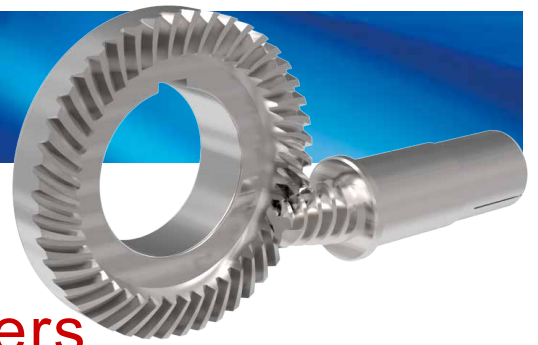


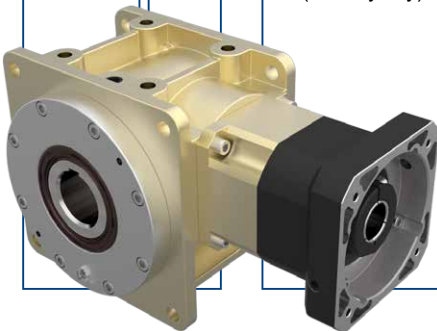
# HY series



HY

## Indication of Model Numbers

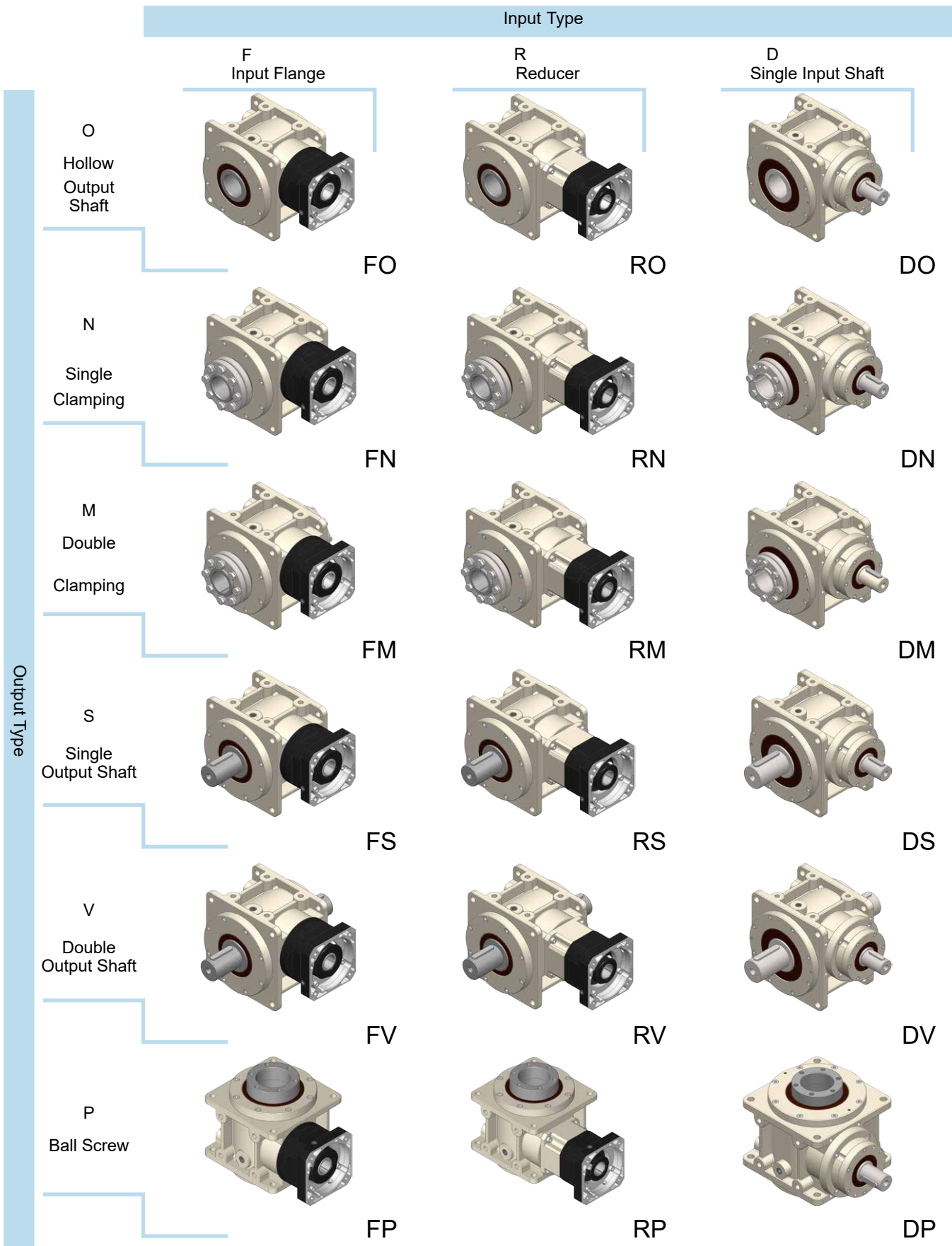
HY	55	F	O	B	5	L	P0
Type	Model	Input	Output	Bearing	Ratio	Shaft Direction	Backlash Class
HY	55 75 90 115 130 140 160 190	F: Input Flange R44: Reducer 1-Stage: R44、R62... 2-Stage: R62S... 2-Stage (A-Type): R44A、R62A... D: Single Input Shaft (Keyway) D1: Single Input Shaft (No Keyway)	O: Hollow Output Shaft N: Single Clamping M: Double Clamping S: Single Output Shaft (Keyway) S1 Single Output Shaft (No Keyway) V: Double Output Shaft (Keyway) V1: Double Output Shaft (No Keyway) P: (75#~190#) Ball Screw  Taper Bearing Only	B: Ball Bearing (55#~190#)  T: Taper Bearing (90#~190#)	1-Stage 5, 10, 15  -----  With 1-Stage Planetary Reducer 25 ~ 150  With 2-Stage Planetary Reducer 250 ~ 1500	L: Left Shaft R: Right Shaft  ----- 1.  Shaft direction is optional for output type N, S.  2.  Output type P only for R shaft.	P0 P1 P2



