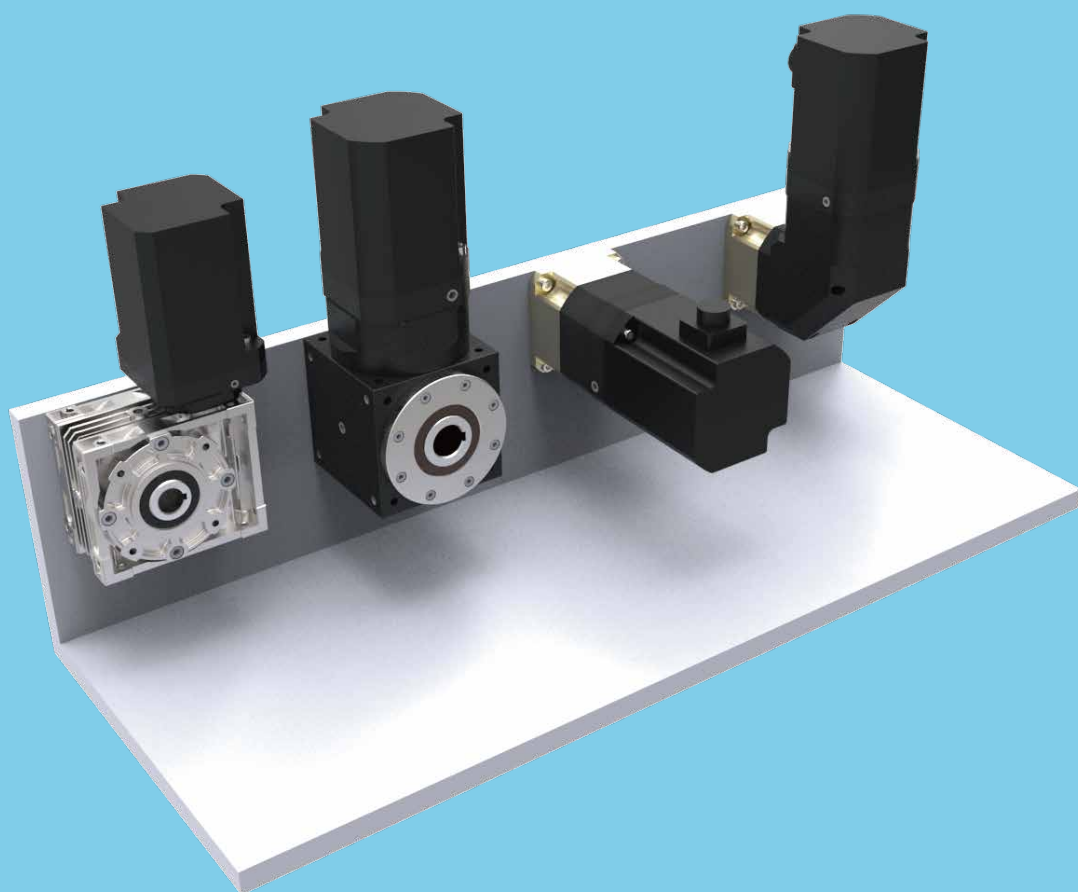
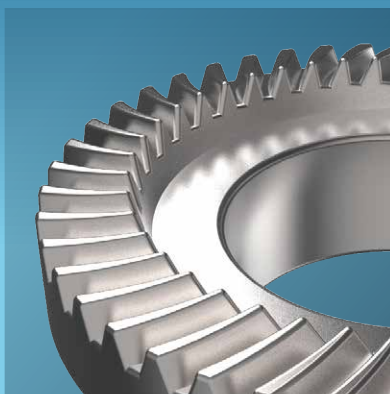


Right Angle Reducers

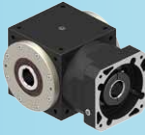
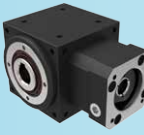
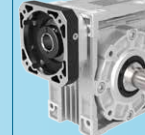
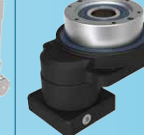


Hollow Rotary Reducers

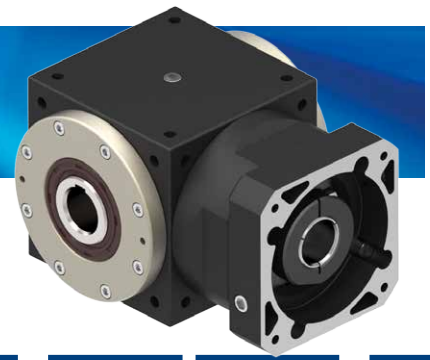






Series		ST	FT	HY	HK	HF	WE	GT
Page								
		2	36					
1-Stage		1, 2, 3, 4, 5	2, 3, 4, 5	5, 10, 15	5, 10, 15	5, 10, 15	10, 20, 30 40, 50, 60	5, 10, 18
2-Stage		10 ~ 50	10 ~ 50	25 ~ 150	-	-	-	25, 50, 100
Backlash (from)	arcmin	≤ 3	≤ 10	≤ 3	≤ 3	≤ 3	≤ 8	≤ 1
Backlash Increase due to wear	arcmin	≤ 2	≤ 2	≤ 2	≤ 2	≤ 2	≤ 10	≤ 2
Max. Input Power	kW	22	0.4	22	11	11	1.5	1.5
Rated Input Speed	rpm	2,000~3,000	2,000~3,000	2,000~3,000	700~4,000	700~4,000	2,000	3,000
Max. Input Speed	rpm	3,000~7,500	7,000	4,500~8,000	3,000~6,000	3,000~6,000	3,000	4,500~6,000
Efficiency	%	94% ~ 98%	94% ~ 98%	93% ~ 96%	93% ~ 96%	$\geq 96\%$	55% ~ 90%	$\geq 98\%$

ST Series



Ordering Code

ST	90	F	N	B	5	L	P0
Series	Model	Input	Output	Bearing	Ratio	Shaft Direction	Backlash Class
ST	65	F: Input Flange	O: Hollow Output Shaft	B: Ball Bearing	1-Stage	L: Left Shaft	P0
	75	R44: Reducer	N: Single Clamping (Keyway)	(65#~210#)	1, 2, 3, 4, 5	(default)	P1
	90			(Ratio: 1~5)	-----	for output types N and S	P2
	110	1-Stage:	N1: Single Clamping (No Keyway)				
	140	R44, R62, R90, R120, R142	M: Double Clamping	T: Taper Bearing	With 1-Stage Planetary Reducer	R: Right Shaft for output type N, S and P	
	170	2-Stage:	S: Single Output Shaft (Keyway)	(75#~210#)	10 ~ 50		
	210	R62S, R90S, R120S, R142S	S1: Single Output Shaft (No Keyway)	(Ratio: 2~5)	-----		
		2-Stage (A-Type): R44A, R62A, R90A, R120A, R142A	V: Double Output Shaft (Keyway)		With 2-Stage Planetary Reducer		
			V1: Double Output Shaft (No Keyway)		75 ~ 500		
		D: Single Input Shaft (Keyway)	P: Ball Screw (75#~210#) Taper Bearing Only				
		D1: Single Input Shaft (No Keyway)					
		Y: Double Input Shaft (Keyway)					
		Y1: Double Input Shaft (No Keyway)					

ST Bevel Gear Reducer Assembly and Planetary Reducer Stage Ratios

Model	Ratio	Flange Model	Planetary Reducer Model	Ratio of 1-Stage Planetary Reducer 5, 10	Ratio of 2-Stage Planetary Reducer 25, 50, 100
65		62	44		
75	1	62	44		
90	2	90	62		
110	3	90	80		
140	4	120	90		
170	5	142	120		
210		180	142		
				Ratio of Bevel Gear Reducer Fitted with 1-Stage Planetary Reducer 10, 15, 20, 25, 30, 40, 50	Ratio of Bevel Gear Reducer Fitted with 1-Stage Planetary Reducer 75, 100, 125, 150, 200, 250, 300, 400, 500

Input / Output Type Selection

Input Type

F: Flange Input

R: Reducer Input

D: Single Input Shaft

Y: Double Input Shaft

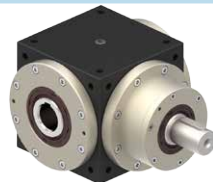
O
Hollow
Output
Shaft



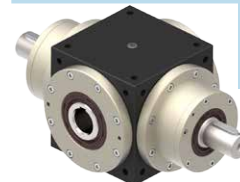
FO



RO



DO



YO

N^l
Single
Clamping



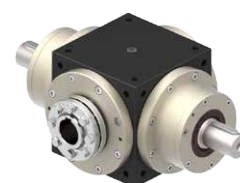
FN



RN



DN



YN

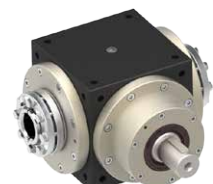
M
Double
Clamping



FM



RM



DM



YM

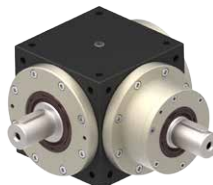
S^l
Single
Output Shaft



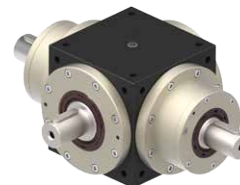
FS



RS



DS



YS

V
Double
Output Shaft



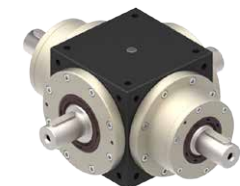
FV



RV



DV



YV

P²
Ball Screw



FP



RP



DP



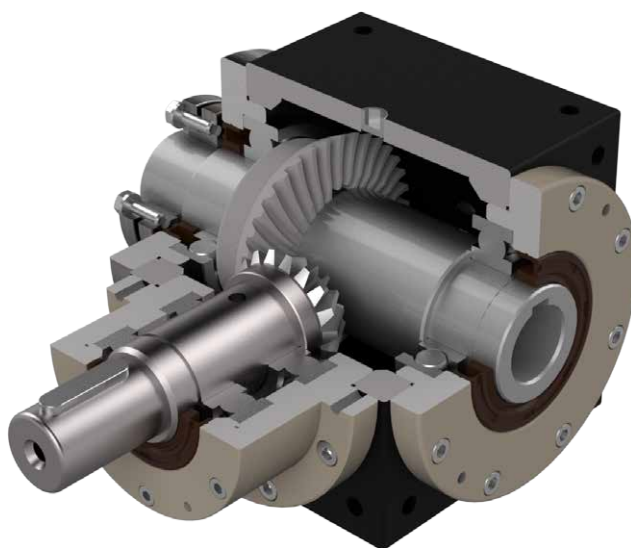
YP

Output Type

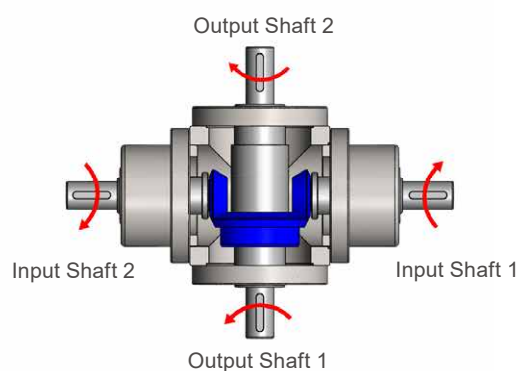
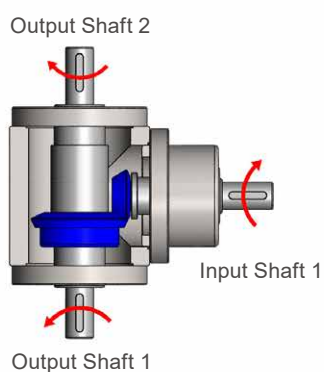
1. Select L or R shaft direction for N and S output types. Default direction is L (if unspecified)
2. Only R shaft direction is available for P output type.

ST Series Output Rotation Direction

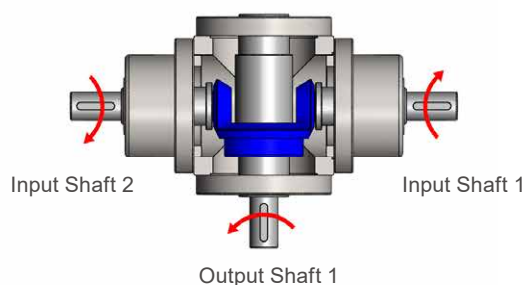
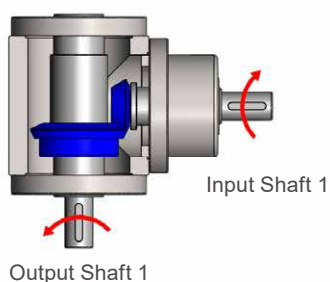
ST



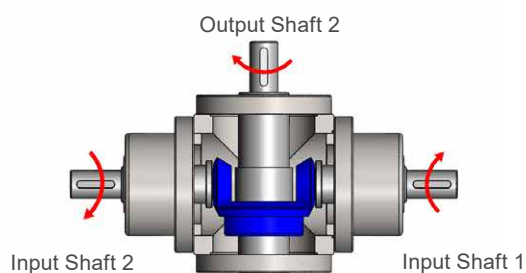
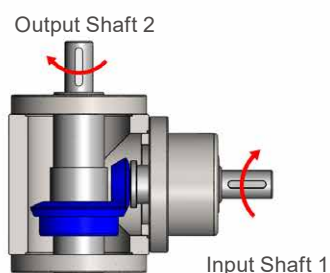
Shaft Direction



Shaft Direction



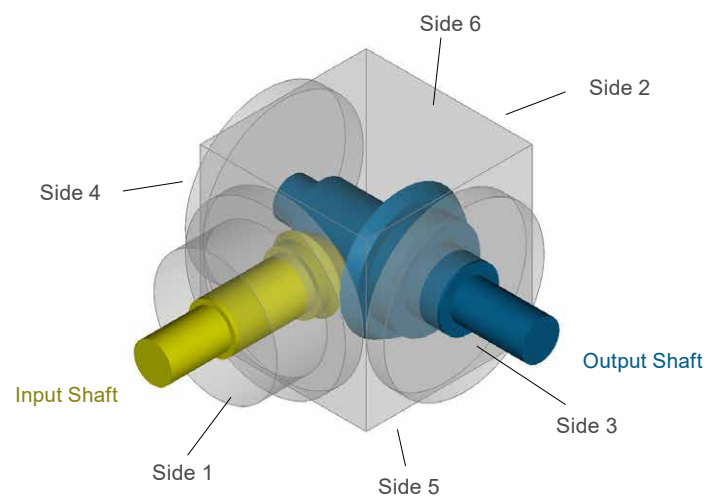
Shaft Direction



L shaft direction is default, R shaft direction is optional

ST Series Installation Orientation

ST

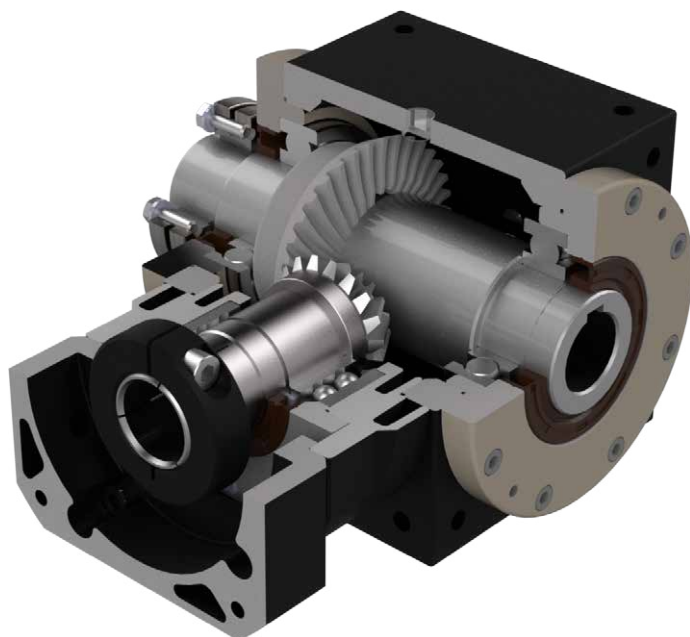


Side 1	Side 2
Side 3	Side 4
Side 5	Side 6

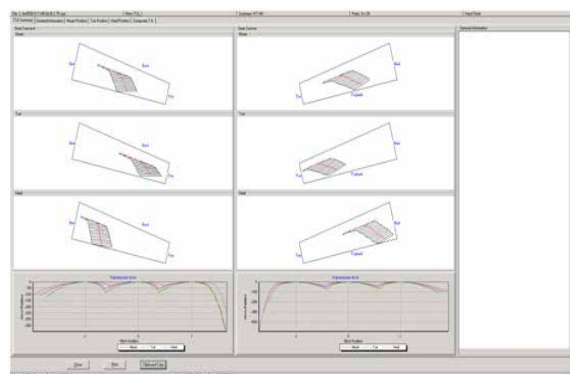
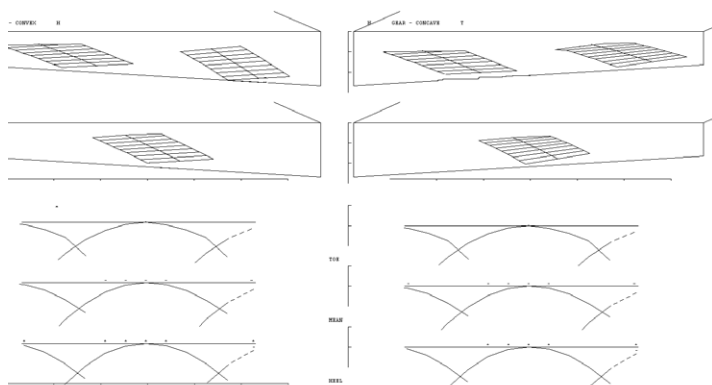
[Note 1] Avoid side 4 installation if possible

Features of ST Series

ST



- High precision ground and carburized spiral bevel gears meet AGMA12 standards



Optimized Design and CAE Analysis

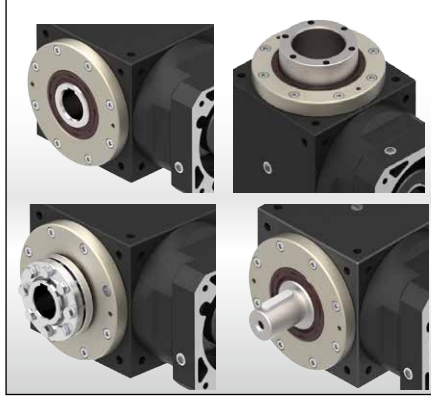
- Our engineers use Gleason's software modeling to manufacture spiral bevel gears with ideal teeth contact profile to achieve highest possible output torque and efficiency.
- 3D-CAE analysis and design software is used to maximize operating life by evaluating whole reducer and individual teeth for optimal meshing and strength.

Features of ST Series



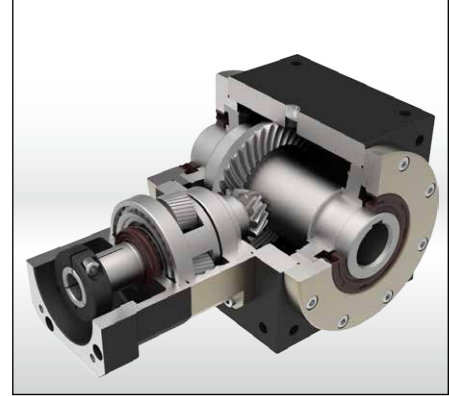
Low Backlash

- Gleason high precision CNC grinding machines are used to grinding the spiral bevel gears. Torsional backlash up to 2 arc-min, depending on model.



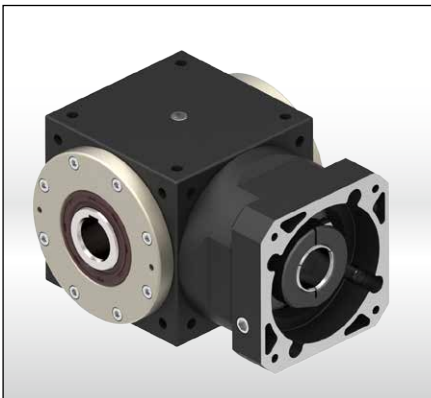
Mounting Position

- Multiple output configurations to match application requirements and to simplify installation. Suitable for mounting in any orientation. Gearhead and input shaft options for reliable coupling to most motor brands and models.



More High Gear Ratio

- High precision ground and carburized spiral bevel gear, combined with high precision planetary stage permit exact ratios from 1:1 up to 500:1.



Maintenance-free design

- Greased and sealed for long, maintenance-free service life.

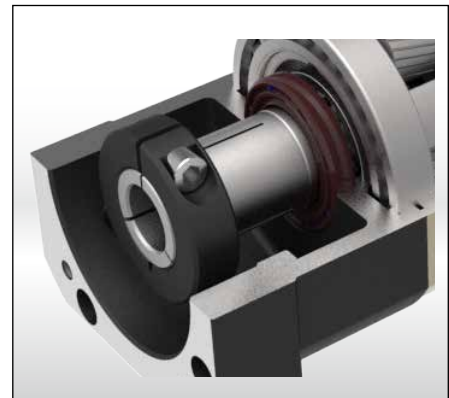
Gearhead construction

- The gearhead style direct motor shaft coupling ensures high rigidity, improves servo stability, and maximizes protection from contamination and corrosion.



High torque density

- The compact structure and advanced design ensure that high torque, speed and reduction ratios can be achieved within a small-size and low-weight body.