The Model & Ratio Table of Hypoid Gear Reducer Assembly Planetary Reducer

Model	Ratio	Flange Model	Planetary Reducer Model	Ratio of 1-Stage Planetary Reducer 5 · 10	Ratio of 2-Stage Planetary Reducer 25 · 50 · 100
55	5 10 15	44	44	Ratio of Bevel Gear Reducer with 1-Stage Planetary Reducer  25 · 50 · 75 · 100 · 150	Ratio of Bevel Gear Reducer with 2-Stage Planetary Reducer  250 · 500 · 750 · 1000 · 1500
75		62	62		
90		90	80		
115		90	90		
130		120	120		
140		142	142		
160		142	142		
190		180	180		

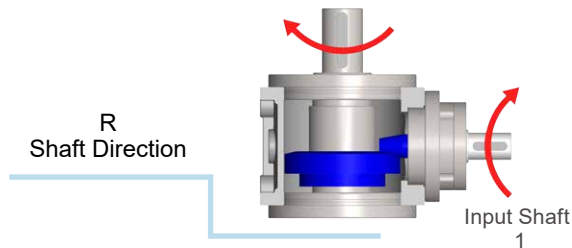
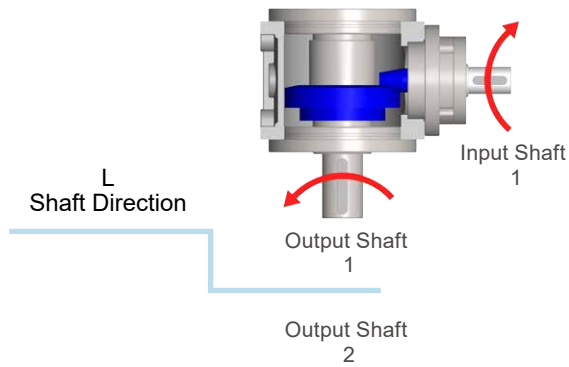
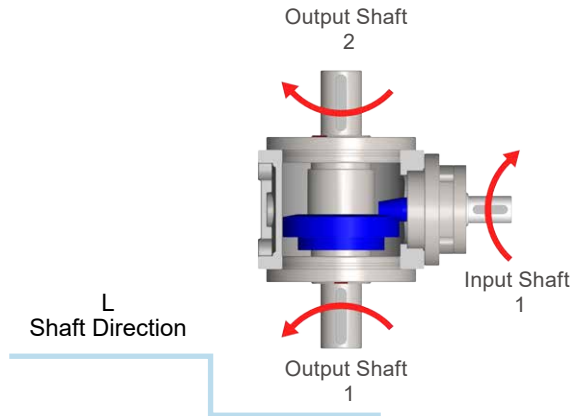
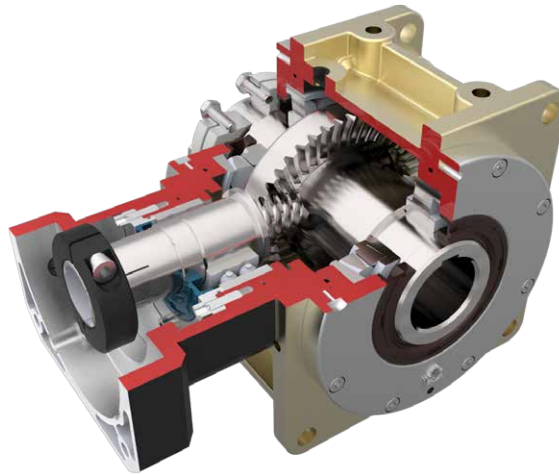
# Selection of Type



1. ° Shaft direction is optional for output type N, S. 2. ° Output type P only for R shaft.

# Rotating Direction

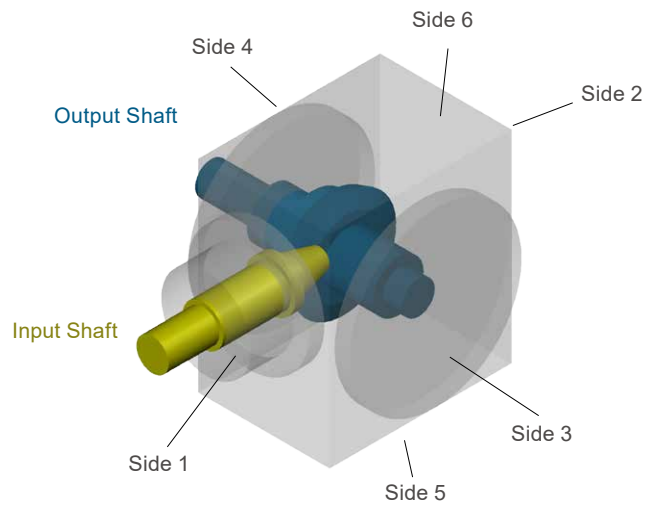
HY



Note:

Standard product is L shaft direction, R shaft direction is optional.

# Selection Direction of Installation



<p>Side 1</p>	<p>Side 2</p>
<p>Side 3</p>	<p>Side 4</p>
<p>Side 5</p>	<p>Side 6</p>

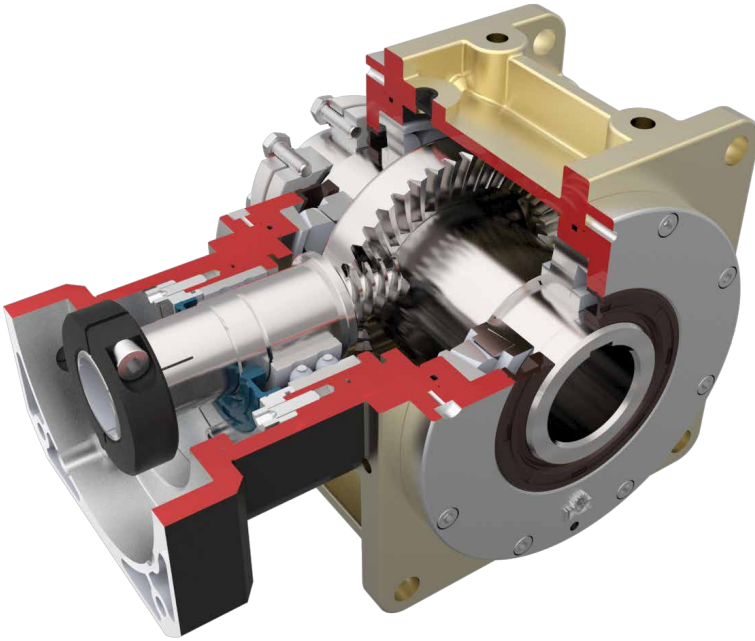
[Note 1]

[ Note 1 ] Output type for R shaft.

# Features of HY Series

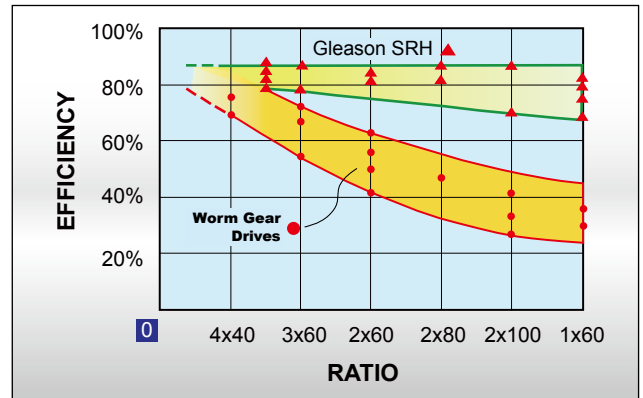
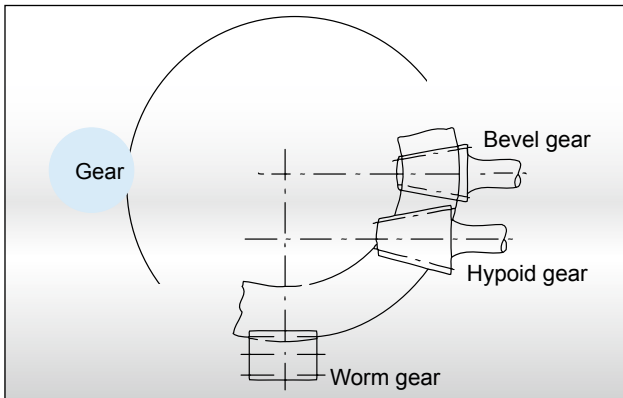
## HY

HY



### Super-Reduction-Hypoid Gear

- Gleason super-reduction-hypoid gear tooth system, the max. single stage ratio is 1/15.
- Single stage ratio 1/20~1/60 is optional.



### High Output Torque

- The gear box is one-piece constructed to ensure the high rigidity and corrosion-resistant capability.

### High Output Torque

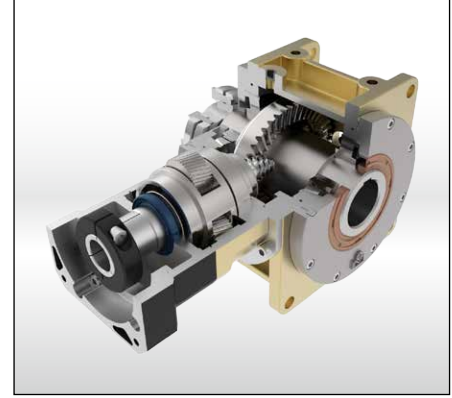
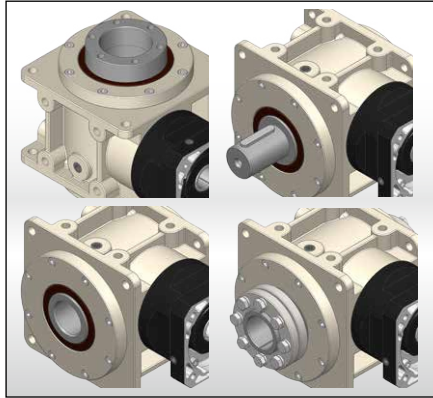
- High running efficiency, the efficiency more than 90%.



# Features of HY Series

## HY

HY



### Low Backlash

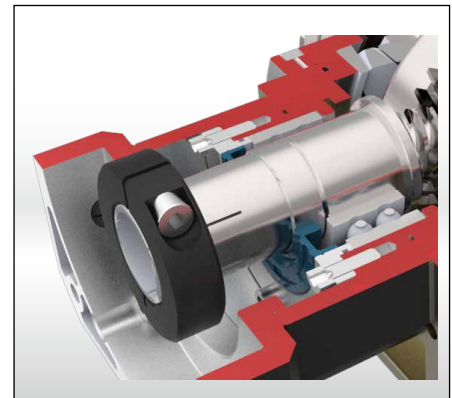
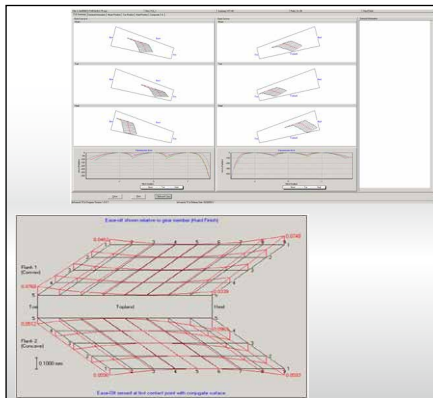
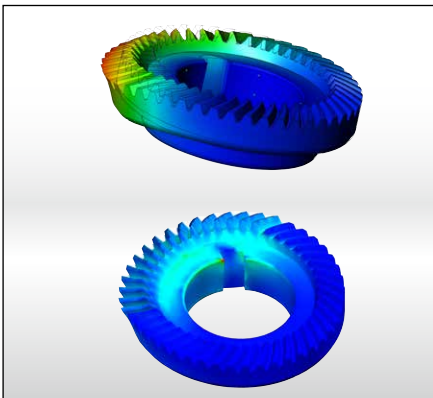
- Using Gleason high precision CNC grinding machine to grinding the spiral bevel gears.
- Torsional backlash depending on design up to <2 arcmin

### Mounting Position

- Multiple precision machined surface is easy for assembly, suitable for any optional mounting orientation.
- Output shaft and input shaft are designed to suit for various industries applications.

### More High Gear Ratio

- High precision grinded and carburized spiral bevel gears with optimal designed planetary gear can do ratio 1500: 1.