Collet Locking Mechanism

- Dynamically ballanced, backlash-free locking collet securely copules motor shaft to the gearbox input, permitting transmission of full motor torque and speed to the gearbox input stage.

ST Series Specifications

ST

1-Stage

Model / Size No.	Sym	Unit	Ratio	65	75	90	110	140	170	210
Rated Output Torque (Nominal Output Torque)	T_{2N}	Nm	1	25	45	78	150	360	585	1,300
			2	24	42	68	150	330	544	1,220
			3	18	33	54	120	270	450	1,020
			4	13	28	52	100	224	376	860
			5	12	25	40	85	196	320	740
Max. Acceleration Torque	T_{2B}	Nm	1~5	1.5 Times of Rated Output Torque						
Max. Output Torque / Emergency Stopping Torque	T_{2NOT}	Nm	1~5	3 Times of Rated Output Torque						
Rated Input Speed	n_{1N}	rpm	1~5	3,000	3,000	3,000	2,500	2,500	2,000	2,000
Max. Input Speed	n_{1B}	rpm	1~5	6,000	6,000	5,500	4,500	3,500	3,000	3,000
Backlash		arcmin	P0	-	≤ 3	≤ 3	≤ 3	≤ 3	≤ 3	≤ 3
			P1	≤ 6	≤ 6	≤ 6	≤ 6	≤ 6	≤ 6	≤ 6
			P2	≤ 9	≤ 9	≤ 9	≤ 9	≤ 9	≤ 9	≤ 9
Max. Radial Force Ball Bearing	F_{2rB}	N	1~5	700	1,050	1,500	2,360	3,080	4,800	6,400
Max. Axial Force Ball Bearing	F_{2aB}	N	1~5	350	525	750	1,180	1,540	2,400	3,200
Max. Radial Force Taper Bearing	F_{2rB}	N	1~5	-	2,400	3,200	5,000	6,500	9,100	13,000
Max. Axial Force Taper Bearing	F_{2aB}	N	1~5	-	1,200	1,600	2,500	3,250	4,550	6,500
Service Life	L_H	hr	1~5	S5 : >30,000 (S1 : >15,000 hrs) S5 Cycle Operation: >30,000 (S1 Continuous Operation: >15,000 hrs)						
Efficiency	η	%	1~5	94% ~ 98%						
Operating Temperature		°C	1~5	-30°C ~ +100°C						
Lubrication			1~5	Synthetic Oil						
Noise Level		dB	1~5	≤ 65	≤ 67	≤ 71	≤ 73	≤ 74	≤ 75	≤ 77

Mass Moments of Inertia (kgcm²)

Ratio	65	75	90	110	140	170	210
1	0.51	1.79	4.93	12.5	36.8	85.9	287
2	0.44	0.95	2.78	7.41	15.6	39.3	123
3	0.43	0.78	2.34	6.18	10.9	28.5	84.1
4	0.43	0.72	2.18	5.71	9.19	24.5	69.9
5	0.43	0.69	2.10	5.48	8.32	22.6	62.7

ST Series Specifications

2-Stage

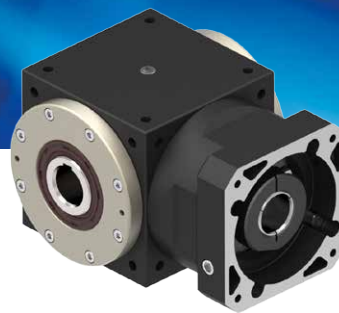
Model / Size	Sym	Unit	Ratio	65	75	90	110	140	170	210
Rated Output Torque (Nominal output torque)	T_{2N}	Nm	10	24	42	68	150	330	544	1,220
			15	18	33	54	120	270	450	1,020
			20	13	28	48	100	224	376	860
			25	12	25	40	85	196	320	740
			30	18	33	54	120	270	450	1,020
			40	13	28	52	100	224	376	860
			50	12	25	40	85	196	320	740
Max. Acceleration Torque	T_{2B}	Nm	10~50	1.5 Times of Rated Output Torque						
Max. Output Torque / Emergency Stopping Torque	T_{2NOT}	Nm	10~50	3 Times of Rated Output Torque						
Rated Input Speed	n_{1N}	rpm	10~50	3,000	3,000	3,000	3,000	3,000	3,000	3,000
Max. Input Speed	n_{1B}	rpm	10~50	6,000	6,000	6,000	6,000	6,000	5,000	5,000
Backlash		arcmin	P0	-	≤ 4	≤ 4	≤ 4	≤ 4	≤ 4	≤ 4
			P1	≤ 7	≤ 7	≤ 7	≤ 7	≤ 7	≤ 7	≤ 7
			P2	≤ 10	≤ 10	≤ 10	≤ 10	≤ 10	≤ 10	≤ 10
Max. Radial Force Ball Bearing	F_{2rB}	N	1~5	700	1,050	1,500	2,360	3,080	4,800	6,400
Max. Axial Force Ball Bearing	F_{2aB}	N	1~5	350	525	750	1,180	1,540	2,400	3,200
Max. Radial Force Taper Bearing	F_{2rB}	N	1~5	-	2,400	3,200	5,000	6,500	9,100	13,000
Max. Axial Force Taper Bearing	F_{2aB}	N	1~5	-	1,200	1,600	2,500	3,250	4,550	6,500
Service Life	L_H	hr	10~50	S5 : >30,000 (S1 : >15,000 hrs) S5 Cycle Operation: >30,000 (S1 Continuous Operation: >15,000 hrs)						
Efficiency	η	%	10~50	90% ~ 94%						
Operating Temperature		°C	10~50	-30°C ~ +100°C						
Lubrication			10~50	Synthetic Oil						
Noise Level		dB	10~50	≤ 68	≤ 69	≤ 73	≤ 74	≤ 75	≤ 76	≤ 78

Mass Moments of Inertia (kgcm²)

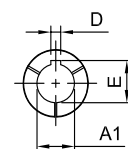
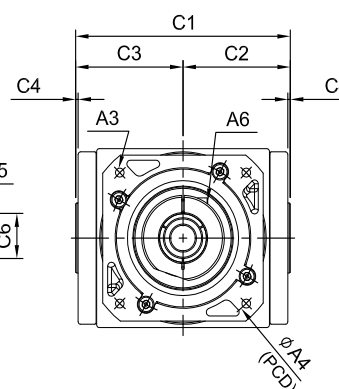
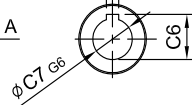
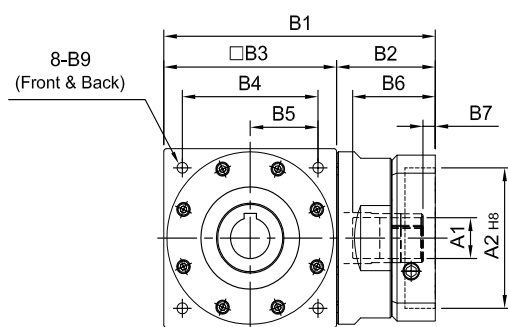
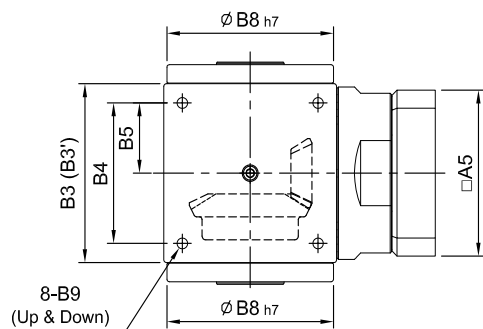
Ratio	65	75	90	110	140	170	210
10	0.05	0.15	0.18	0.41	0.56	3.25	8.9
15	0.05	0.15	0.18	0.41	0.56	3.25	8.9
20	0.05	0.15	0.18	0.41	0.56	3.25	8.9
25	0.05	0.15	0.18	0.41	0.56	3.25	8.9
30	0.05	0.15	0.16	0.38	0.53	3.09	8.4
40	0.05	0.15	0.16	0.38	0.53	3.09	8.4
50	0.05	0.15	0.16	0.38	0.53	3.09	8.4

ST-FO Series

RATIO : 1,2,3,4,5 (1-Stage)



Input Flange - Hollow Output Shaft



(170#)

ØA1	D	E
Ø35	10	38.3
Ø38	10	41.3
Ø42	12	45.3
Ø48	14	51.8
Ø55	16	59.3

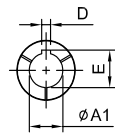
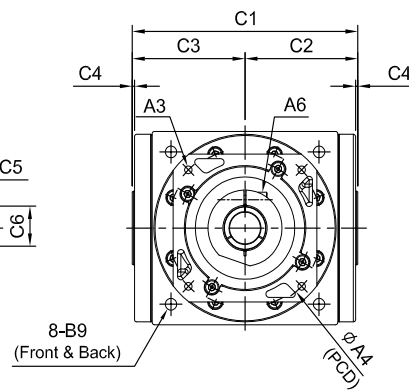
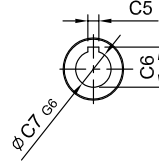
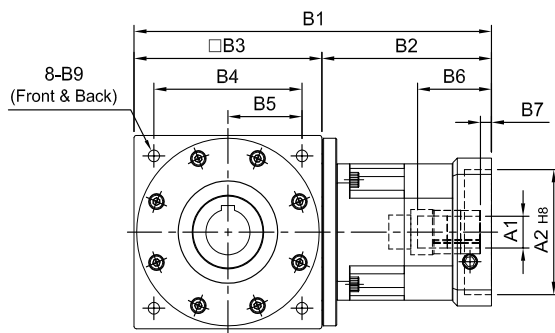
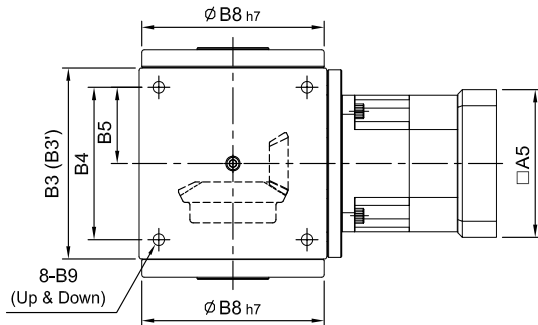
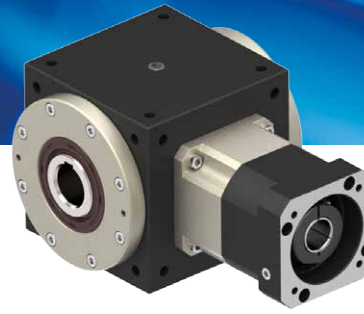
unit: mm

A	Model Code	65	65(1:1)	75	90	110	140	170	210
	A1	9, 11, 14	9, 11, 14	14, 19	16, 19, 22, 24	19, 22, 24	24, 28, 32, 35	35, 38	35, 38, 42, 48, 55
	A2	50, 60, 70	50, 60, 70	50, 60, 70	70, 80, 95, 110	70, 80, 95, 110	95, 110, 130	110, 130, 180	114.3, 180, 230
	A3	M4, M5, M6	M4, M5, M6	M4, M5, M6	M5, M6, M8	M5, M6, M8	M6, M8, M10	M8, M10, M12	M10, M12, M16
	A4	70, 75, 90	70, 75, 90	70, 75, 90	90, 100, 115, 145	90, 100, 115, 145	115, 145, 165	145, 165, 200	200, 215, 265
	A5	64, 70, 80	64, 70, 80	64, 70, 80	92, 110, 130	92, 110, 130	122, 130, 150	146, 150, 190	182, 200, 250
	A6	M5 x P0.8	M5 x P0.8	M5 x P0.8	M6 x P1.0	M6 x P1.0	M8 x P1.25	M10 x P1.5	M10 x P1.5
B	B1	110	110	115, 122	148, 162	177, 191	224, 238	274	357, 359
	B2	45	45	40	58, 72	67, 81	84, 98	104	147
	B3(B3')	65	65	75(74)	90	110	140	170	210
	B4	52	52	60	72	88	110	134	170
	B5	26	26	30	36	44	55	67	85
	B6	36	36	36, 43	51, 65.5	51, 65.5	68, 81	84.5	117, 119
	B7	7	7	7, 13	9, 23.5	9, 23.5	9, 10	9.5	14, 16
	B8	62	64	73	88	106	135	164	205
C	B9	M5 x P0.8	M5 x P0.8	M6 x P1.0	M6 x P1.0	M8 x P1.25	M10 x P1.5	M12 x P1.75	M16 x P2.0
	C1	84	89	100	118	144	174	204	250
	C2	42	44.5	50	59	72	87	102	125
	C3	42	44.5	50	59	72	87	102	125
	C4	2	2	2	2	2	2	2	2
	C5	5	5	5	6	8	10	12	14
	C6	16.3	16.3	16.3	20.8	25.3	35.3	43.3	53.3
Weight	C7	14	14	14	18	22	32	40	50
	kg	1.7	1.7	2.4	4.3	7.1	14.9	24.5	46

ST-RO Series

RATIO : 10,15,20,25,30,40,50 (2-Stage)

Fitted with Planetary Reducer - Hollow Output Shaft



(210#)

φA1	D	E
φ28	8	31.3
φ32	10	35.3
φ35	10	38.3
φ38	10	41.3

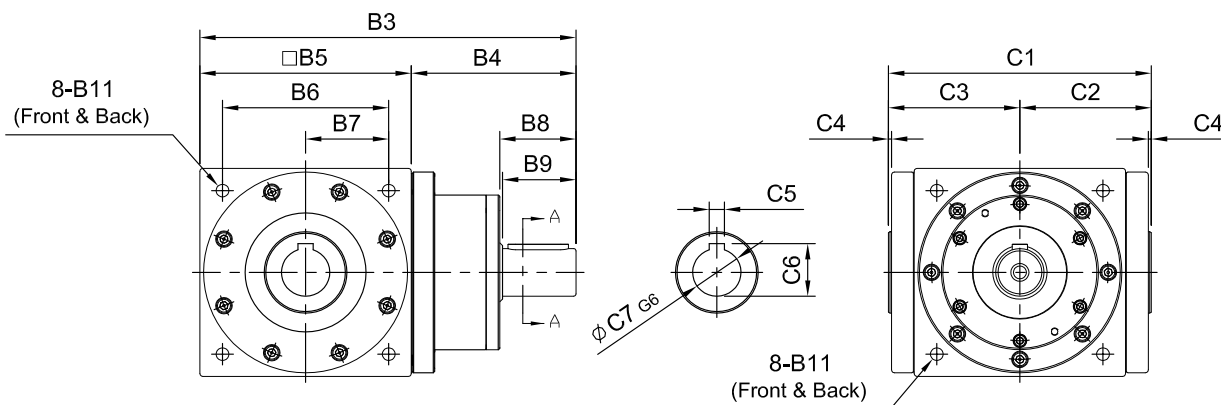
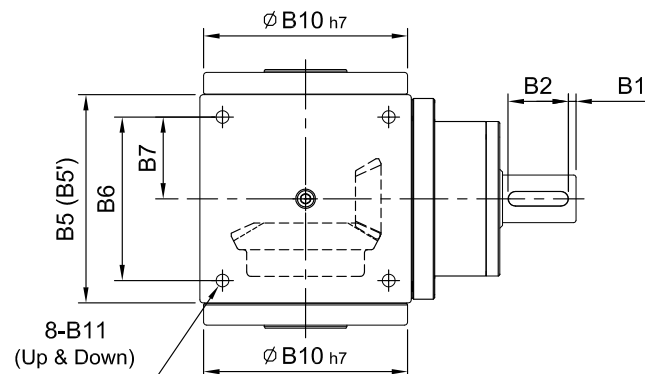
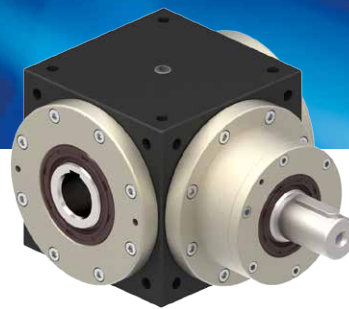
unit: mm

	Model Code	65	75		90	110	140	170	210
A	A1	8, 9, 11, 14	8, 9, 11, 14	11, 14, 16, 19	11, 14, 16, 19	(14), 16, 19	16, 19, 22, 24	22, 24, 28, 32, 35	28, 32, 35, 38
	A2	30, 40, 50	30, 40, 50	50, 60, 70	50, 60, 70	50, 70, 80, 95	70, 80, 95, 110	95, 110, 130	110, 130, 180
	A3	M3, M4, M5	M3, M4, M5	M4, M5, M6	M4, M5, M6	M5, M6	M5, M6, M8	M6, M8, M10	M8, M10, M12
	A4	46, 60, 63	46, 60, 63	70, 75, 90	70, 75, 90	70, 90, 100, 115	90, 100, 115, 145	115, 145, 165	145, 165, 200
	A5	46, 55	46, 55	64, 70, 80	64, 70, 80	80, 92, 110	92, 110, 130	122, 130, 150	146, 150, 190
	A6	M4 x P0.7	M4 x P0.7	M5 x P0.8	M5 x P0.8	M5 x P0.8	M6 x P1.0	M8 x P1.25	M10 x P1.5
B	B1	132	137	149, 157	165, 173	(191), 203	260	313, 334	399
	B2	67	62	74, 82	75, 83	(81), 93	120	143, 164	189
	B3(B3')	65	75(74)	75(74)	90	110	140	170	210
	B4	52	60	60	72	88	110	134	170
	B5	26	30	30	36	44	55	67	85
	B6	26	26	33.5, 41.5	33.5, 41.5	(33.5), 45.5	59	67, 83	85
	B7	5	5	6	6	(6), 10	9	10, 11	10
	B8	62	73	73	88	106	135	164	205
C	B9	M5 x P0.8	M6 x P1.0	M6 x P1.0	M6 x P1.0	M8 x P1.25	M10 x P1.5	M12 x P1.75	M16 x P2.0
	C1	84	100	100	118	144	174	204	250
	C2	42	50	50	59	72	87	102	125
	C3	42	50	50	59	72	87	102	125
	C4	2	2	2	2	2	2	2	2
	C5	5	5	5	6	8	10	12	14
	C6	16.3	16.3	16.3	20.8	25.3	35.3	43.3	53.3
Weight	C7	14	14	14	18	22	32	40	50
	kg	1.9	3.6	3.4	4.8	8.5	14.2	24	52

ST-DO Series

RATIO : 1,2,3,4,5 (1-Stage)

Single Input Shaft - Hollow Output Shaft



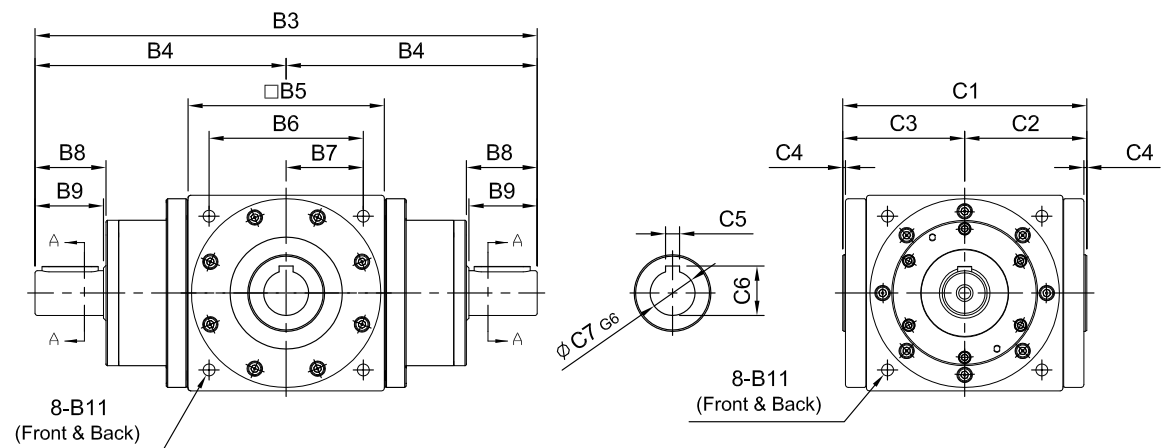
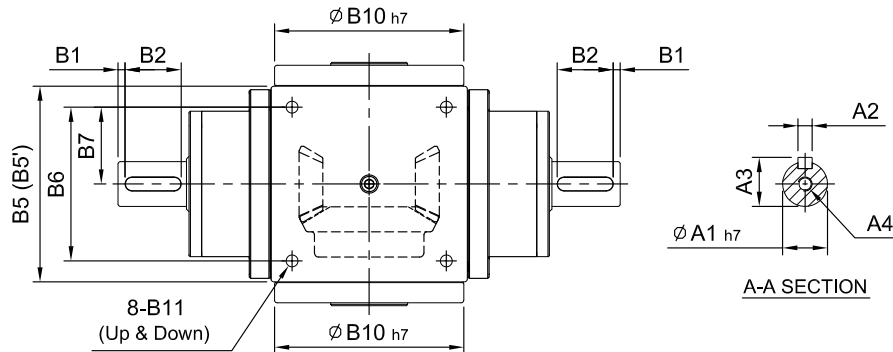
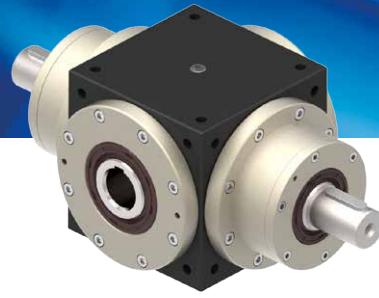
unit: mm