### CAE Design and Analysis

- Employs 3D-CAE software for analysis and design, the software allows for analyzing the strength of the entire gear reducer and helical teeth. Increasing the service life of gears and the gear reducer.

### Optimized Design

- Use Gleason's design software to design new spiral bevel gears. Through the ideal gear contact pattern for application, achieve high permissible output torque.

### Collet Locking Mechanism

- The input-end and the motor are coupled through a collet locking mechanism. It has passed dynamical balance analysis to assure concentricity and balance on the connection and no backlash for power transmission while running at high speed.

# Characteristic of HY Series

## HY

### 1-Stage

Model No.		Unit	Ratio	55	75	90	115	130	140	160	190
/ Rated Output Torque (Nominal output torque)	$T_{2N}$	Nm	5	35	70	140	260	430	720	1,100	1,440
			10	30	60	117	220	365	615	957	1,230
			15	25	50	95	180	300	510	815	1,020
/ Max. Acceleration Torque	$T_{2B}$	Nm	5~15	1.5 Times of Rated Output Torque							
/ Max. Output Torque / Emergency Stop Torque	$T_{2NOT}$	Nm	5~15	3 Times of Rated Output Torque							
/ Rated Input Speed	$n_{1N}$	rpm	5~15	3,000	3,000	3,000	3,000	2,500	2,500	2,000	2,000
/ Max. Input Speed	$n_{1B}$	rpm	5~15	6,000	6,000	6,000	6,000	5,000	5,000	4,000	4,000
/ Backlash	$J_t$	arcmin	P0	-	-	≤ 3	≤ 3	≤ 3	≤ 3	≤ 3	≤ 3
			P1	≤ 6	≤ 6	≤ 6	≤ 6	≤ 6	≤ 6	≤ 6	≤ 6
			P2	≤ 9	≤ 9	≤ 9	≤ 9	≤ 9	≤ 9	≤ 9	≤ 9
/ Max. Radial Force Ball Bearing	$F_{2rB}$	N	5~15	1,495	2,366	2,691	4,797	5,837	7,020	9,490	12,337
/ Max. Axial Force Ball Bearing	$F_{2aB}$	N	5~15	748	1,183	1,346	2,399	2,919	3,510	4,745	6,169
/ Max. Radial Force Taper Bearing	$F_{2rB}$	N	5~15	-	-	5,523 5,000(P)	9,100	12,320	14,420	18,620	24,080
/ Max. Axial Force Taper Bearing	$F_{2aB}$	N	5~15	-	-	2,762 2,500(P)	4,550	6,160	7,210	9,310	12,040
/ Service Life	$L_H$	hr	5~15	S5 Cycle Operation: >30,000 (S1 Continuous Operation: >15,000 hrs)							
/ Efficiency	$\eta$	%	5	≥ 96%							
			10~15	≥ 93%							
/ Operating Temperature		°C	5~15	-10°C ~ +90°C							
/ Lubrication			5~15	Synthetic Oil							
/ Noise Level		dB	5~15	≤ 67	≤ 67	≤ 69	≤ 69	≤ 71	≤ 71	≤ 72	≤ 72

: (P) NOTE: (P) Ball Screw

### Mass Moments of Inertia (kgcm<sup>2</sup>)

Ratio	55	75	90	115	130	140	160	190
5	0.23	0.58	1.41	4.00	7.12	13.53	24.76	44.29
10	0.15	0.38	1.00	2.46	4.27	7.38	12.47	21.43
15	0.13	0.34	0.81	2.07	3.45	5.76	9.23	15.53

# Characteristic of HY Series

## HY

### 2-Stage

Model No.		Unit	Ratio	55	75	90	115	130	140	160	190
/ Rated Output Torque (Nominal output torque)	$T_{2N}$	Nm	25, 50	35	70	140	260	430	720	1,100	1,440
			100	30	60	117	220	365	615	957	1,230
			75, 150	25	50	95	180	300	510	815	1,020
/ Max. Acceleration Torque	$T_{2B}$	Nm	25~150	1.5 Times of Rated Output Torque							
Max. Output Torque / Emergency Stop Torque	$T_{2NOT}$	Nm	25~150	3 Times of Rated Output Torque							
/ Rated Input Speed	$n_{1N}$	rpm	25~150	3,000	3,000	3,000	3,000	3,000	3,000	2,000	3,000
/ Max. Input Speed	$n_{1B}$	rpm	25~150	6,000	6,000	6,000	6,000	5,000	5,000	4,000	4,000
/ Backlash	$J_t$	arcmin	P0	-	-	≤ 4	≤ 4	≤ 4	≤ 4	≤ 4	≤ 4
			P1	≤ 7	≤ 7	≤ 7	≤ 7	≤ 7	≤ 7	≤ 7	≤ 7
			P2	≤ 10	≤ 10	≤ 10	≤ 10	≤ 10	≤ 10	≤ 10	≤ 10
/ Max. Radial Force Ball Bearing	$F_{2rB}$	N	25~150	1,495	2,366	2,691	4,797	5,837	7,020	9,490	12,337
/ Max. Axial Force Ball Bearing	$F_{2aB}$	N	25~150	748	1,183	1,346	2,399	2,919	3,510	4,745	61,69
/ Max. Radial Force Taper Bearing	$F_{2rB}$	N	25~150	-	-	5,523	9,100	12,320	14,420	18,620	24,080
/ Max. Axial Force Taper Bearing	$F_{2aB}$	N	25~150	-	-	2,762	4,550	6,160	7,210	9,310	12,040
/ Service Life	$L_H$	hr	25~150	S5 Cycle Operation: >30,000 (S1 Continuous Operation: >15,000 hrs)							
/ Efficiency	$\eta$	%	25, 50	≥ 92%							
			75, 100, 150	≥ 90%							
/ Operating Temperature		°C	25~150	-10°C ~ +90°C							
/ Lubrication			25~150	Synthetic Oil							
/ Noise Level		dB	25~150	≤ 67	≤ 67	≤ 69	≤ 69	≤ 71	≤ 71	≤ 72	≤ 72