A	Model Code	65	65(1:1)	75	90	110	140	170	210
	A1	14	14	16	18	22	32	40	50
	A2	5	5	5	6	6	10	12	14
	A3	16	16	18	20.5	24.5	35	43	53.5
	A4	M5 x P0.8	M5 x P0.8	M5 x P0.8	M8 x P1.25	M8 x P1.25	M10 x P1.5	M12 x P1.75	M12 x P1.75
B	B1	2.5	2.5	2.5	5	5	5	5	5
	B2	15	15	25	25	30	40	50	65
	B3	127.5	127.5	143	168.5	207	250	300	375
	B4	62.5	62.5	68	78.5	97	110	130	165
	B5(B5')	65	65	75(74)	90	110	140	170	210
	B6	52	52	60	72	88	110	134	170
	B7	26	26	30	36	44	55	67	85
	B8	22	22	32	38	43	53.5	64	77
	B9	20	20	30	35	40	50	60	75
	B10	62	64	73	88	106	135	164	205
C	B11	M5 x P0.8	M5 x P0.8	M5 x P0.8	M6 x P1.0	M8 x P1.25	M10 x P1.5	M12 x P1.75	M16 x P2.0
	C1	84	89	100	118	144	174	204	250
	C2	42	44.5	50	59	72	87	102	125
	C3	42	44.5	50	59	72	87	102	125
	C4	2	2	2	2	2	2	2	2
	C5	5	5	5	6	8	10	12	14
	C6	16.3	16.3	16.3	20.8	25.3	35.3	43.3	53.3
Weight	C7	14	14	14	18	22	32	40	50
	kg	2.1	2.1	2.8	4.9	9	15.5	25	53

ST-YO Series

RATIO : 1,2,3,4,5 (1-Stage)

Double Input Shaft - Hollow Output Shaft



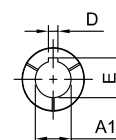
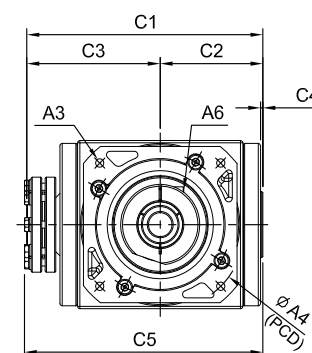
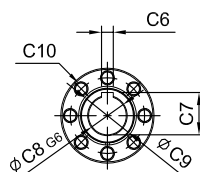
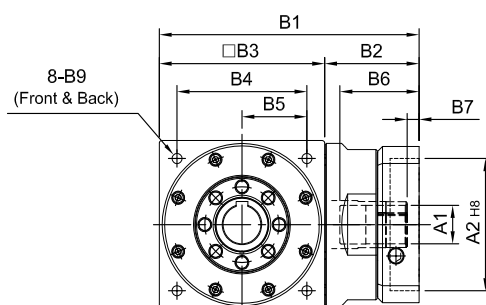
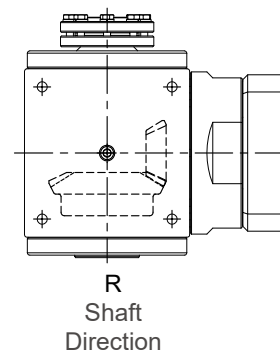
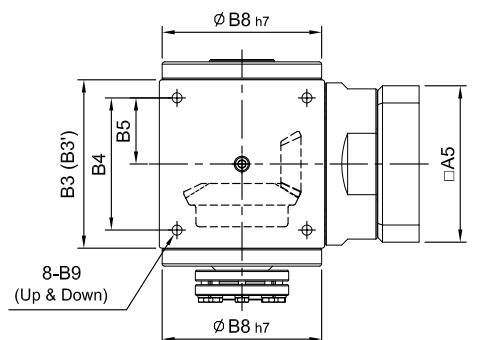
unit: mm

	Model Code	65	65(1:1)	75	90	110	140	170	210
A	A1	14	14	16	18	22	32	40	50
	A2	5	5	5	6	6	10	12	14
	A3	16	16	18	20.5	24.5	35	43	53.5
	A4	M5 x P0.8	M5 x P0.8	M5 x P0.8	M8 x P1.25	M8 x P1.25	M10 x P1.5	M12 x P1.75	M12 x P1.75
B	B1	2.5	2.5	2.5	5	5	5	5	5
	B2	15	15	25	25	30	40	50	65
	B3	190	190	210	247	304	360	430	540
	B4	95	95	105	123.5	152	180	215	270
	B5(B5')	65	65	75(74)	90	110	140	170	210
	B6	52	52	60	72	88	110	134	170
	B7	26	26	30	36	44	55	67	85
	B8	22	22	32	38	43	53.5	64	77
	B9	20	20	30	35	40	50	60	75
	B10	62	64	73	88	106	135	164	205
	B11	M5 x P0.8	M5 x P0.8	M6 x P1.0	M6 x P1.0	M8 x P1.25	M10 x P1.5	M12 x P1.75	M16 x P2.0
C	C1	84	89	100	118	144	174	204	250
	C2	42	44.5	50	59	72	87	102	125
	C3	42	44.5	50	59	72	87	102	125
	C4	2	2	2	2	2	2	2	2
	C5	5	5	5	6	8	10	12	14
	C6	16.3	16.3	16.3	20.8	25.3	35.3	43.3	53.3
	C7	14	14	14	18	22	32	40	50
Weight	kg	2.85	2.85	3.6	6.2	11.5	18	28	57

ST-FN Series

RATIO : 1,2,3,4,5 (1-Stage)

Input Flange - Single Clamping



(70#)

Ø A1	D	E
Ø 35	10	38.3
Ø 38	10	41.3
Ø 42	12	45.3
Ø 48	14	51.8
Ø 55	16	59.3

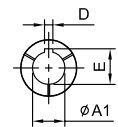
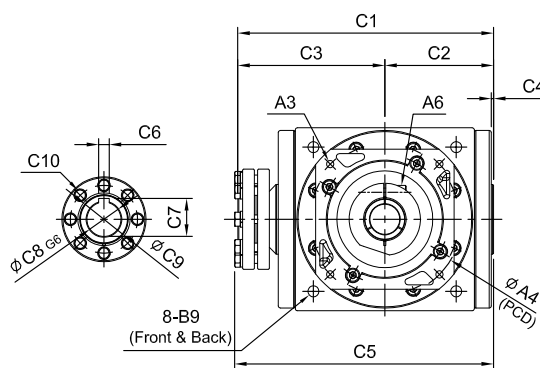
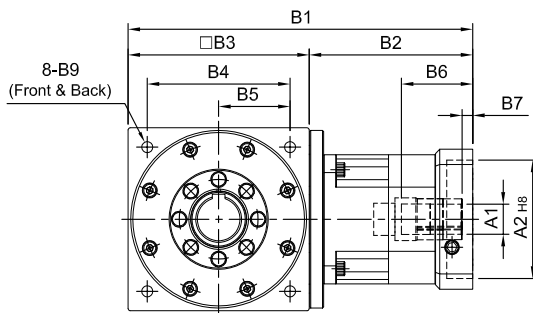
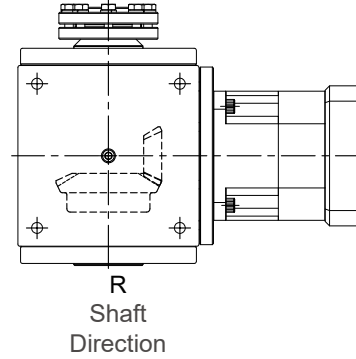
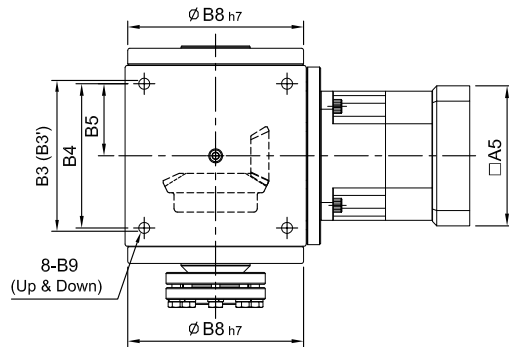
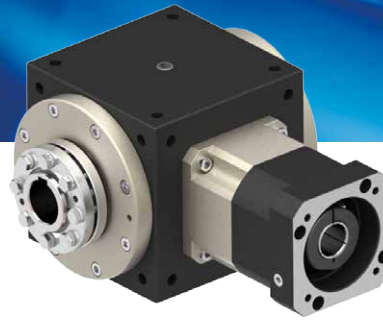
unit: mm

	Model Code	65	65(1:1)	75	90	110	140	170	210
A	A1	9, 11, 14	9, 11, 14	14, 19	16, 19, 22, 24	19, 22, 24	24, 28, 32, 35	35, 38	35, 38, 42, 48, 55
	A2	50, 60, 70	50, 60, 70	50, 60, 70	70, 80, 95, 110	70, 80, 95, 110	95, 110, 130	110, 130, 180	114.3, 180, 230
	A3	M4, M5, M6	M4, M5, M6	M4, M5, M6	M5, M6, M8	M5, M6, M8	M6, M8, M10	M8, M10, M12	M10, M12, M16
	A4	70, 75, 90	70, 75, 90	70, 75, 90	90, 100, 115, 145	90, 100, 115, 145	115, 145, 165	145, 165, 200	200, 215, 265
	A5	64, 70, 80	64, 70, 80	64, 70, 80	92, 110, 130	92, 110, 130	122, 130, 150	146, 150, 190	182, 200, 250
	A6	M5 x P0.8	M5 x P0.8	M5 x P0.8	M6 x P1.0	M6 x P1.0	M8 x P1.25	M10 x P1.5	M10 x P1.5
B	B1	110	110	115, 122	148, 162	177, 191	224, 238	274	357, 359
	B2	45	45	40	58, 72	67, 81	84, 98	104	147
	B3(B3')	65	65	75(74)	90	110	140	170	210
	B4	52	52	60	72	88	110	134	170
	B5	26	26	30	36	44	55	67	85
	B6	36	36	36, 43	51, 65.5	51, 65.5	68, 81	84.5	117
	B7	7	7	7, 13	9, 23.5	9, 23.5	9, 10	9.5	14, 16
	B8	62	64	73	88	106	135	164	205
C	B9	M5 x P0.8	M5 x P0.8	M6 x P1.0	M6 x P1.0	M8 x P1.25	M10 x P1.5	M12 x P1.75	M16 x P2.0
	C1	104	109	120	138	169	202	240	285
	C2	42	44.5	50	59	72	87	102	125
	C3	62	64.5	70	79	97	115	138	160
	C4	2	2	2	2	2	2	2	2
	C5	110	113	124	142	171	202	242	288
	C6	5	5	5	6	8	10	12	14
	C7	16.3	16.3	16.3	20.8	25.3	35.3	43.3	53.3
	C8	14	14	14	18	22	32	40	50
	C9	22	22	22	28	34	44	52	65
Weight	kg	1.7	1.7	2.4	4.3	7.1	14.9	24.5	46

ST-RN Series

RATIO : 10,15,20,25,30,40,50 (2-Stage)

Fitted with Planetary Reducer - Single Clamping



(210#)

$\phi A1$	D	E
$\phi 28$	8	31.3
$\phi 32$	10	35.3
$\phi 35$	10	38.3
$\phi 38$	10	41.3

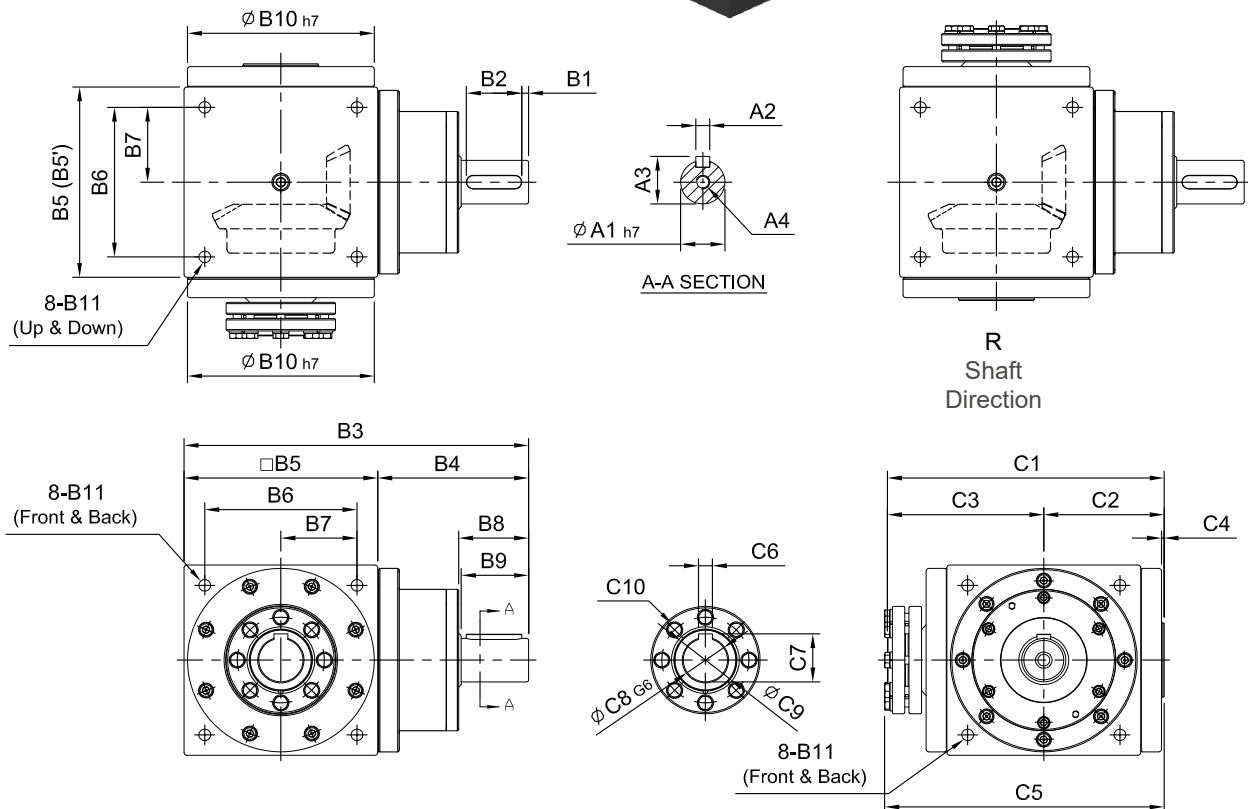
unit: mm

A	Model Code	65	75		90	110	140	170	210
	A1	8, 9, 11, 14	8, 9, 11, 14	11, 14, 16, 19	11, 14, 16, 19	(14), 16, 19	16, 19, 22, 24	22, 24, 28, 32, 35	28, 32, 35, 38
	A2	30, 40, 50	30, 40, 50	50, 60, 70	50, 60, 70	50, 70, 80, 95	70, 80, 95, 110	95, 110, 130	110, 130, 180
	A3	M3, M4, M5	M3, M4, M5	M4, M5, M6	M4, M5, M6	M5, M6	M5, M6, M8	M6, M8, M10	M8, M10, M12
	A4	46, 60, 63	46, 60, 63	70, 75, 90	70, 75, 90	70, 90, 100, 115	90, 100, 115, 145	115, 145, 165	145, 165, 200
	A5	46, 55	46, 55	64, 70, 80	64, 70, 80	80, 92, 110	92, 110, 130	122, 130, 150	146, 150, 190
	A6	M4 x P0.7	M4 x P0.7	M5 x P0.8	M5 x P0.8	M5 x P0.8	M6 x P1.0	M8 x P1.25	M10 x P1.5
B	B1	132	137	149, 157	165, 173	(191), 203	260	313, 334	399
	B2	67	62	74, 82	75, 83	(81), 93	120	143, 164	189
	B3(B3')	65	75(74)	75(74)	90	110	140	170	210
	B4	52	60	60	72	88	110	134	170
	B5	26	30	30	36	44	55	67	85
	B6	26	26	33.5, 41.5	33.5, 41.5	(33.5), 45.5	59	67, 83	85
	B7	5	5	6	6	(6), 10	9	10, 11	10
	B8	62	73	73	88	106	135	164	205
	B9	M5 x P0.8	M6 x P1.0	M6 x P1.0	M6 x P1.0	M8 x P1.25	M10 x P1.5	M12 x P1.75	M16 x P2.0
C	C1	104	120	120	138	169	200	240	285
	C2	42	50	50	59	72	87	102	125
	C3	62	70	70	79	97	113	138	160
	C4	2	2	2	2	2	2	2	2
	C5	118	124	124	142	171	202	242	288
	C6	5	5	5	6	8	10	12	14
	C7	16.3	16.3	16.3	20.8	25.3	35.3	43.3	53.3
	C8	14	14	14	18	22	32	40	50
	C9	22	22	22	28	34	44	52	65
	C10	6-M6	6-M6	6-M6	6-M6	8-M6	8-M6	8-M8	8-M8
Weight	kg	1.9	3.6	3.4	4.8	8.5	14.2	24	52

ST-DN Series

RATIO : 1,2,3,4,5 (1-Stage)

Single Input Shaft - Single Clamping



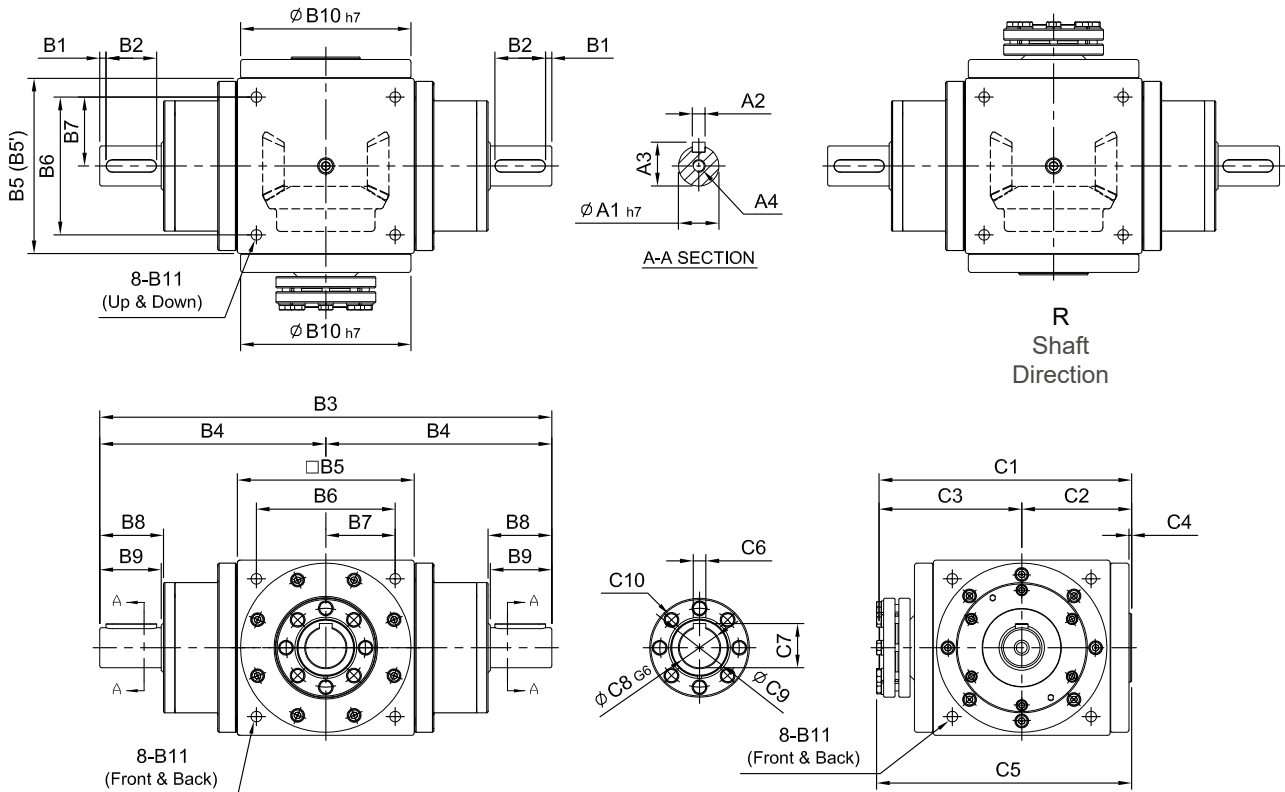
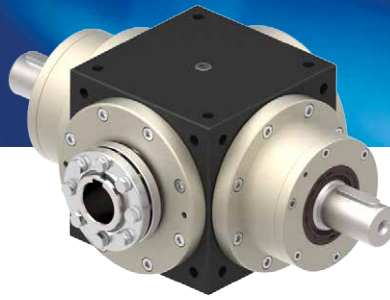
unit: mm

A	Model Code	65	65(1:1)	75	90	110	140	170	210
	A1	14	14	16	18	22	32	40	50
	A2	5	5	5	6	6	10	12	14
	A3	16	16	18	20.5	24.5	35	43	53.5
	A4	M5 x P0.8	M5 x P0.8	M5 x P0.8	M8 x P1.25	M8 x P1.25	M10 x P1.5	M12 x P1.75	M12 x P1.75
B	B1	2.5	2.5	2.5	5	5	5	5	5
	B2	15	15	25	25	30	40	50	65
	B3	127.5	127.5	143	168.5	207	250	300	375
	B4	62.5	62.5	68	78.5	97	110	130	165
	B5(B5')	65	65	75(74)	90	110	140	170	210
	B6	52	52	60	72	88	110	134	170
	B7	26	26	30	36	44	55	67	85
	B8	22	22	32	38	43	53.5	64	77
	B9	20	20	30	35	40	50	60	75
	B10	62	64	73	88	106	135	164	205
	B11	M5 x P0.8	M5 x P0.8	M6 x P1.0	M6 x P1.0	M8 x P1.25	M10 x P1.5	M12 x P1.75	M16 x P2.0
C	C1	104	109	120	138	169	202	240	285
	C2	42	44.5	50	59	72	87	102	125
	C3	62	64.5	70	79	97	115	138	160
	C4	2	2	2	2	2	2	2	2
	C5	110	113	124	142	171	202	242	288
	C6	5	5	5	6	8	10	12	14
	C7	16.3	16.3	16.3	20.8	25.3	35.3	43.3	53.3
	C8	14	14	14	18	22	32	40	50
	C9	22	22	22	28	34	44	52	65
	C10	6-M6	6-M6	6-M6	6-M6	8-M6	8-M6	8-M8	8-M8
Weight	kg	2.1	2.1	2.8	4.9	8.59	15.5	25	53

ST-YN Series

RATIO : 1,2,3,4,5 (1-Stage)

Double Input Shaft - Single Clamping



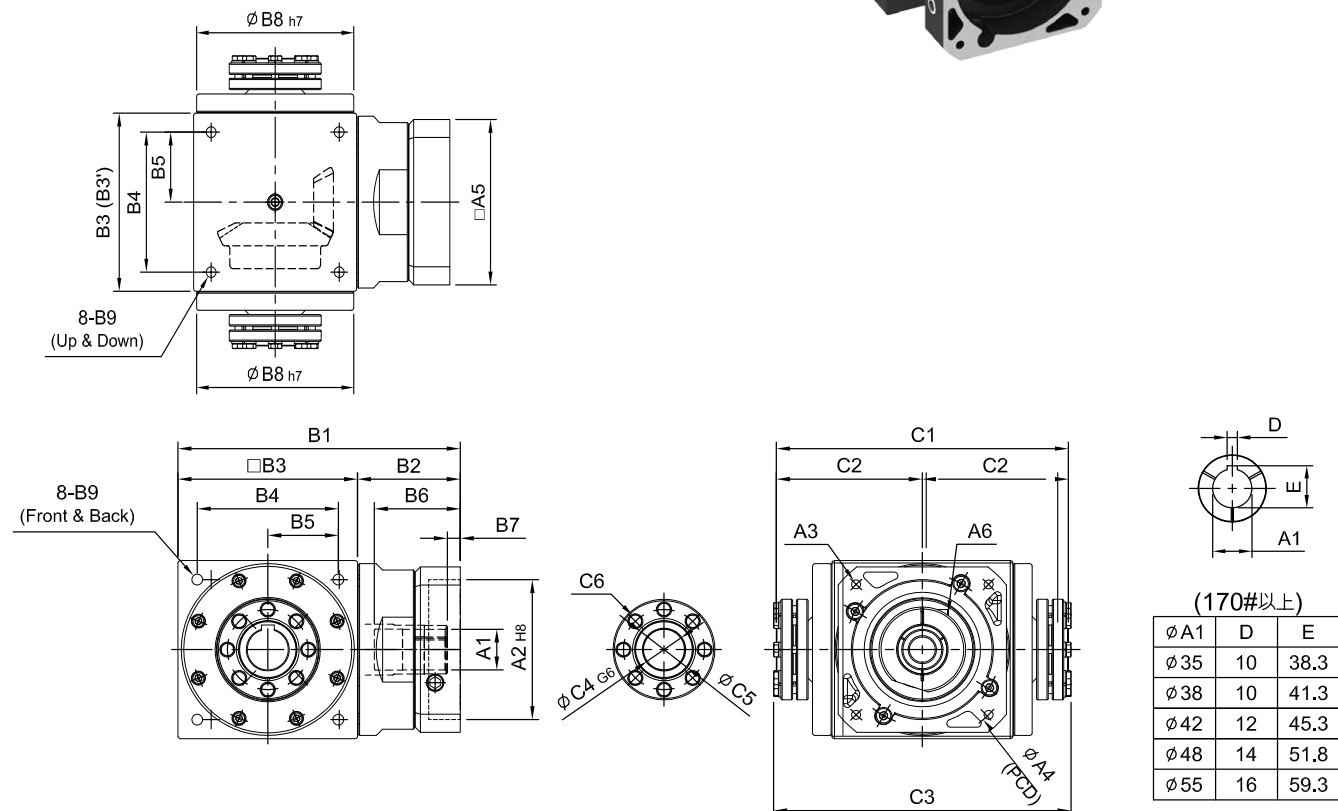
unit: mm

A	Model Code	65	65(1:1)	75	90	110	140	170	210
B	A1	14	14	16	18	22	32	40	50
	A2	5	5	5	6	6	10	12	14
	A3	16	16	18	20.5	24.5	35	43	53.5
	A4	M5 x P0.8	M5 x P0.8	M5 x P0.8	M8 x P1.25	M8 x P1.25	M10 x P1.5	M12 x P1.75	M12 x P1.75
	B1	2.5	2.5	2.5	5	5	5	5	5
	B2	15	15	25	25	30	40	50	65
	B3	190	190	210	247	304	360	430	540
	B4	95	95	105	123.5	152	180	215	270
	B5(B5')	65	65	75(74)	90	110	140	170	210
	B6	52	52	60	72	88	110	134	170
C	B7	26	26	30	36	44	55	67	85
	B8	22	22	32	38	43	53.5	64	77
	B9	20	20	30	35	40	50	60	75
	B10	62	64	73	88	106	135	164	205
	B11	M5 x P0.8	M5 x P0.8	M6 x P1.0	M6 x P1.0	M8 x P1.25	M10 x P1.5	M12 x P1.75	M16 x P2.0
	C1	104	109	120	138	169	200	240	285
	C2	42	44.5	50	59	72	87	102	125
	C3	62	64.5	70	79	97	113	138	160
	C4	2	2	2	2	2	2	2	2
	C5	110	113	124	142	171	202	242	288
Weight	C6	5	5	5	6	8	10	12	14
	C7	16.3	16.3	16.3	20.8	25.3	35.3	43.3	53.3
	C8	14	14	14	18	22	32	40	50
	C9	22	22	22	28	34	44	52	65
	C10	6-M6	6-M6	6-M6	6-M6	8-M6	8-M6	8-M8	8-M8
kg		2.85	2.85	3.6	6.2	11.5	18	28	57

ST-FM Series

RATIO : 1,2,3,4,5 (1-Stage)

Input Flange - Double Clamping



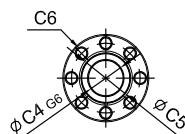
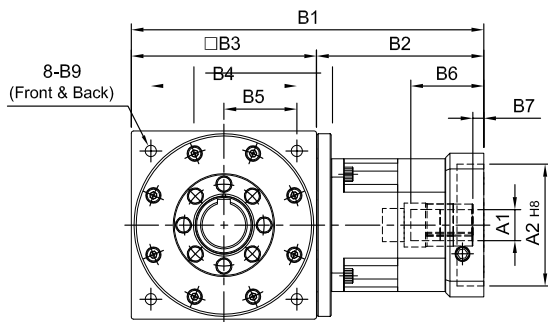
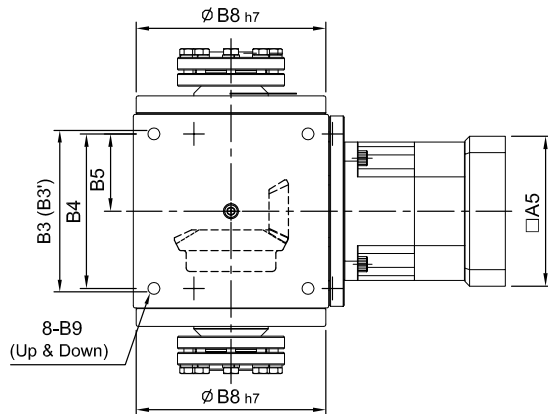
unit: mm

Model Code	65	65(1:1)	75	90	110	140	170	210	
	A1	9, 1, 14	9, 11, 14	14, 19	16, 19, 22, 24	19, 22, 24	24, 28, 32, 35	35, 38	35, 38, 42, 48, 55
A	A2	50, 60, 70	50, 60, 70	50, 60, 70	70, 80, 95, 110	70, 80, 95, 110	95, 110, 130	110, 130, 180	114.3, 180, 230
	A3	M4, M5, M6	M4, M5, M6	M4, M5, M6	M5, M6, M8	M5, M6, M8	M6, M8, M10	M8, M10, M12	M10, M12, M16
	A4	70, 75, 90	70, 75, 90	70, 75, 90	90, 100, 115, 145	90, 100, 115, 145	115, 145, 165	145, 165, 200	200, 215, 265
	A5	64, 70, 80	64, 70, 80	64, 70, 80	92, 110, 130	92, 110, 130	122, 130, 150	146, 150, 190	182, 200, 250
	A6	M5 x P0.8	M5 x P0.8	M5 x P0.8	M6 x P1.0	M6 x P1.0	M8 x P1.25	M10 x P1.5	M10 x P1.5
	B	B1	110	110	115, 122	148, 162	177, 191	224, 238	274
B2		45	45	40	58, 72	67, 81	84, 98	104	147
B3(B3')		65	65	75(74)	90	110	140	170	210
B4		52	52	60	72	88	110	134	170
B5		26	26	30	36	44	55	67	85
B6		36	36	36, 43	51, 65.5	51, 65.5	68, 81	84.5	117
B7		7	7	7, 13	9, 23.5	9, 23.5	9, 10	9.5	14, 16
B8		62	64	73	88	106	135	164	205
B9		M5 x P0.8	M5 x P0.8	M6 x P1.0	M6 x P1.0	M8 x P1.25	M10 x P1.5	M12 x P1.75	M16 x P2.0
C	C1	124	129	140	158	194	230	276	320
	C2	62	64.5	70	79	97	115	138	160
	C3	136	138	150	166	198	232	280	327
	C4	14	14	14	18	22	32	40	50
	C5	22	22	22	28	34	44	52	65
	C6	6-M6	6-M6	6-M6	6-M6	8-M6	8-M6	8-M8	8-M8
Weight	kg	1.7	1.7	2.4	4.3	7.1	14.9	24.5	46

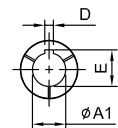
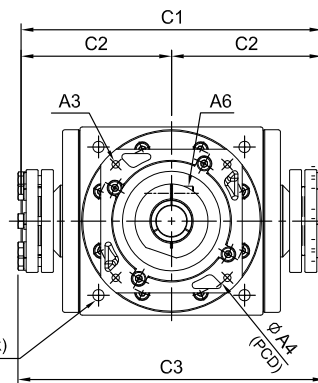
ST-RM Series

RATIO : 10,15,20,25,30,40,50 (2-Stage)

Fitted with Planetary Reducer - Double Clamping



8-B9
(Front & Back)



(210#)

øA1	D	E
ø28	8	31.3
ø32	10	35.3
ø35	10	38.3
ø38	10	41.3

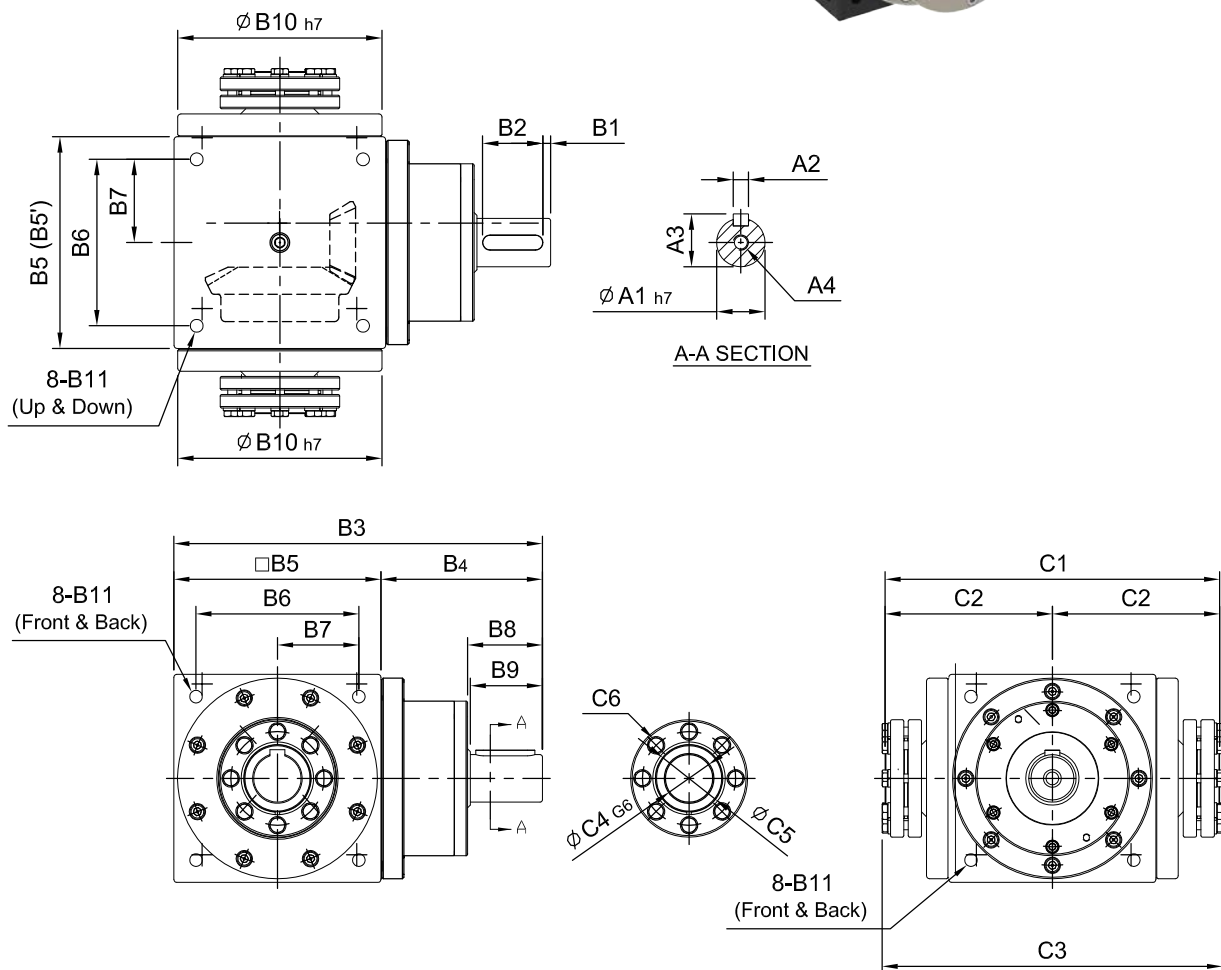
unit: mm

	Model Code	65	75		90	110	140	170	210
	A1	8, 9, 11, 14	8, 9, 11, 14	11, 14, 16, 19	11, 14, 16, 19	(14), 16, 19	16, 19, 22, 24	22, 24, 28, 32, 35	28, 32, 35, 38
A	A2	30, 40, 50	30, 40, 50	50, 60, 70	50, 60, 70	50, 70, 80, 95	70, 80, 95, 110	95, 110, 130	110, 130, 180
	A3	M3, M4, M5	M3, M4, M5	M4, M5, M6	M4, M5, M6	M5, M6	M5, M6, M8	M6, M8, M10	M8, M10, M12
	A4	46, 60, 63	46, 60, 63	70, 75, 90	70, 75, 90	70, 90, 100, 115	90, 100, 115, 145	115, 145, 165	145, 165, 200
	A5	46, 55	46, 55	64, 70, 80	64, 70, 80	80, 92, 110	92, 110, 130	122, 130, 150	146, 150, 190
	A6	M4 x P0.7	M4 x P0.7	M5 x P0.8	M5 x P0.8	M5 x P0.8	M6 x P1.0	M8 x P1.25	M10 x P1.5
	B	B1	132	137	149, 157	165, 173	(191), 203	260	313, 334
B2		67	62	74, 82	75, 83	(81), 93	120	143, 164	189
B3(B3')		65	75(74)	75(74)	90	110	140	170	210
B4		52	60	60	72	88	110	134	170
B5		26	30	30	36	44	55	67	85
B6		26	26	33.5, 41.5	33.5, 41.5	(33.5), 45.5	59	67, 83	85
B7		5	5	5	6	(6), 10	9	10, 11	10
B8		62	73	73	88	106	135	164	205
B9		M5 x P0.8	M6 x P1.0	M6 x P1.0	M6 x P1.0	M8 x P1.25	M10 x P1.5	M12 x P1.75	M16 x P2.0
C	C1	124	140	140	158	194	230	276	320
	C2	62	70	70	79	97	115	138	160
	C3	136	150	150	166	198	232	280	327
	C4	14	14	14	18	22	32	40	50
	C5	22	22	22	28	34	44	52	65
	C6	6-M6	6-M6	6-M6	6-M6	8-M6	8-M6	8-M8	8-M8
Weight	kg	1.9	3.6	3.4	4.8	8.5	14.2	24	52

ST-DM Series

RATIO : 1,2,3,4,5 (1-Stage)

Single Input Shaft - Double Clamping



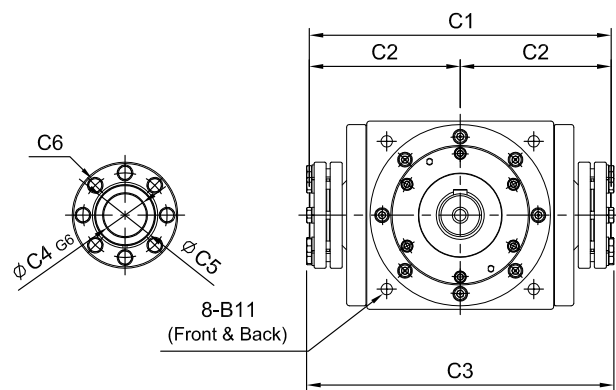
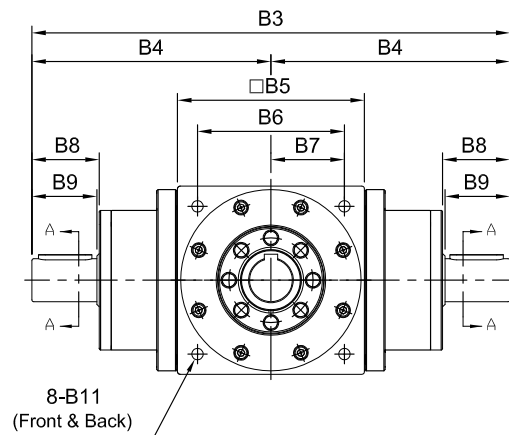
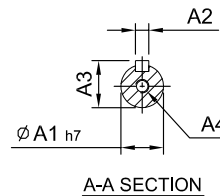
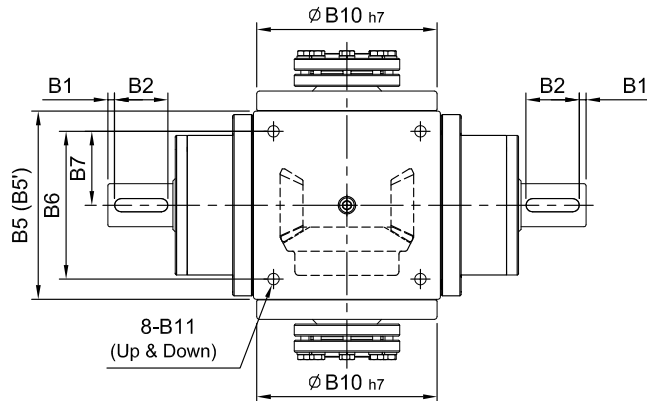
unit: mm

A	Model Code	65	65(1:1)	75	90	110	140	170	210
	A1	14	14	16	18	22	32	40	50
	A2	5	5	5	6	6	10	12	14
	A3	16	16	18	20.5	24.5	35	43	53.5
	A4	M5 x P0.8	M5 x P0.8	M5 x P0.8	M8 x P1.25	M8 x P1.25	M10 x P1.5	M12 x P1.75	M12 x P1.75
B	B1	2.5	2.5	2.5	5	5	5	5	5
	B2	15	15	25	25	30	40	50	65
	B3	127.5	127.5	143	168.5	207	250	300	375
	B4	62.5	62.5	68	78.5	97	110	130	165
	B5(B5')	65	65	75(74)	90	110	140	170	210
	B6	52	52	60	72	88	110	134	170
	B7	26	26	30	36	44	55	67	85
	B8	22	22	32	38	43	53.5	64	77
	B9	20	20	30	35	40	50	60	75
	B10	62	64	73	88	106	135	164	205
C	B11	M5 x P0.8	M5 x P0.8	M6 x P1.0	M6 x P1.0	M8 x P1.25	M10 x P1.5	M12 x P1.75	M16 x P2.0
	C1	124	129	140	158	194	230	276	320
	C2	62	64.5	70	79	97	115	138	160
	C3	136	138	150	166	198	232	280	327
	C4	14	14	14	18	22	32	40	50
	C5	22	22	22	28	34	44	52	65
	C6	6-M6	6-M6	6-M6	6-M6	8-M6	8-M6	8-M8	8-M8
Weight	kg	2.1	2.1	2.8	4.9	8.59	15.5	25	53