: (P) NOTE: (P) Ball Screw

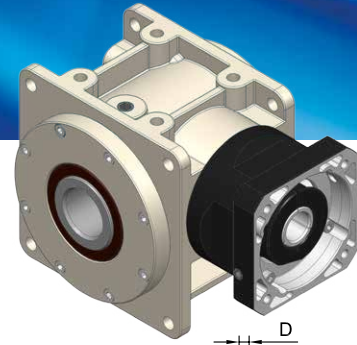
### Mass Moments of Inertia (kgcm<sup>2</sup>)

Ratio	55	75	90	115	130	140	160	190
25	0.39	1.15	1.18	4.9	4.99	7.99	8.27	8.75
50	0.36	1.05	1.06	4.07	4.09	6.31	6.36	6.45
75	0.35	0.94	0.96	3.17	3.24	4.04	4.23	4.56
100	0.34	0.93	0.94	3.12	3.14	3.87	3.92	4.01
150	0.33	0.92	0.93	3.08	3.06	3.73	3.68	3.59

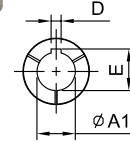
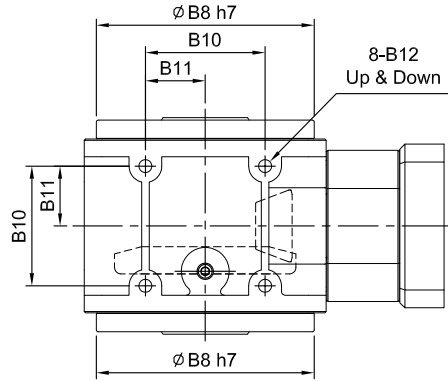


# HY-FO series

RATIO : 5.10.15 ( 1-Stage)

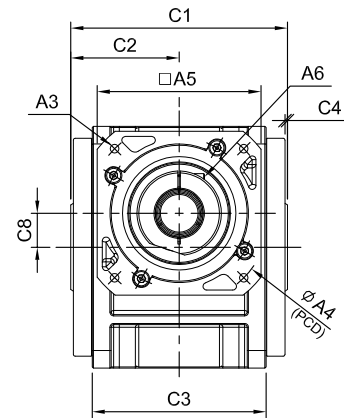
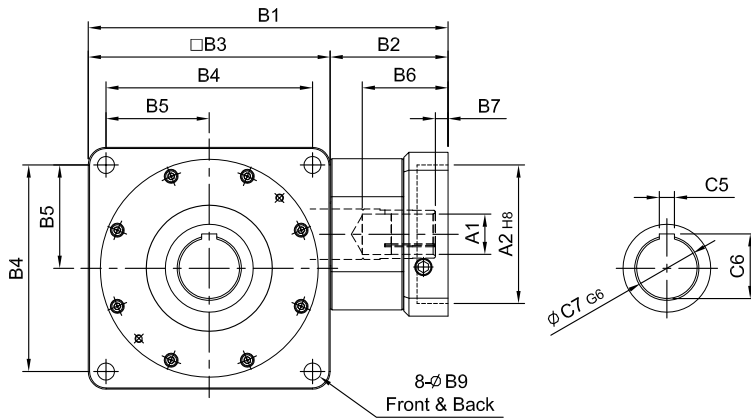


Input Flange - Hollow Output Shaft



(140#)

$\phi A1$	D	E
$\phi 32$	10	35.3
$\phi 35$	10	38.3
$\phi 38$	10	41.3
$\phi 42$	12	45.3
$\phi 48$	14	51.8
$\phi 55$	16	59.3



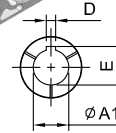
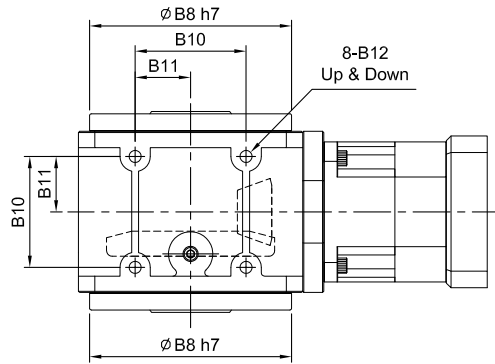
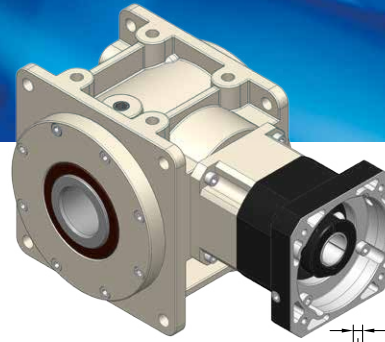
unit: mm