ST-YM Series

RATIO : 1,2,3,4,5 (1-Stage)

Double Input Shaft - Double Clamping



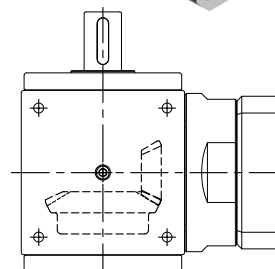
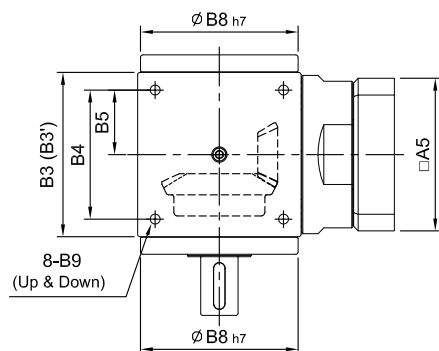
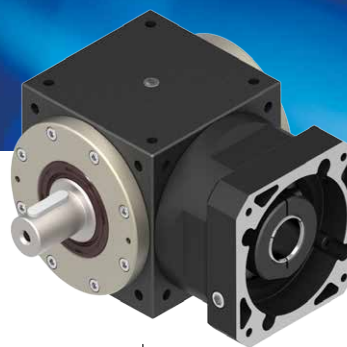
unit: mm

A	Model Code	65	65(1:1)	75	90	110	140	170	210
	A1	14	14	16	18	22	32	40	50
B	A2	5	5	5	6	6	10	12	14
	A3	16	16	18	20.5	24.5	35	43	53.5
	A4	M5 x P0.8	M5 x P0.8	M5 x P0.8	M8 x P1.25	M8 x P1.25	M10 x P1.5	M12 x P1.75	M12 x P1.75
	B1	2.5	2.5	2.5	5	5	5	5	5
	B2	15	15	25	25	30	40	50	65
	B3	190	190	210	247	304	360	430	540
	B4	95	95	95	123.5	152	180	215	270
	B5(B5')	65	65	75(74)	90	110	140	170	210
	B6	52	52	60	72	88	110	134	170
	B7	26	26	30	36	44	55	67	85
C	B8	22	22	32	38	43	53.5	64	77
	B9	20	20	30	35	40	50	60	75
	B10	62	64	73	88	106	135	164	205
	B11	M5 x P0.8	M5 x P0.8	M6 x P1.0	M6 x P1.0	M8 x P1.25	M10 x P1.5	M12 x P1.75	M16 x P2.0
	C1	124	129	140	158	194	230	276	320
	C2	62	64.5	70	79	97	115	138	160
Weight	C3	136	138	150	166	198	232	280	327
	C4	14	14	14	18	22	32	40	50
	C5	22	22	22	28	34	44	52	65
	C6	6-M6	6-M6	6-M6	6-M6	8-M6	8-M6	8-M8	8-M8

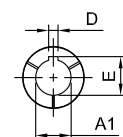
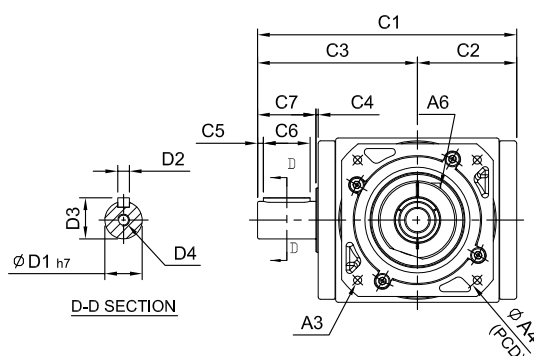
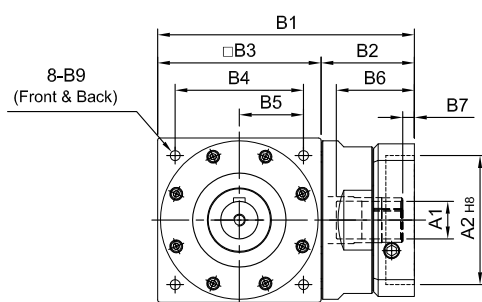
ST-FS Series

RATIO : 1,2,3,4,5 (1-Stage)

Input Flange - Single Output Shaft



R
Shaft
Direction



(170#)

Ø A1	D	E
Ø 35	10	38.3
Ø 38	10	41.3
Ø 42	12	45.3
Ø 48	14	51.8
Ø 55	16	59.3

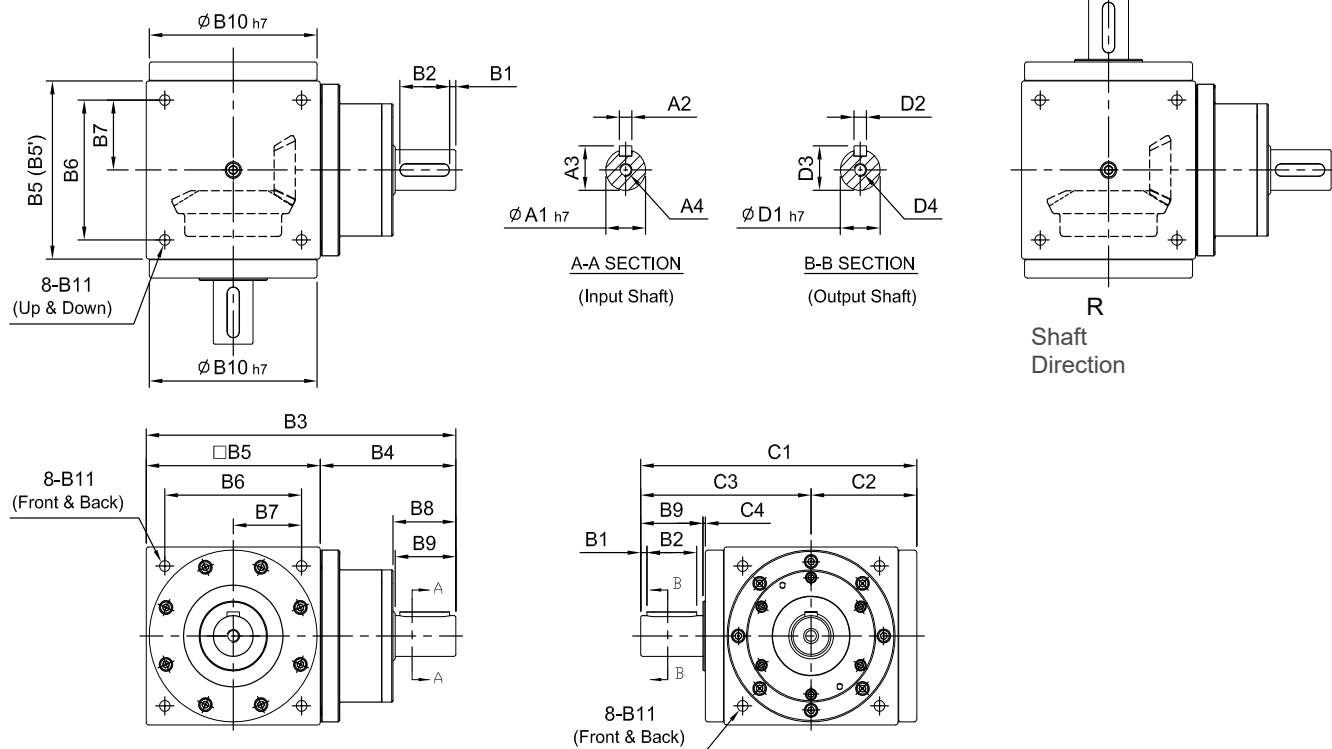
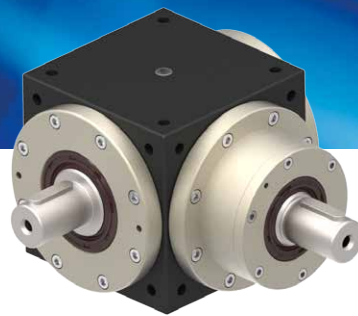
unit: mm

	Model Code	65	65(1:1)	75	90	110	140	170	210
	A1	9, 1, 14	9, 11, 14	14, 19	16, 19, 22, 24	19, 22, 24	24, 28, 32, 35	35, 38	35, 38, 42, 48, 55
A	A2	50, 60, 70	50, 60, 70	50, 60, 70	70, 80, 95, 110	70, 80, 95, 110	95,110,130	110,130,180	114.3, 180, 230
	A3	M4, M5, M6	M4, M5, M6	M4, M5, M6	M5, M6, M8	M5, M6, M8	M6, M8, M10	M8, M10, M12	M10, M12, M16
	A4	70, 75, 90	70, 75, 90	70, 75, 90	90, 100, 115, 145	90, 100, 115, 145	115, 145, 165	145, 165, 200	200, 215, 265
	A5	64, 70, 80	64, 70, 80	64, 70, 80	92, 110, 130	92, 110, 130	122, 130, 150	146, 150, 190	182, 200, 250
	A6	M5 x P0.8	M5 x P0.8	M5 x P0.8	M6 x P1.0	M6 x P1.0	M8 x P1.25	M10 x P1.5	M10 x P1.5
	B	B1	110	110	115, 122	148, 162	177, 191	224, 238	274
B2		45	45	40	58, 72	67, 81	84, 98	104	147
B3(B3')		65	65	75(74)	90	110	140	170	210
B4		52	52	60	72	88	110	134	170
B5		26	26	30	36	44	55	67	85
B6		36	36	36, 43	51, 65.5	51, 65.5	68, 81	84.5	117
B7		7	7	7, 13	9, 23.5	9, 23.5	9, 10	9.5	14, 16
B8		62	64	73	88	106	135	164	205
B9		M5 x P0.8	M5 x P0.8	M6 x P1.0	M6 x P1.0	M8 x P1.25	M10 x P1.5	M12 x P1.75	M16 x P2.0
C	C1	102	107	128	151	182	222	262	323
	C2	40	42.5	48	57	70	85	100	123
	C3	62	64.5	80	94	112	137	162	200
	C4	2	2	2	2	2	2	2	2
	C5	2.5	2.5	2.5	5	5	5	5	5
	C6	15	15	25	25	30	40	50	65
	C7	20	20	30	35	40	50	60	75
D	D1	14	14	16	18	22	32	40	50
	D2	5	5	5	6	6	10	12	14
	D3	16	16	18	20.5	24.5	35	43	53.5
	D4	M5 x P0.8	M5 x P0.8	M5 x P0.8	M5 x P0.8	M5 x P0.8	M10 x P1.5	M12 x P1.75	M12 x P1.75
Weight	kg	1.7	1.7	2.4	4.3	7.1	14.9	24.5	46

ST-DS Series

RATIO : 1,2,3,4,5 (1-Stage)

Single Input Shaft - Single Output Shaft



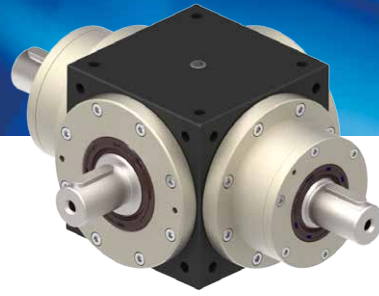
unit: mm

A	Model Code	65	65(1:1)	75	90	110	140	170	210
	A1	14	14	16	18	22	32	40	50
	A2	5	5	5	6	6	10	12	14
	A3	16	16	18	20.5	24.5	35	43	53.5
	A4	M5 x P0.8	M5 x P0.8	M5 x P0.8	M8 x P1.25	M8 x P1.25	M10 x P1.5	M12 x P1.75	M12 x P1.75
B	B1	2.5	2.5	2.5	5	5	5	5	5
	B2	15	15	25	25	30	40	50	65
	B3	127.5	127.5	143	168.5	207	250	300	375
	B4	62.5	62.5	68	78.5	97	110	130	165
	B5(B5')	65	65	75(74)	90	110	140	170	210
	B6	52	52	60	72	88	110	134	170
	B7	26	26	30	36	44	55	67	85
	B8	22	22	32	38	43	53.5	64	77
	B9	20	20	30	35	40	50	60	75
	B10	62	64	73	88	106	135	164	205
	B11	M5 x P0.8	M5 x P0.8	M6 x P1.0	M6 x P1.0	M8 x P1.25	M10 x P1.5	M12 x P1.75	M16 x P2.0
C	C1	102	107	128	151	182	222	262	323
	C2	40	42.5	48	57	70	85	100	123
	C3	62	64.5	80	94	112	137	162	200
	C4	2	2	2	2	2	2	2	2
D	D1	14	14	16	18	22	32	40	50
	D2	5	5	5	6	6	10	12	14
	D3	16	16	18	20.5	24.5	35	43	53.5
	D4	M5 x P0.8	M5 x P0.8	M5 x P0.8	M5 x P0.8	M5 x P0.8	M10 x P1.5	M12 x P1.75	M12 x P1.75
Weight	kg	2.1	2.1	2.8	4.9	8.59	15.5	25	53

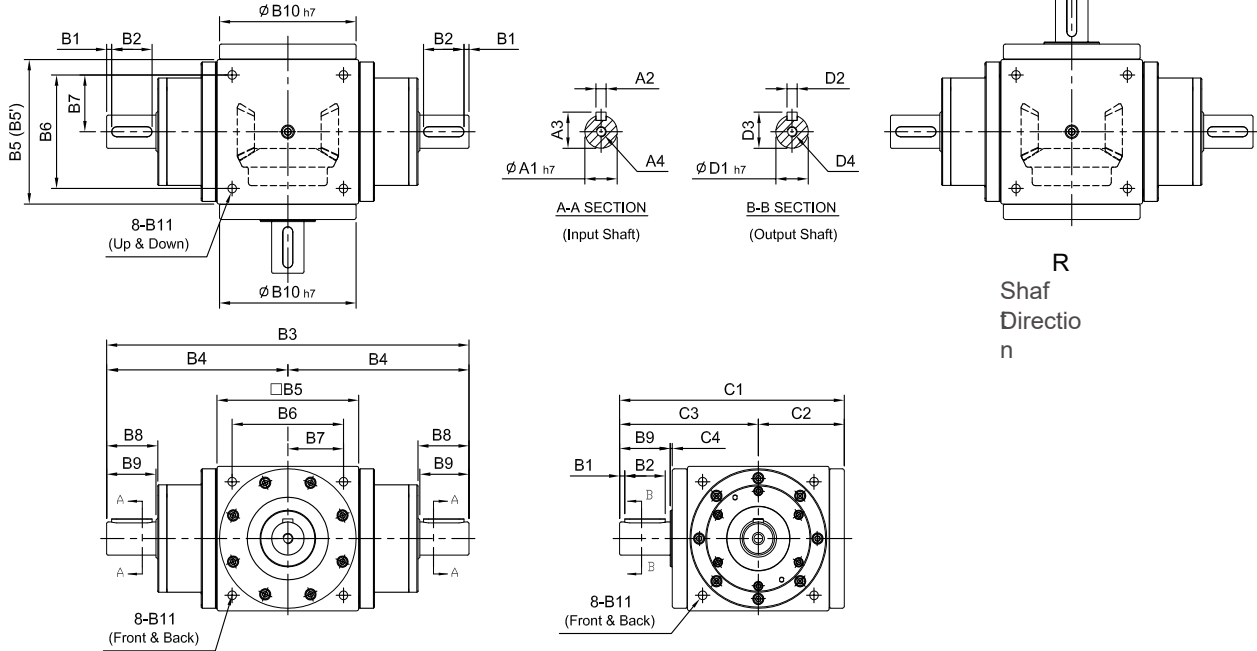
ST-YS Series

RATIO : 1,2,3,4,5 (1-Stage)

Double Input Shaft - Single Output Shaft



ST



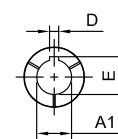
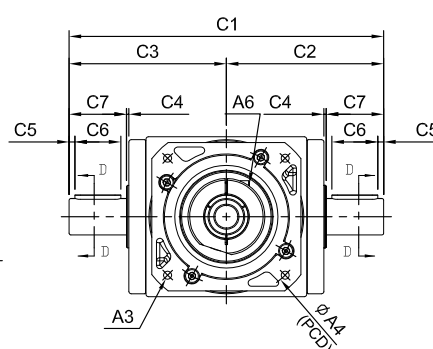
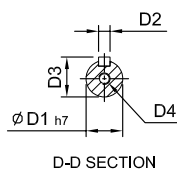
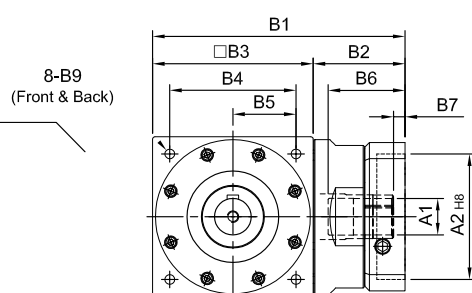
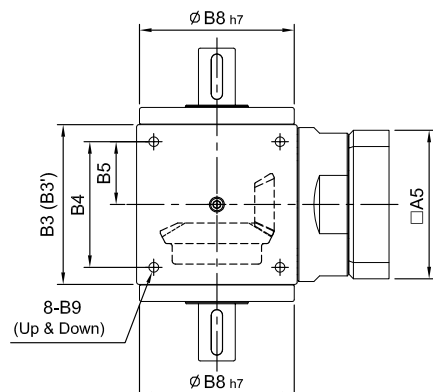
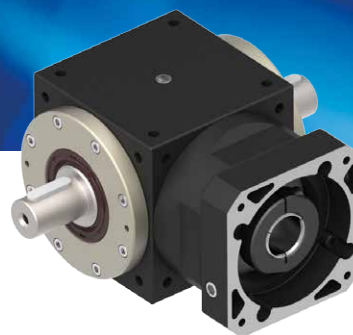
unit: mm

A	Model Code	65	65(1:1)	75	90	110	140	170	210
B	A1	14	14	16	18	22	32	40	50
	A2	5	5	5	6	6	10	12	14
	A3	16	16	18	20.5	24.5	35	43	53.5
	A4	M5 x P0.8	M5 x P0.8	M5 x P0.8	M8 x P1.25	M8 x P1.25	M10 x P1.5	M12 x P1.75	M12 x P1.75
	B1	2.5	2.5	2.5	5	5	5	5	5
	B2	15	15	25	25	30	40	50	65
	B3	190	190	210	247	304	360	430	540
	B4	95	95	105	123.5	152	180	215	270
	B5(B5')	65	65	75(74)	90	110	140	170	210
	B6	52	52	60	72	88	110	134	170
C	B7	26	26	30	36	44	55	67	85
	B8	22	22	32	38	43	53.5	64	77
	B9	20	20	30	35	40	50	60	75
	B10	62	64	73	88	106	135	164	205
D	B11	M5 x P0.8	M5 x P0.8	M6 x P1.0	M6 x P1.0	M8 x P1.25	M10 x P1.5	M12 x P1.75	M16 x P2.0
	C1	102	107	128	151	182	222	262	323
	C2	40	42.5	48	57	70	85	100	123
	C3	62	64.5	80	94	112	137	162	200
Weight	C4	2	2	2	2	2	2	2	2
	D1	14	14	16	18	22	32	40	50
	D2	5	5	5	6	6	10	12	14
	D3	16	16	18	20.5	24.5	35	43	53.5
	D4	M5 x P0.8	M5 x P0.8	M5 x P0.8	M5 x P0.8	M5 x P0.8	M10 x P1.5	M12 x P1.75	M12 x P1.75

ST-FV Series

RATIO : 1,2,3,4,5 (1-Stage)

Input Flange - Double Output Shaft



(170#)

$\varnothing A1$	D	E
$\varnothing 35$	10	38.3
$\varnothing 38$	10	41.3
$\varnothing 42$	12	45.3
$\varnothing 48$	14	51.8
$\varnothing 55$	16	59.3

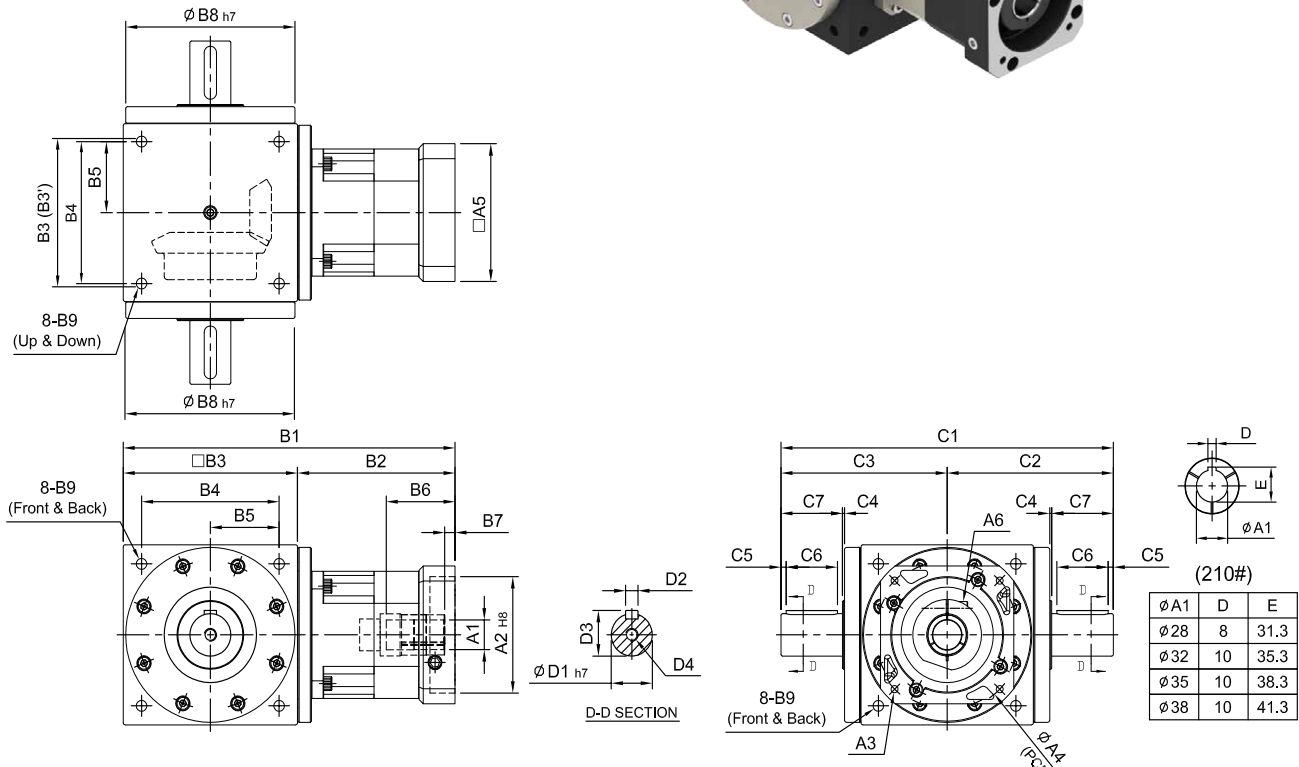
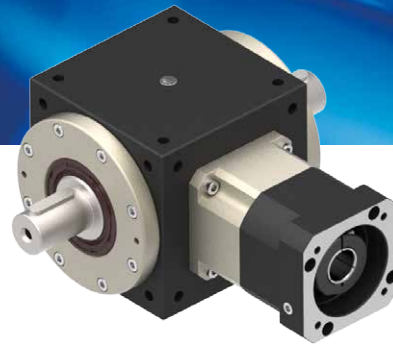
unit: mm

	Model Code	65	65(1:1)	75	90	110	140	170	210
	A1	9, 1, 14	9, 11, 14	14, 19	16, 19, 22, 24	19, 22, 24	24, 28, 32, 35	35, 38	35, 38, 42, 48, 55
A	A2	50, 60, 70	50, 60, 70	50, 60, 70	70, 80, 95, 110	70, 80, 95, 110	95, 110, 130	110, 130, 180	114.3, 180, 230
	A3	M4, M5, M6	M4, M5, M6	M4, M5, M6	M5, M6, M8	M5, M6, M8	M6, M8, M10	M8, M10, M120	M10, M12, M16
	A4	70, 75, 90	70, 75, 90	70, 75, 90	90, 100, 115, 145	90, 100, 115, 145	115, 145, 165	145, 165, 200	200, 215, 265
	A5	64, 70, 80	64, 70, 80	64, 70, 80	92, 110, 130	92, 110, 130	122, 130, 150	146, 150, 190	182, 200, 250
	A6	M5 x P0.8	M5 x P0.8	M5 x P0.8	M6 x P1.0	M6 x P1.0	M8 x P1.25	M10 x P1.5	M10 x P1.5
	B	B1	110	110	115, 122	148, 162	177, 191	224, 238	274
B2		45	45	40	58, 72	67, 81	84, 98	104	147
B3(B3')		65	65	75(74)	90	110	140	170	210
B4		52	52	60	72	88	110	134	170
B5		26	26	30	36	44	55	67	85
B6		36	36	36, 43	51, 65.5	51, 65.5	68, 81	84.5	117
B7		7	7	7, 13	9, 23.5	9, 23.5	9, 10	9.5	14, 16
B8		62	64	73	88	106	135	164	205
B9		M5 x P0.8	M5 x P0.8	M6 x P1.0	M6 x P1.0	M8 x P1.25	M10 x P1.5	M12 x P1.75	M16 x P2.0
C	C1	124	129	160	188	224	274	324	400
	C2	62	64.5	80	94	112	137	162	200
	C3	62	64.5	80	94	112	137	162	200
	C4	2	2	2	2	2	2	2	2
	C5	2.5	2.5	2.5	5	5	5	5	5
	C6	15	15	25	25	30	40	50	65
	C7	20	20	30	35	40	50	60	75
D	D1	14	14	16	18	22	32	40	50
	D2	5	5	5	6	6	10	12	14
	D3	16	16	18	20.5	24.5	35	43	53.5
	D4	M5 x P0.8	M5 x P0.8	M5 x P0.8	M5 x P0.8	M5 x P0.8	M10 x P1.5	M12 x P1.75	M12 x P1.75
Weight	kg	1.7	1.7	2.4	4.3	7.1	14.9	24.5	46

ST-RV Series

RATIO : 10,15,20,25,30,40,50 (2-Stage)

Fitted with Planetary Reducer - Double Output Shaft



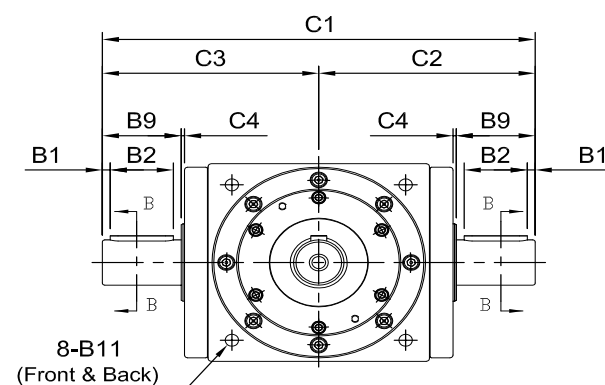
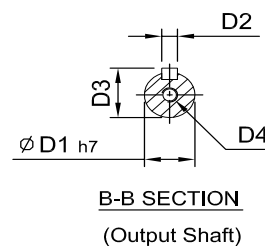
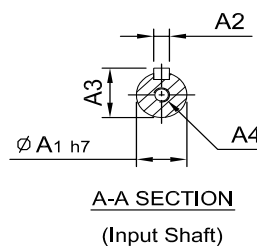
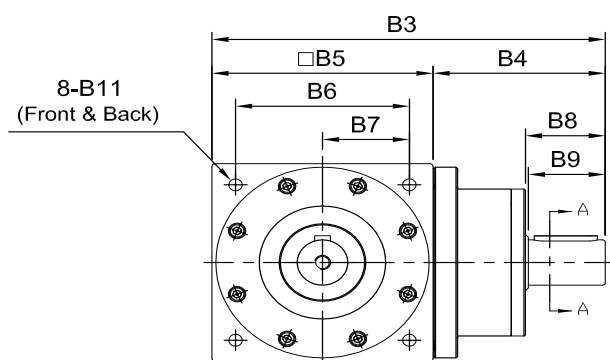
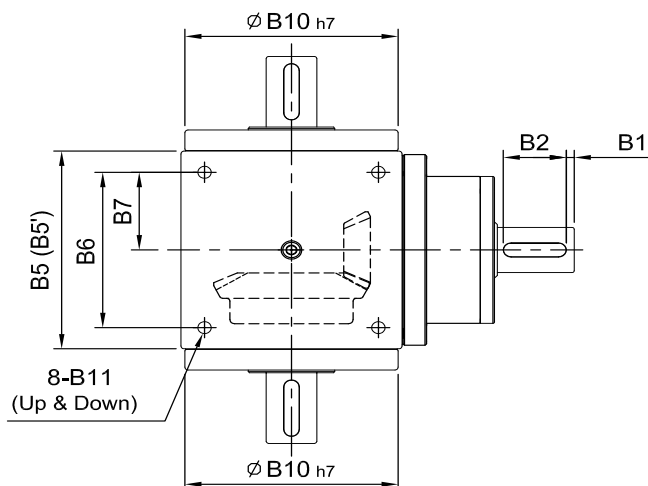
unit: mm

	Model Code	65	75		90	110	140	170	210
A	A1	8, 9, 11, 14	8, 9, 11, 14	11, 14, 16, 19	11, 14, 16, 19	(14), 16, 19	16, 19, 22, 24	22, 24, 28, 32, 35	28, 32, 35, 38
	A2	30, 40, 50	30, 40, 50	50, 60, 70	50, 60, 70	50, 70, 80, 95	70, 80, 95, 110	95, 110, 130	110, 130, 180
	A3	M3, M4, M5	M3, M4, M5	M4, M5, M6	M4, M5, M6	M5, M6	M5, M6, M8	M6, M8, M10	M8, M10, M12
	A4	46, 60, 63	46, 60, 63	70, 75, 90	70, 75, 90	70, 90, 100, 115	90, 100, 115, 145	115, 145, 165	145, 165, 200
	A5	46, 55	46, 55	64, 70, 80	64, 70, 80	80, 92, 110	92, 110, 130	122, 130, 150	146, 150, 190
	A6	M4 x P0.7	M4 x P0.7	M5 x P0.8	M5 x P0.8	M5 x P0.8	M6 x P1.0	M8 x P1.25	M10 x P1.5
B	B1	132	137	149, 157	165, 173	191	260	313, 334	399
	B2	67	62	74, 82	75, 83	81	120	143, 164	189
	B3(B3')	65	75(74)	75(74)	90	110	140	170	210
	B4	52	60	60	72	88	110	134	170
	B5	26	30	30	36	44	55	67	85
	B6	26	26	33.5, 41.5	33.5, 41.5	33.5	59	67, 83	85
	B7	5	5	5	6	6	9	10, 11	10
	B8	62	73	73	88	106	135	164	205
B9	M5 x P0.8	M6 x P1.0	M6 x P1.0	M6 x P1.0	M8 x P1.25	M10 x P1.5	M12 x P1.75	M16 x P2.0	
C	C1	124	160	160	188	224	274	324	400
	C2	62	80	80	94	112	137	162	200
	C3	62	80	80	94	112	137	162	200
	C4	2	2	2	2	2	2	2	2
	C5	2.5	2.5	2.5	5	5	5	5	5
	C6	15	25	25	25	30	40	50	65
	C7	20	30	30	35	40	50	60	75
D	D1	14	16	16	18	22	32	40	50
	D2	5	5	5	6	6	10	12	14
	D3	16	18	18	20.5	24.5	35	43	53.5
	D4	M5 x P0.8	M5 x P0.8	M5 x P0.8	M5 x P0.8	M5 x P0.8	M10 x P1.5	M12 x P1.75	M12 x P1.75
Weight	kg	1.9	3.6	3.4	4.8	8.5	14.2	24	52

ST-DV Series

RATIO : 1,2,3,4,5 (1-Stage)

Single Input Shaft - Double Output Shaft



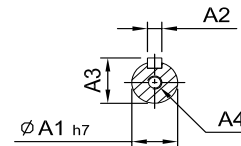
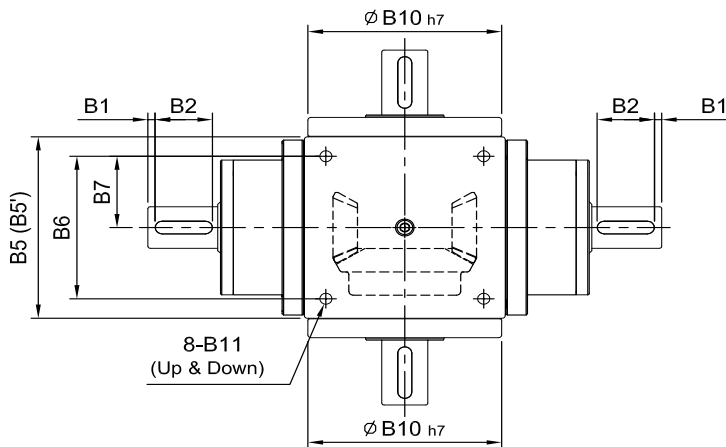
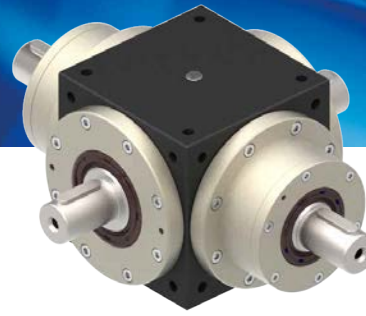
unit: mm

A	Model Code	65	65(1:1)	75	90	110	140	170	210
	A1	14	14	16	18	22	32	40	50
	A2	5	5	5	6	6	10	12	14
	A3	16	16	18	20.5	24.5	35	43	53.5
	A4	M5 x P0.8	M5 x P0.8	M5 x P0.8	M8 x P1.25	M8 x P1.25	M10 x P1.5	M12 x P1.75	M12 x P1.75
B	B1	2.5	2.5	2.5	5	5	5	5	5
	B2	15	15	25	25	30	40	50	65
	B3	127.5	127.5	143	168.5	207	250	300	375
	B4	62.5	62.5	68	78.5	97	110	130	165
	B5(B5')	65	65	75(74)	90	110	140	170	210
	B6	52	52	60	72	88	110	134	170
	B7	26	26	30	36	44	55	67	85
	B8	22	22	32	38	43	53.5	64	77
	B9	20	20	30	35	40	50	60	75
	B10	62	64	73	88	106	135	164	205
	B11	M5 x P0.8	M5 x P0.8	M6 x P1.0	M6 x P1.0	M8 x P1.25	M10 x P1.5	M12 x P1.75	M16 x P2.0
C	C1	124	129	160	188	224	274	324	400
	C2	62	64.5	80	94	112	137	162	200
	C3	62	64.5	80	94	112	137	162	200
	C4	2	2	2	2	2	2	2	2
D	D1	14	14	16	18	22	32	40	50
	D2	5	5	5	6	6	10	12	14
	D3	16	16	18	20.5	24.5	35	43	53.5
	D4	M5 x P0.8	M5 x P0.8	M5 x P0.8	M5 x P0.8	M5 x P0.8	M10 x P1.5	M12 x P1.75	M12 x P1.75
Weight	kg	2.1	2.1	2.8	4.9	8.59	15.5	25	53

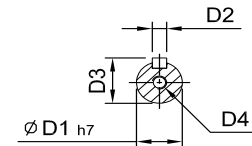
ST-YV Series

RATIO : 1,2,3,4,5 (1-Stage)

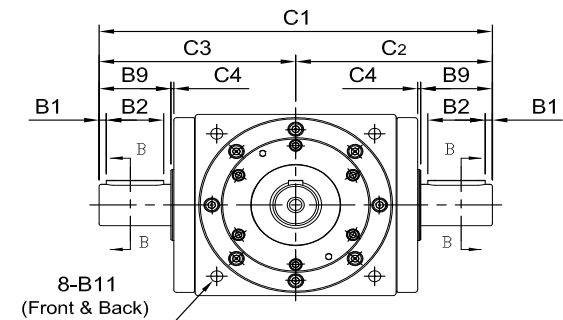
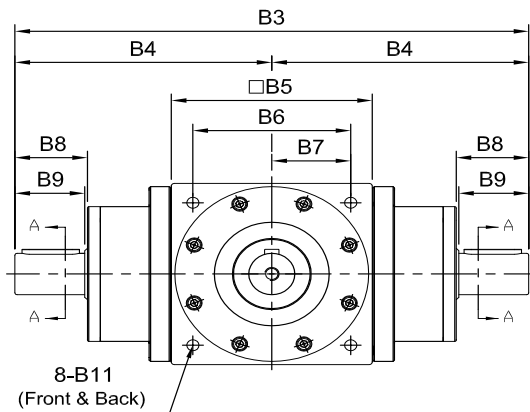
Double Input Shaft - Double Output Shaft



A-A SECTION
(Input Shaft)



B-B SECTION
(Output Shaft)



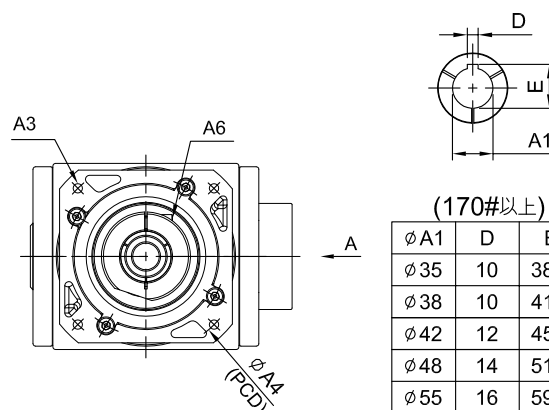
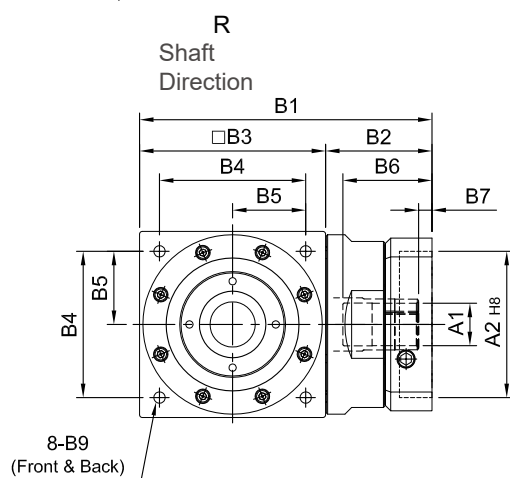
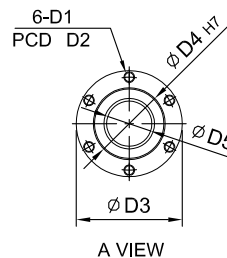
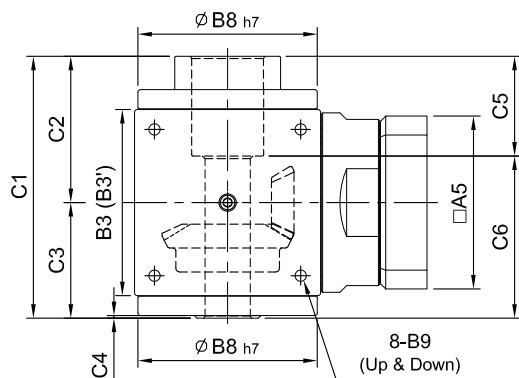
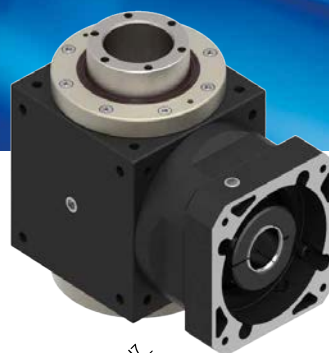
unit: mm

A	Model Code	65	65(1:1)	75	90	110	140	170	210
B	A1	14	14	16	18	22	32	40	50
	A2	5	5	5	6	6	10	12	14
	A3	16	16	18	20.5	24.5	35	43	53.5
	A4	M5 x P0.8	M5 x P0.8	M5 x P0.8	M8 x P1.25	M8 x P1.25	M10 x P1.5	M12 x P1.75	M12 x P1.75
	B1	2.5	2.5	2.5	5	5	5	5	5
	B2	15	15	25	25	30	40	50	65
	B3	190	190	210	247	304	360	430	540
	B4	95	95	105	123.5	152	180	215	270
	B5(B5')	65	65	75(74)	90	110	140	170	210
	B6	52	52	60	72	88	110	134	170
C	B7	26	26	30	36	44	55	67	85
	B8	22	22	32	38	43	53.5	64	77
	B9	20	20	30	35	40	50	60	75
	B10	62	64	73	88	106	135	164	205
D	B11	M5 x P0.8	M5 x P0.8	M6 x P1.0	M6 x P1.0	M8 x P1.25	M10 x P1.5	M12 x P1.75	M16 x P2.0
	C1	124	129	160	188	224	274	324	400
	C2	62	64.5	80	94	112	137	162	200
	C3	62	64.5	80	94	112	137	162	200
Weight	C4	2	2	2	2	2	2	2	2
	D1	14	14	16	18	22	32	40	50
	D2	5	5	5	6	6	10	12	14
	D3	16	16	18	20.5	24.5	35	43	53.5
	D4	M5 x P0.8	M5 x P0.8	M5 x P0.8	M5 x P0.8	M5 x P0.8	M10 x P1.5	M12 x P1.75	M12 x P1.75

ST-FP Series

RATIO : 2,3,4,5 (1-Stage)

Input Flange - Ball Screw



(170#以上)

$\phi A1$	D	E
$\phi 35$	10	38.3
$\phi 38$	10	41.3
$\phi 42$	12	45.3
$\phi 48$	14	51.8
$\phi 55$	16	59.3