Model Code	55	75	90	115	130	140	160	190
	<b>A</b>	A1 8·11	A1 14	A1 14·19·24	A1 19·22·24	A1 24·28·32	A1 32·35·38	A1 32·35·38
	A2 30·40·50	A2 50·60·70	A2 50·70·80·95	A2 70·80·95·110	A2 95·110·130	A2 110·130·180	A2 110·130·180	A2 114.3·180·230·250
	A3 M3·M4·M5	A3 M4·M5·M6	A3 M5·M6	A3 M5·M6·M8	A3 M6·M8·M10	A3 M8·M10·M12	A3 M8·M10·M12	A3 M12·M16
	A4 46·60·63	A4 70·75·90	A4 70·90·100·115	A4 90·100·115·145	A4 115·145·165	A4 145·165·200	A4 145·165·200	A4 200·215·265·300
	A5 46·55	A5 64·70·80	A5 80·92·110	A5 92·110·130	A5 122·130·150	A5 146·150·190	A5 146·150·190	A5 182·200·250·265
	A6 M3 x P.05	A6 M5 x P.0.8	A6 M5 x P.0.8	A6 M6 x P1.0	A6 M8 x P1.25	A6 M10 x P1.5	A6 M10 x P1.5	A6 M10 x P1.5
<b>B</b>	B1 135	B1 172	B1 202·221	B1 241	B1 286	B1 333	B1 358	B1 417·419
	B2 45	B2 57	B2 62·81	B2 71	B2 94	B2 118	B2 118	B2 153·155
	B3 90	B3 115	B3 140	B3 170	B3 192	B3 215	B3 240	B3 264
	B4 78	B4 98	B4 118	B4 144	B4 164	B4 182	B4 206	B4 224
	B5 39	B5 49	B5 59	B5 72	B5 82	B5 91	B5 103	B5 112
	B6 28	B6 38	B6 49·68.5	B6 58	B6 69.5	B6 81.5	B6 81.5	B6 114.5·116.5
	B7 5	B7 6	B7 9·23.5	B7 8	B7 10	B7 10	B7 10	B7 11.5·13.5
	B8 84	B8 103	B8 128	B8 148	B8 173	B8 200	B8 227	B8 254
	B9 6.8	B9 9	B9 11	B9 11	B9 13.5	B9 15	B9 17.5	B9 17.5
	B10 44	B10 54	B10 66	B10 80	B10 95	B10 104	B10 120	B10 140
	B11 22	B11 27	B11 33	B11 40	B11 47.5	B11 52	B11 60	B11 70
	B12 M6 x P1.0	B12 M8 x P1.25	B12 M10 x P1.5	B12 M12 x P1.75	B12 M12 x P1.75	B12 M14 x P2.0	B12 M16 x P2.0	B12 M16 x P2.0
<b>C</b>	C1 88	C1 108	C1 132	C1 156	C1 172	C1 187	C1 212	C1 242
	C2 44	C2 54	C2 66	C2 78	C2 86	C2 93.5	C2 106	C2 121
	C3 60	C3 80	C3 100	C3 120	C3 138	C3 146	C3 166	C3 196
	C4 2	C4 2	C4 2	C4 2	C4 2	C4 2	C4 2	C4 2
	C5 6	C5 8	C5 8	C5 12	C5 14	C5 16	C5 18	C5 20
	C6 22.8	C6 28.3	C6 33.3	C6 43.3	C6 51.8	C6 59.3	C6 64.3	C6 74.9
	C7 20	C7 25	C7 30	C7 40	C7 48	C7 55	C7 60	C7 70
	C8 9	C8 14	C8 18	C8 23	C8 27	C8 32	C8 38	C8 42
Weight	3.0	4.6	8.3	12.3	18.2	26.6	37.6	59.5

# HY-RO series

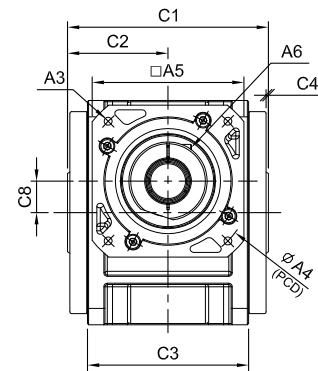
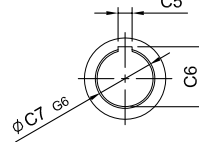
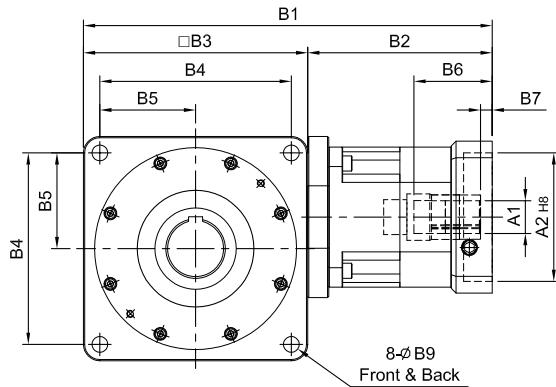
RATIO : 25.50.75.100.150 ( 2-Stage)

Fitted with Planetary Reducer - Hollow Output Shaft



(140#)

$\phi A1$	D	E
$\phi 28$	8	31.3
$\phi 32$	10	35.3
$\phi 35$	10	38.3
$\phi 38$	10	41.3
$\phi 42$	12	45.3
$\phi 48$	14	51.8
$\phi 55$	16	59.3