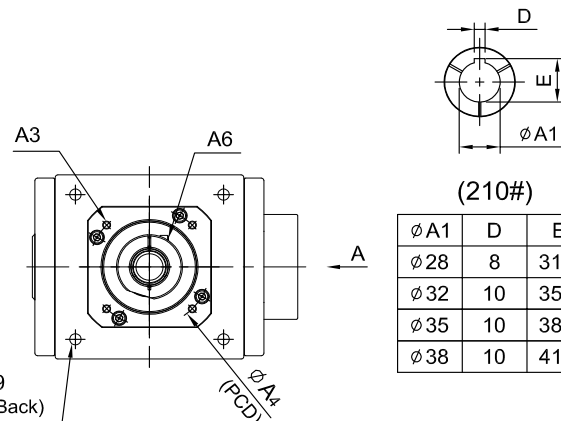
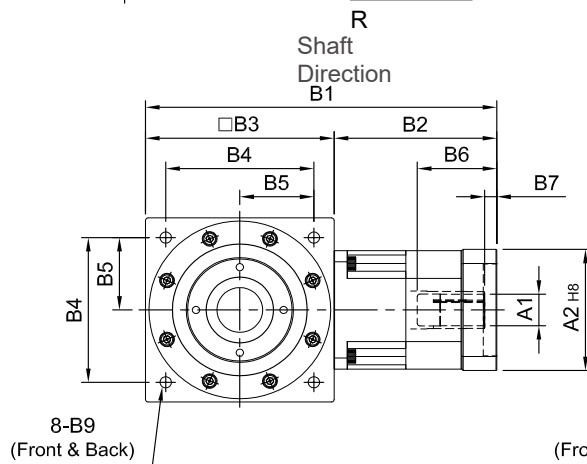
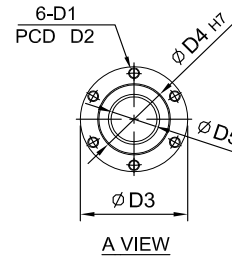
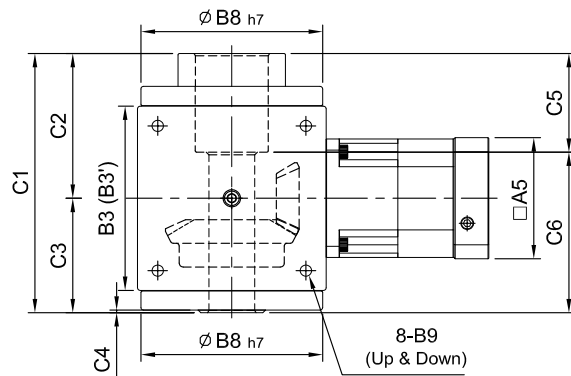
unit: mm

Model Code	75	90	110	140	170	210
A	A1	14, 19	16, 19, 22, 24	19, 22, 24	24, 28, 32, 35	35, 38, 42, 48, 55
	A2	50, 60, 70	70, 80, 95, 110	70, 80, 95, 110	95, 110, 130	110, 130, 180
	A3	M4, M5, M6	M5, M6, M8	M5, M6, M8	M6, M8, M10	M8, M10, M120
	A4	70, 75, 90	90, 100, 115, 145	90, 100, 115, 145	115, 145, 165	145, 165, 200
	A5	64, 70, 80	92, 110, 130	92, 110, 130	122, 130, 150	146, 150, 190
	A6	M5 x P0.8	M6 x P1.0	M6 x P1.0	M8 x P1.25	M10 x P1.5
B	B1	115, 122	148, 162	177, 191	224, 238	274
	B2	40	58, 72	67, 81	84, 98	104
	B3(B3')	75(74)	90	110	140	170
	B4	60	72	88	110	134
	B5	30	36	44	55	67
	B6	36, 43	51, 65.5	51, 65.5	68, 81	84.5
	B7	7, 13	9, 23.5	9, 23.5	9, 10	9.5
	B8	73	88	106	135	164
C	B9	M6 x P1.0	M6 x P1.0	M8 x P1.25	M10 x P1.5	M12 x P1.75
	C1	106	127	156	197	223
	C2	57	68	84	109	121
	C3	49	59	72	88	102
	C4	1.25	2	2	2	2.25
	C5	33	44	55	75	72
D	C6	73	83	101	122	153
	D1	M4 x P0.7	M5 x P0.8	M5 x P0.8	M8 x P1.25	M10 x P1.5
	D2	36	40	45	70	77
	D3	41.7	46.7	57.7	79.7	89.7
	D4	26	30	36	54	58
Weight	D5	15	18	22	34	38
		kg	2.4	4.3	7.1	14.9

ST-RP Series

RATIO : 10,15,20,25,30,40,50 (2-Stage)

Fitted with Planetary Reducer - Ball Screw



(210#)

$\phi A1$	D	E
$\phi 28$	8	31.3
$\phi 32$	10	35.3
$\phi 35$	10	38.3
$\phi 38$	10	41.3

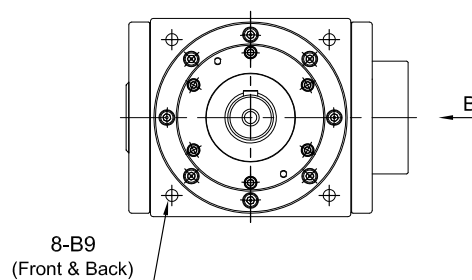
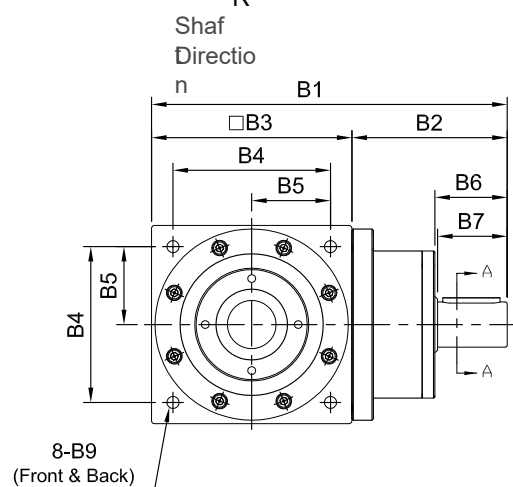
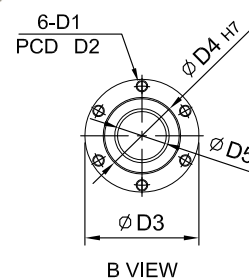
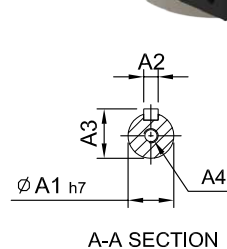
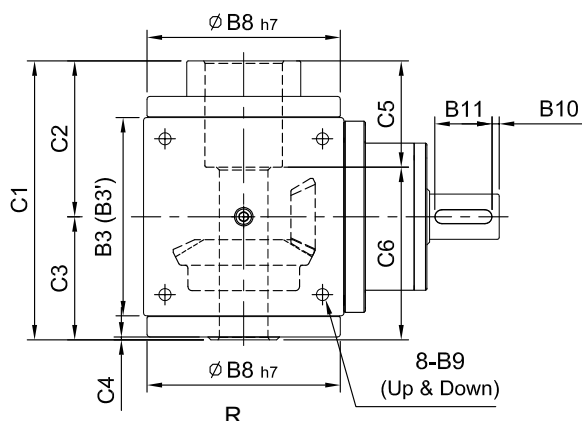
unit: mm

	Model Code	75	90	110	140	170	210
A	A1	8, 9, 11, 14	11, 14, 16, 19	(14), 16, 19	16, 19, 22, 24	22, 24, 28, 32, 35	28, 32, 35, 38
	A2	30, 40, 50	50, 60, 70	50, 70, 80, 95	70, 80, 95, 110	95, 110, 130	110, 130, 180
	A3	M3, M4, M5	M4, M5, M6	M5, M6	M5, M6, M8	M6, M8, M10	M8, M10, M12
	A4	46, 60, 63	70, 75, 90	70, 90, 100, 115	90, 100, 115, 145	115, 145, 165	145, 165, 200
	A5	46, 55	64, 70, 80	80, 92, 110	92, 110, 130	122, 130, 150	146, 150, 190
	A6	M4 x P0.7	M5 x P0.8	M5 x P0.8	M6 x P1.0	M8 x P1.25	M10 x P1.5
B	B1	149	165, 173	191	260	313, 334	399
	B2	62	75, 83	81	120	143, 164	189
	B3(B3')	75(74)	90	110	140	170	210
	B4	60	72	88	110	134	170
	B5	30	36	44	55	67	85
	B6	26	33.5, 41.5	33.5	59	67, 83	85
	B7	5	6	6	9	10, 11	10
	B8	73	88	106	135	164	205
	B9	M6 x P1.0	M6 x P1.0	M8 x P1.25	M10 x P1.5	M12 x P1.75	M16 x P2.0
C	C1	106	127	156	197	223	267
	C2	57	68	84	109	121	142
	C3	49	59	72	88	102	125
	C4	1.25	2	2	2	2.25	2.25
	C5	33	44	55	75	72	82
	C6	73	83	101	122	153	185
D	D1	M4 x P0.7	M5 x P0.8	M5 x P0.8	M8 x P1.25	M10 x P1.5	M10 x P1.5
	D2	36	40	45	70	77	84
	D3	41.7	46.7	57.7	79.7	89.7	99.7
	D4	26	30	36	54	58	64
	D5	15	18	22	34	38	42
Weight	kg	3.6	4.8	8.5	14.2	24	52

ST-DP Series

RATIO : 2,3,4,5 (1-Stage)

Single Input Shaft - Ball Screw



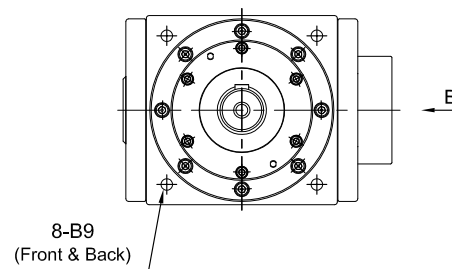
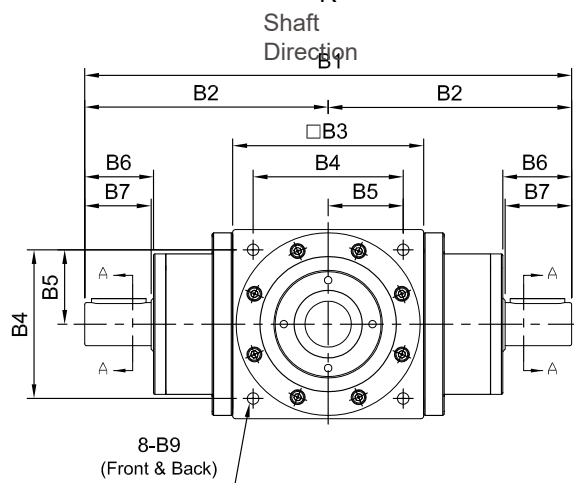
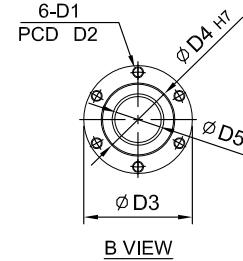
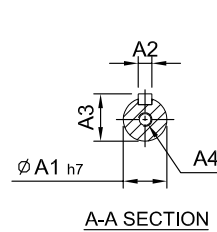
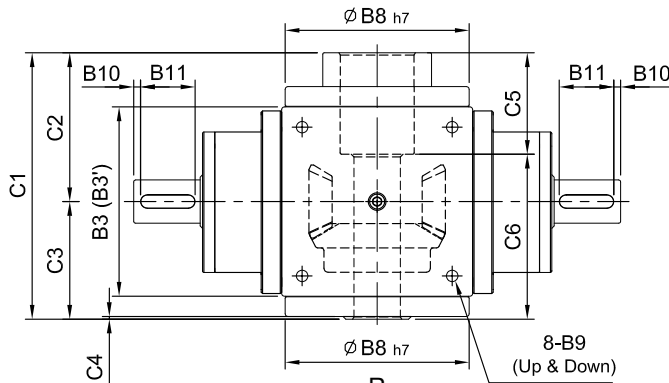
unit: mm

	Model Code	75	90	110	140	170	210
A	A1	16	18	22	32	40	50
	A2	5	6	6	10	12	14
	A3	18	20.5	24.5	35	43	53.5
	A4	M5 x P0.8	M8 x P1.25	M8 x P1.25	M10 x P1.5	M12 x P1.75	M12 x P1.75
B	B1	143	169	207	250	300	375
	B2	68	79	97	110	130	165
	B3(B3')	75(74)	90	110	140	170	210
	B4	60	72	88	110	134	170
	B5	30	36	44	55	67	85
	B6	32	38	43	53.5	64	77
	B7	30	35	40	50	60	75
	B8	73	88	106	135	164	205
	B9	M6 x P1.0	M6 x P1.0	M8 x P1.25	M10 x P1.5	M12 x P1.75	M16 x P2.0
	B10	2.5	5	5	5	5	5
	B11	25	25	30	40	50	65
C	C1	106	127	156	197	223	267
	C2	57	68	84	109	121	142
	C3	49	59	72	88	102	125
	C4	1.25	2	2	2	2.25	2.25
	C5	33	44	55	75	72	82
	C6	73	83	101	122	153	185
D	D1	M4 x P0.7	M5 x P0.8	M5 x P0.8	M8 x P1.25	M10 x P1.5	M10 x P1.5
	D2	36	40	45	70	77	84
	D3	41.7	46.7	57.7	79.7	89.7	99.7
	D4	26	30	36	54	58	64
	D5	15	18	22	34	38	42
Weight	kg	2.8	4.9	8.59	15.5	25	53

ST-YP Series

RATIO : 2,3,4,5 (1-Stage)

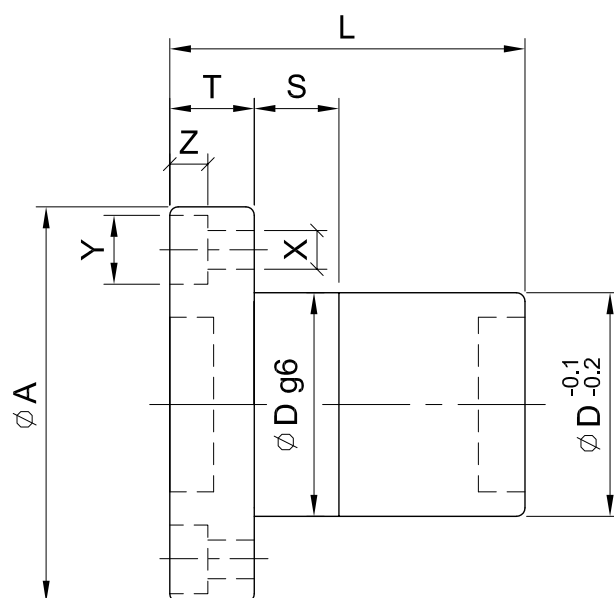
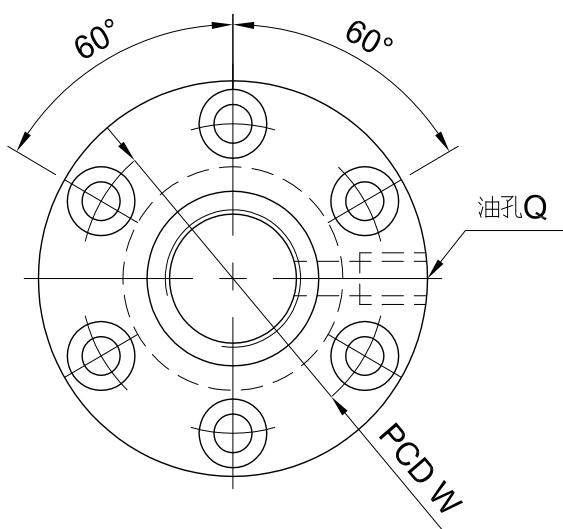
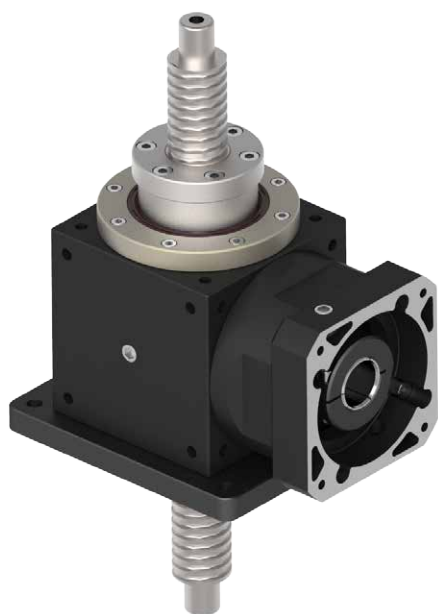
Double Input Shaft - Ball Screw



unit: mm

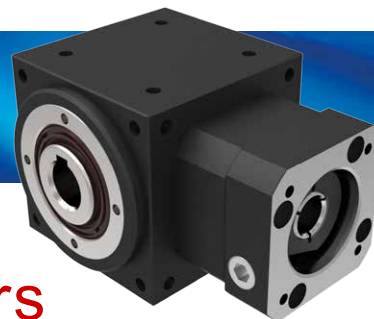
	Model Code	75	90	110	140	170	210
A	A1	16	18	22	32	40	50
	A2	5	6	6	10	12	14
	A3	18	20.5	24.5	35	43	53.5
	A4	M5 x P0.8	M8 x P1.25	M8 x P1.25	M10 x P1.5	M12 x P1.75	M12 x P1.75
B	B1	210	247	304	360	430	540
	B2	105	123.5	152	180	215	270
	B3(B3')	75(74)	90	110	140	170	210
	B4	60	72	88	110	134	170
	B5	30	36	44	55	67	85
	B6	32	38	43	53.5	64	77
	B7	30	35	40	50	60	75
	B8	73	88	106	135	164	205
	B9	M6 x P1.0	M6 x P1.0	M8 x P1.25	M10 x P1.5	M12 x P1.75	M16 x P2.0
	B10	2.5	5	5	5	5	5
	B11	25	25	30	40	50	65
C	C1	106	127	156	197	223	267
	C2	57	68	84	109	121	142
	C3	49	59	72	88	102	125
	C4	1.25	2	2	2	2.25	2.25
	C5	33	44	55	75	72	82
	C6	73	83	101	122	153	185
D	D1	M4 x P0.7	M5 x P0.8	M5 x P0.8	M8 x P1.25	M10 x P1.5	M10 x P1.5
	D2	36	40	45	70	77	84
	D3	41.7	46.7	57.7	79.7	89.7	99.7
	D4	26	30	36	54	58	64
	D5	15	18	22	34	38	42
Weight	kg	3.6	6.2	11.5	18	28	57

Reference Information of Ball Screw



Reducer Model	Screw Size		Basic Rate Load (kgf)		Nut		Flange			FIT	Screw Bolt			Oil Hole	Length
	O.D.	Lead	Dynamic	Static	Dg6	L	A	T	W	S	X	Y	Z	Q	
75	14	5	720	1010	26	42	46	10	36	10	4.5	8	4.5	M6 x P1.0	≤ 500
90	16	6	980	1650	30	55	54	12	40	12	5.5	9.5	5.5	M6 x P1.0	≤ 800
110	20	10	860	1710	36	66	57	12	45	12	5.5	9.5	5.5	M6 x P1.0	≤ 1000
140	32	10	3340	7080	54	90	88	16	70	15	9	14	8.5	M8 x P1	≤ 1200
170	36	10	3600	8280	58	89	98	18	77	20	11	17.5	11	M8 x P1	≤ 1500
210	40	10	4670	11830	64	99	106	18	84	20	11	17.5	11	M8 x P1	≤ 1500

FT Series



Indication of Model Numbers

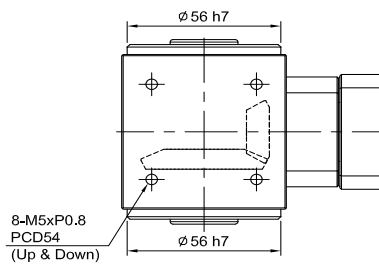
FT	60	F	O	B	5	MOTOR
Series	Model	Input	Output	Bearing	Ratio	Motor Brand / Model
FT	60 70	F: Input Flange R44: Reducer 1-Stage: R44, R62... 2-Stage: R44S, R62S... 2-Stage (A-Type) : R62A...	O: Hollow Shaft P: Fixing Flange C: Set Collar	B: Ball Bearing	2 3 4 5 10 15 20 25 30 40 50	

Model / Size No.		Unit	1-Stage			2-Stage		
			Ratio	60	70	Ratio	60	70
Rated Output Torque (Nominal output torque)	T_{2N}	Nm	2	15	22	10	15	22
			3	13	18	15	13	18
			4	13	18	20	13	18
			5	12	16	25	12	16
						30	13	18
						40	13	18
						50	12	16
Max. Acceleration Torque	T_{2B}	Nm	2~5 10~50	1.5 Times of Rated Output Torque				
Rated Input Speed	n_{1N}	rpm	2~5	3,000	3,000	10~50	3,000	3,000
Max. Input Speed	n_{1B}	rpm	2~5	7,000	7,000	10~50	7,000	7,000
Backlash		arcmin	2~5	≤ 10	≤ 10	10~50	≤ 12	≤ 12
Max. Radial Force Ball Bearing	F_{2rB}	N	2~5	600	800	10~50	600	800
Max. Axial ForceBall Bearing	F_{2aB}	N	2~5	300	400	10~50	300	400
Service Life	L_H	hr	2~5 10~50	S5 Cycle Operation: >20,000 (S1 Continuous Operation: >10,000 hrs)				
Efficiency	η	%	2~5	94% ~ 98%		10~50	90% ~ 94%	
Operating Temperature		℃	2~5 10~50	-10℃ ~ +90℃				
Lubrication			2~5 10~50	Synthetic Grease				
Noise Level		dB	2~5	68	70	10~50	70	72

Mass Moments of Inertia (kgcm²)