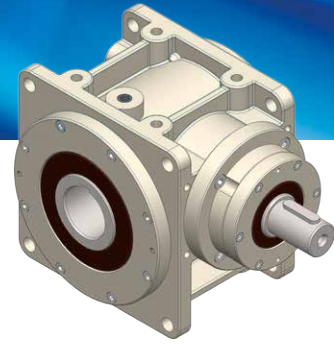


unit: mm

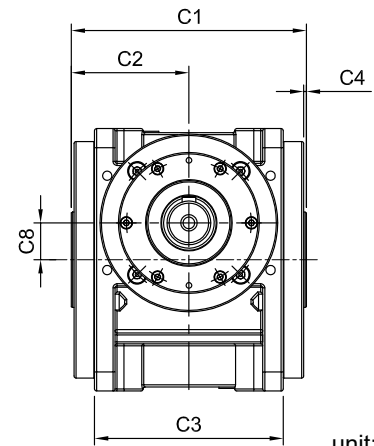
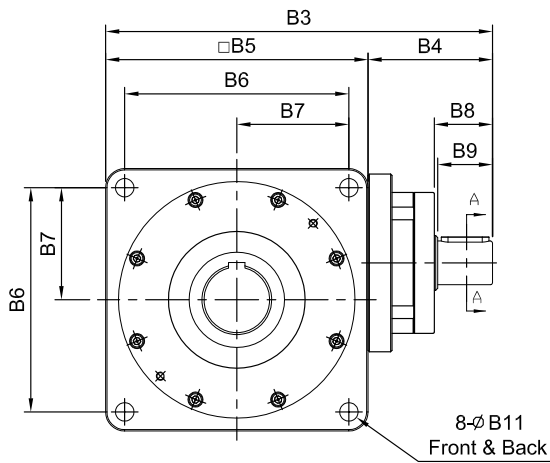
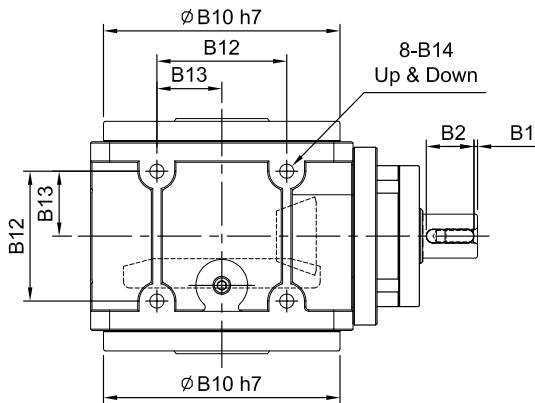
Model Code	55	75	90	115	130	140	160	190	
A	A1	8 · 9 · 11 · 14	11 · 14 · 16 · 19	(14) · 16 · 19	16 · 19 · 22 · 24	22 · 24 · 28 · 32 · 35	28 · 32 · 35 · 38	28 · 32 · 35 · 38	35 · 38 · 42 · 48 · 55
	A2	30 · 40 · 50	50 · 60 · 70	50 · 70 · 80 · 95	70 · 80 · 95 · 110	95 · 110 · 130	110 · 130 · 180	110 · 130 · 180	114.3 · 180 · 230 · 250
	A3	M3 · M4 · M5	M4 · M5 · M6	M5 · M6	M5 · M6 · M8	M6 · M8 · M10	M8 · M10 · M12	M8 · M10 · M12	M12 · M16
	A4	46 · 60 · 63	70 · 75 · 90	70 · 90 · 100 · 115	90 · 100 · 115 · 145	115 · 145 · 165	145 · 165 · 200	145 · 165 · 200	200 · 215 · 265 · 300
	A5	46 · 55	64 · 70 · 80	80 · 92 · 110	92 · 110 · 130	122 · 130 · 150	146 · 150 · 190	146 · 150 · 190	182 · 200 · 250 · 265
	A6	M3 x P.05	M5 x P0.8	M5 x P0.8	M6 x P1.0	M8 x P1.25	M10 x P1.5	M10 x P1.5	M10 x P1.5
B	B1	157	201 · 209	(224.5) · 237	287	340 · 360	405	430	508 · 510
	B2	67	86 · 94	(84.5) · 97	117	148 · 168	190	190	244 · 246
	B3	90	115	140	170	192	215	240	264
	B4	78	98	118	144	164	182	206	224
	B5	39	49	59	72	82	91	103	112
	B6	26	33.5 · 41.5	(33.5) · 45.5	59	67 · 83	84.5	84.5	114.5 · 116.5
	B7	5	6	(6) · 10	9	10 · 11	10	10	11.5 · 13.5
	B8	84	103	128	148	173	200	227	254
	B9	6.8	9	11	11	13.5	15	17.5	17.5
	B10	44	54	66	80	95	104	120	140
	B11	22	27	33	40	47.5	52	60	70
	B12	M6 x P1.0	M8 x P1.25	M10 x P1.5	M12 x P1.75	M12 x P1.75	M14 x P2.0	M16 x P2.0	M16 x P2.0
C	C1	88	108	132	156	172	187	212	242
	C2	44	54	66	78	86	93.5	106	121
	C3	60	80	100	120	138	146	166	196
	C4	2	2	2	2	2	2	2	2
	C5	6	8	8	12	14	16	18	20
	C6	22.8	28.3	33.3	43.3	51.8	59.3	64.3	74.9
	C7	20	25	30	40	48	55	60	70
	C8	9	14	18	23	27	32	38	42
Weight	3.5	5.8	10.0	16.0	26.8	41.2	52.1	86.1	

# HY-DO series

RATIO : 5.10.15 ( 1-Stage)



Single Input Shaft - Hollow Output Shaft

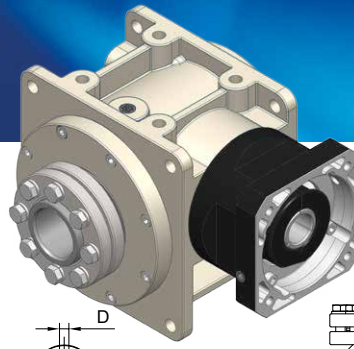


unit: mm

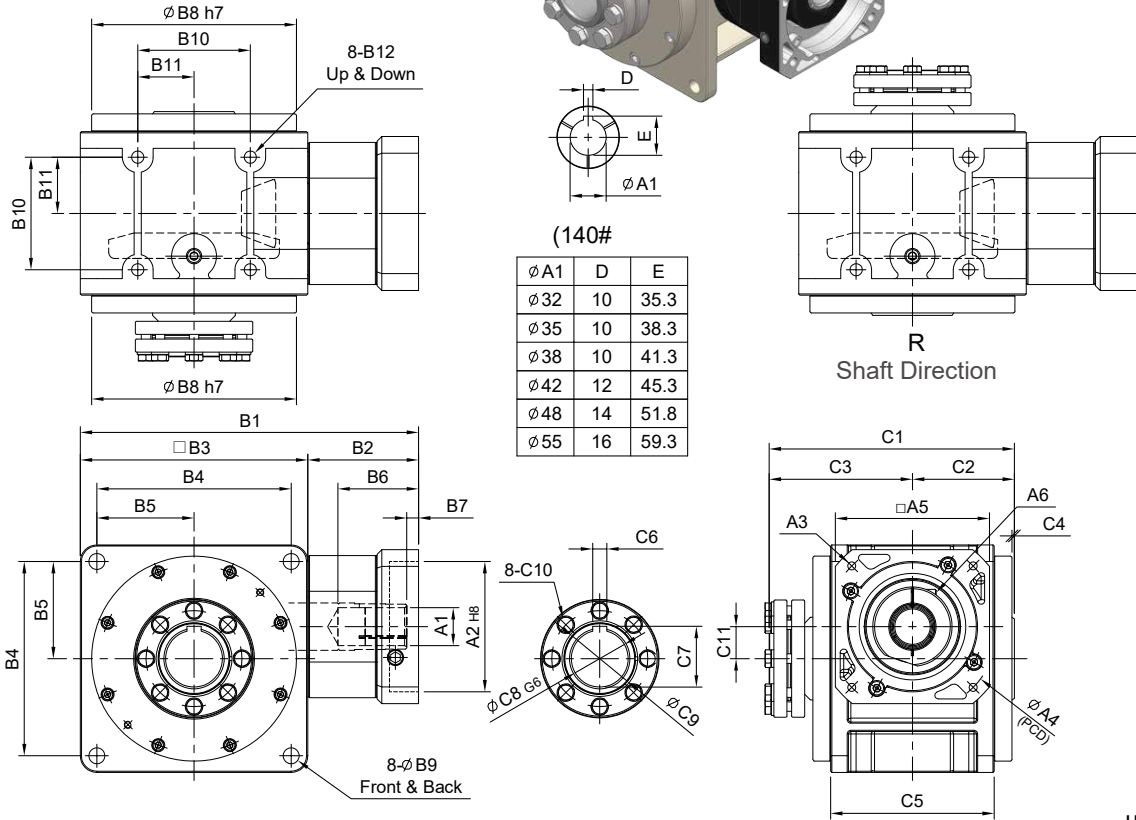
Model Code	55	75	90	115	130	140	160	190
<b>A</b>	A1	14	19	24	28	32	38	40
	A2	5	6	8	8	10	12	12
	A3	16	21.5	27	31	35	41	43
	A4	M5 x P0.8	M6 x P1.0	M8 x P1.25	M10 x P1.5	M10 x P1.5	M10 x P1.5	M12 x P1.75
<b>B</b>	B1	2.5	2.5	2.5	2.5	5	5	5
	B2	20	25	35	35	40	40	50
	B3	147	181	218	260	293	315	367
	B4	57	66	78	90	101	100	127
	B5	90	115	140	170	192	215	240
	B6	78	98	118	144	164	182	206
	B7	39	49	59	72	82	91	103
	B8	27	32	42.5	42.5	52.5	51.5	63
	B9	25	30	40	40	50	50	60
	B10	84	103	128	148	173	200	227
	B11	6.8	9	11	11	13.5	15	17.5
	B12	44	54	66	80	95	104	120
	B13	22	27	33	40	47.5	52	60
	B14	M6 x P1.0	M8 x P1.25	M10 x P1.5	M12 x P1.75	M12 x P1.75	M14 x P2.0	M16 x P2.0
<b>C</b>	C1	88	108	132	156	172	212	242
	C2	44	54	66	78	86	93.5	106
	C3	60	80	100	120	138	146	166
	C4	2	2	2	2	2	2	2
	C5	6	8	8	12	14	16	18
	C6	22.8	28.3	33.3	43.3	51.8	59.3	64.3
	C7	20	25	30	40	48	55	60
	C8	9	14	18	23	27	32	38
Weight	2.9	4.6	8.1	11.0	18.7	25.9	36.8	56.1