Model / Size No.		Unit	1-Stage			2-Stage		
			Ratio	60	70	Ratio	60	70
Mass Moments of Inertia	kgcm ²	Nm	2	0.32	0.80	10	0.04	0.10
			3	0.30	0.75	15	0.04	0.10
			4	0.30	0.70	20	0.04	0.10
			5	0.29	0.68	25	0.04	0.10
						30	0.04	0.10
						40	0.04	0.10
						50	0.04	0.10

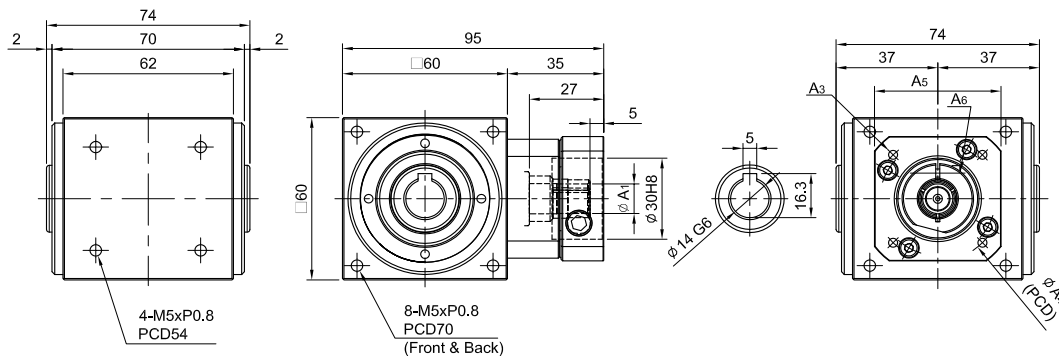
RATIO : 2.3.4.5 (1-Stage)



FT-FO

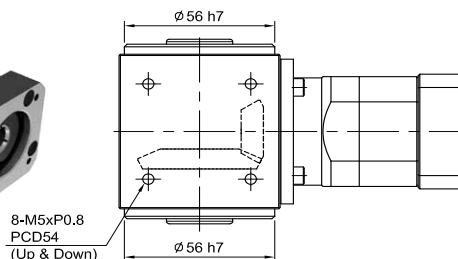
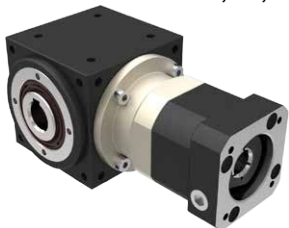
Input Flange
- Hollow Output Shaft

unit:mm	
Model Code	60
A1	11
A2	30, 40, 50
A3	M3, M4, M5
A4	46, 60, 63
A5	46, 55
A6	M4 x P0.7



MODEL : FT-60

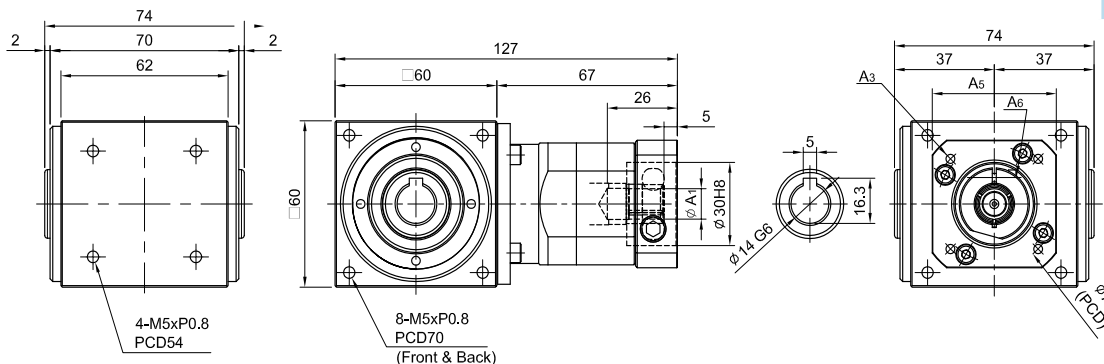
RATIO : 10,15,20,25,30,40,50 (2-Stage)



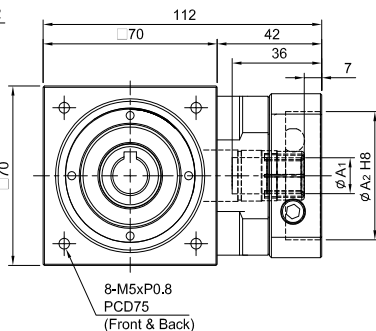
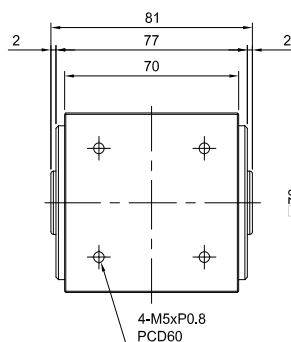
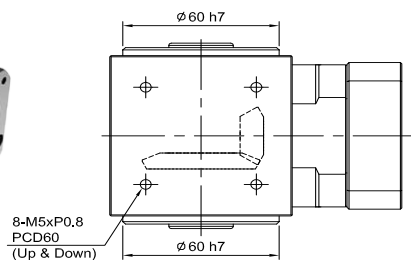
FT-RO

Fitted with Planetary Reducer
- Hollow Output Shaft

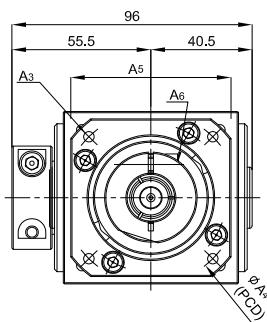
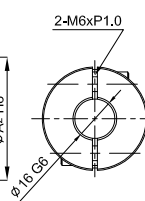
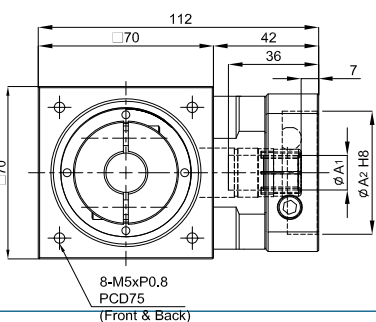
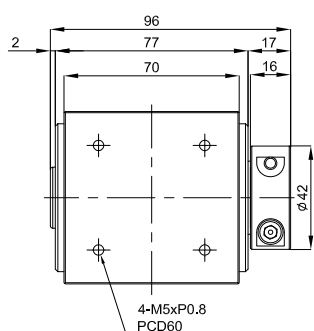
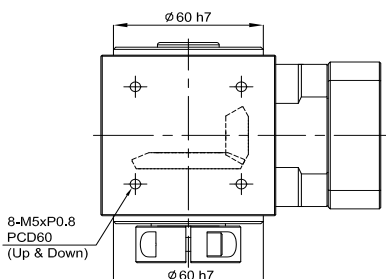
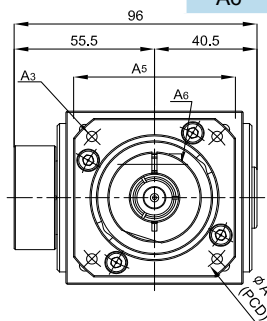
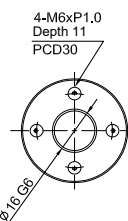
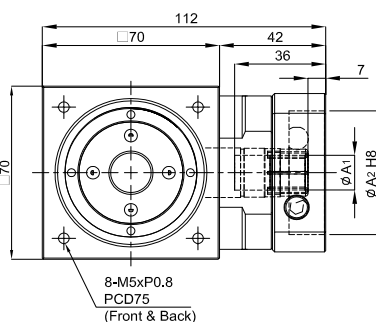
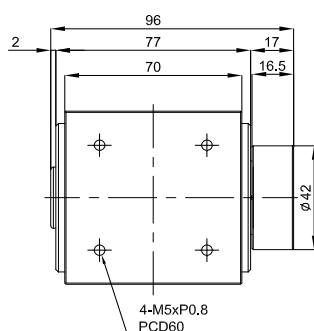
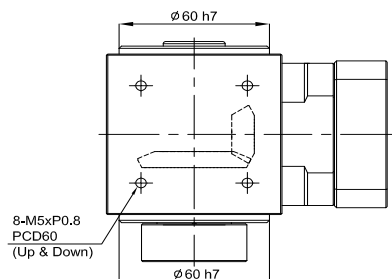
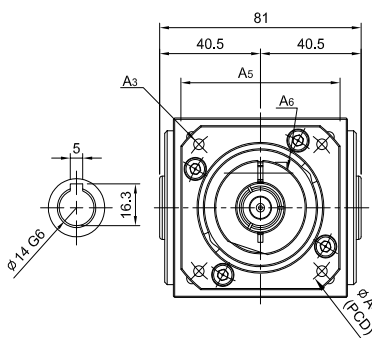
unit:mm	
Model Code	60
A1	8, 11
A2	30, 40, 50
A3	M3, M4, M5
A4	46, 60, 63
A5	46, 55
A6	M4 x P0.7



RATIO : 2,3,4,5 (1-Stage)



unit:mm	
Model Code	70
A1	14
A2	50, 60, 70
A3	M4, M5, M6
A4	70, 75, 90
A5	64, 70, 80
A6	M5 x P0.8



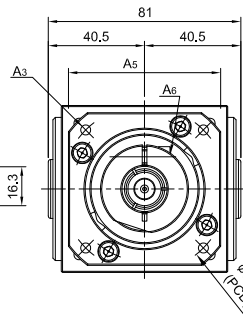
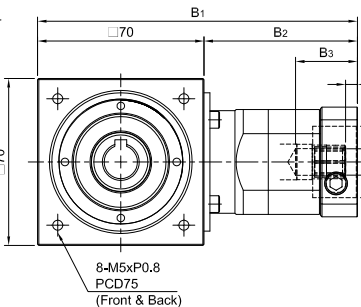
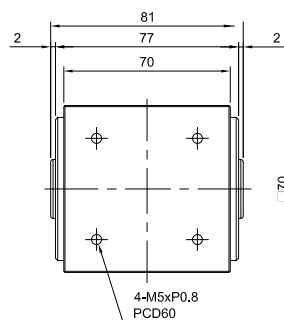
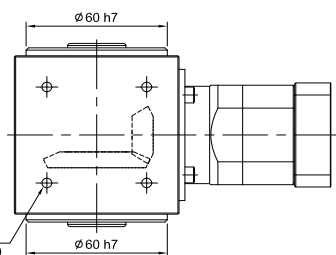
Input Flange - Fixing Flange

unit:mm	
Model Code	70
A1	14
A2	50, 60, 70
A3	M4, M5, M6
A4	70, 75, 90
A5	64, 70, 80
A6	M5 x P0.8

Input Flange - Set Collar

MODEL : FT-70

RATIO : 10,15,20,25,30,40,50 (2-Stage)

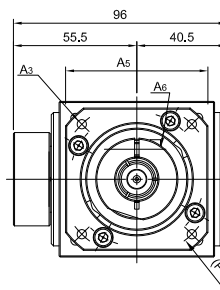
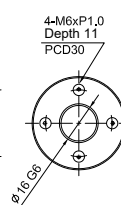
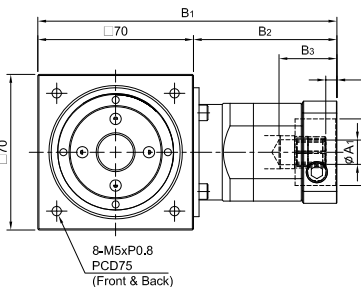
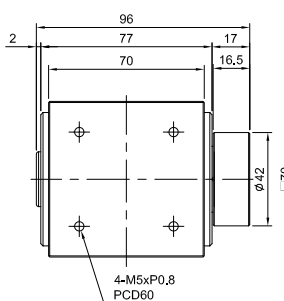
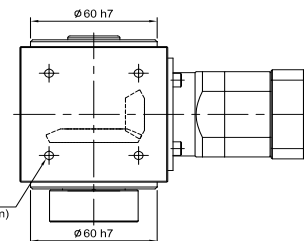


FT-RO

Fitted with Planetary Reducer
- Hollow Output Shaft

unit:mm

Model Code	70	
A1	8, 11	14
A2	30, 40, 50	50, 60, 70
A3	M3, M4, M5	M4, M5, M6
A4	46, 60, 63	70, 75, 90
A5	46, 55	64, 70, 80
A6	M3 x P0.5	M5 x P0.8
B1	135	146
B2	65	76
B3	26	33.5
B4	5	6

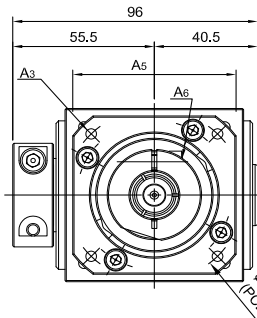
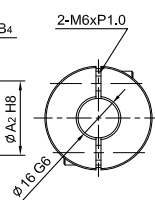
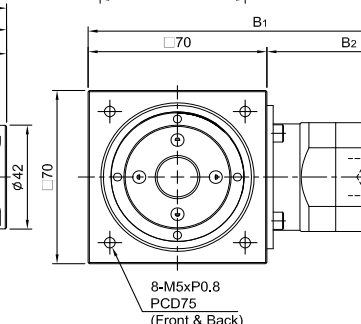
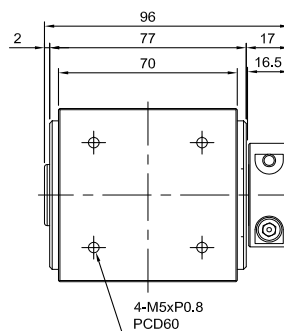
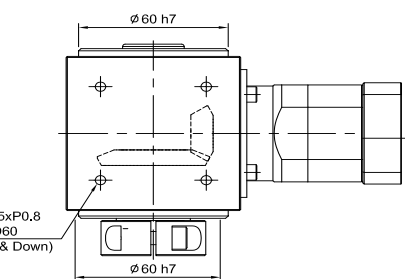


FT-RP

Fitted with Planetary Reducer
- Fixing Flange

unit:mm

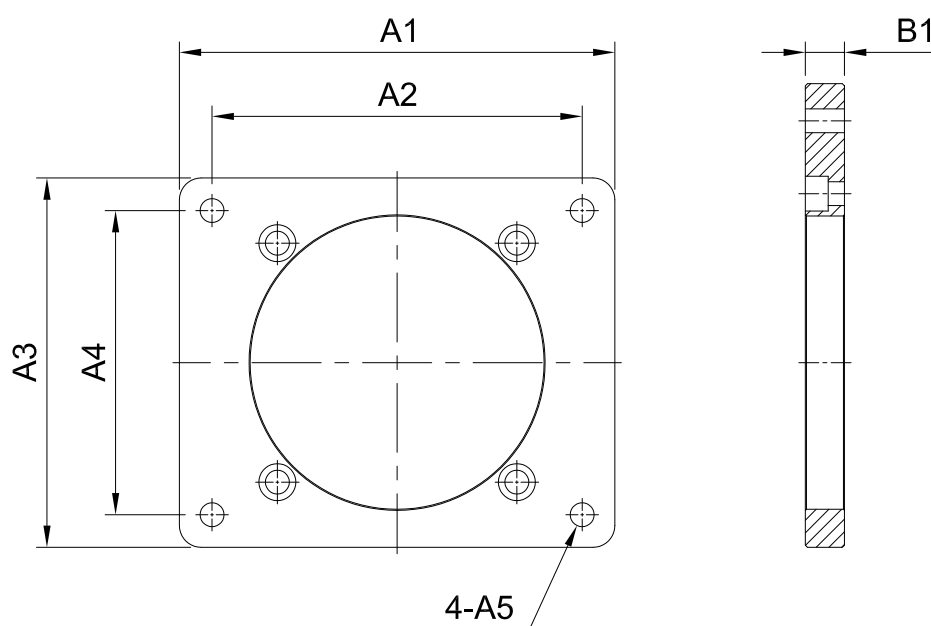
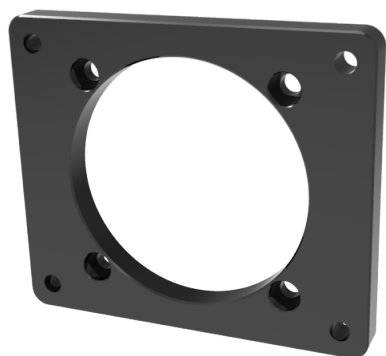
Model Code	70	
A1	8, 11	14
A2	30, 40, 50	50, 60, 70
A3	M3, M4, M5	M4, M5, M6
A4	46, 60, 63	70, 75, 90
A5	46, 55	64, 70, 80
A6	M3 x P0.5	M5 x P0.8
B1	135	146
B2	65	76
B3	26	33.5
B4	5	6



FT-RC

Fitted with Planetary Reducer
- Set Collar

Fixing Plate



Indication of Fixing Plate

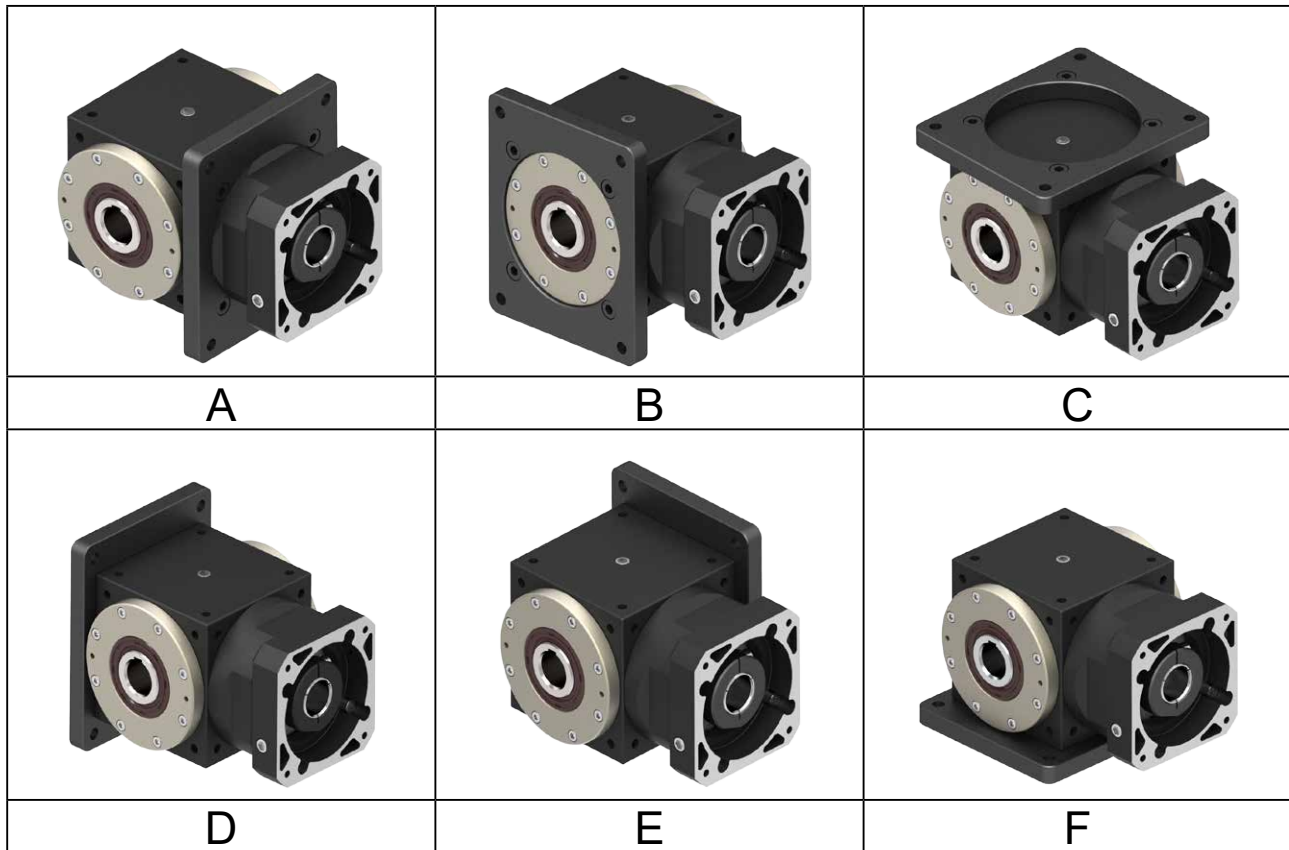
FP	90	-	F
Type FP	Model 65, 75, 90, 110 , 140, 170, 210		Direction A, B, C, D, E, F

unit:mm

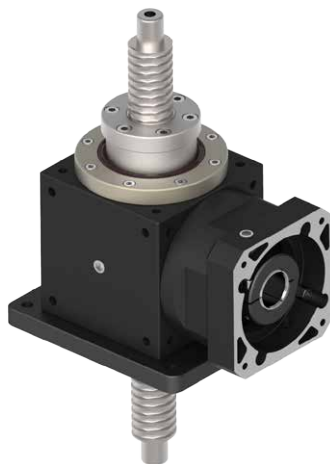
	Model Code	65	75	90	110	140	170	210
A	A1	100	110	130	160	200	230	280
	A2	85	95	110	135	170	200	240
	A3	85	90	110	135	170	200	250
	A4	70	75	90	110	140	170	210
	A5	7	7	7	9	11	13	17
B	B1	10	12	13	16	18	18	25

Selection Direction of Fixing Plate

ST / FT



Installation Example of Fixing Plate



ST140-FPT-5 +
FP140-F



ST110-FSB-5 +
FP110-A