# HY-FN series

RATIO : 5.10.15 ( 1-Stage)



Input Flange - Single Clamping

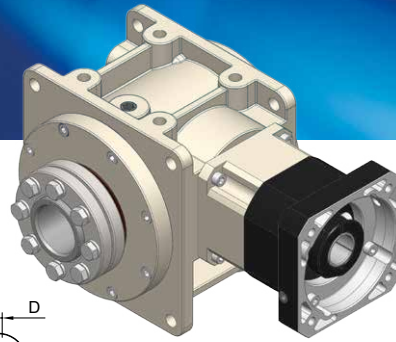


unit: mm

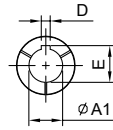
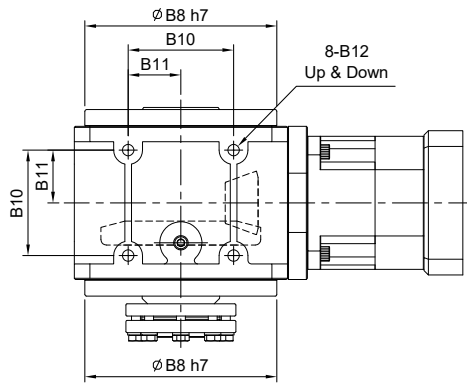
Model Code	55	75	90	115	130	140	160	190	
<b>A</b>	A1	8 · 11	14	14 · 19 · 24	19 · 22 · 24	24 · 28 · 32	32 · 35 · 38	32 · 35 · 38	42 · 48 · 55
	A2	30 · 40 · 50	50 · 60 · 70	50 · 70 · 80 · 95	70 · 80 · 95 · 110	95 · 110 · 130	110 · 130 · 180	110 · 130 · 180	114.3 · 180 · 230 · 250
	A3	M3 · M4 · M5	M4 · M5 · M6	M5 · M6	M5 · M6 · M8	M6 · M8 · M10	M8 · M10 · M12	M8 · M10 · M12	M12 · M16
	A4	46 · 60 · 63	70 · 75 · 90	70 · 90 · 100 · 115	90 · 100 · 115 · 145	115 · 145 · 165	145 · 165 · 200	145 · 165 · 200	200 · 215 · 265 · 300
	A5	46 · 55	64 · 70 · 80	80 · 92 · 110	92 · 110 · 130	122 · 130 · 150	146 · 150 · 190	146 · 150 · 190	182 · 200 · 250 · 265
	A6	M3 x P.05	M5 x P0.8	M5 x P0.8	M6 x P1.0	M8 x P1.25	M10 x P1.5	M10 x P1.5	M10 x P1.5
<b>B</b>	B1	135	172	202 · 221	241	286	333	358	417 · 419
	B2	45	57	62 · 81	71	94	118	118	153 · 155
	B3	90	115	140	170	192	215	240	264
	B4	78	98	118	144	164	182	206	224
	B5	39	49	59	72	82	91	103	112
	B6	28	38	49 · 68.5	58	69.5	81.5	81.5	114.5 · 116.5
	B7	5	6	9 · 23.5	8	10	10	10	11.5 · 13.5
	B8	84	103	128	148	173	200	227	254
	B9	6.8	9	11	11	13.5	15	17.5	17.5
	B10	44	54	66	80	95	104	120	140
	B11	22	27	33	40	47.5	52	60	70
	B12	M6 x P1.0	M8 x P1.25	M10 x P1.5	M12 x P1.75	M12 x P1.75	M14 x P2.0	M16 x P2.0	M16 x P2.0
<b>C</b>	C1	109	134	160	189	207	224	249	281
	C2	44	54	66	78	86	93.5	106	121
	C3	65	80	94	111	121	130.5	143	160
	C4	2	2	2	2	2	2	2	2
	C5	60	80	100	120	138	146	166	196
	C6	6	8	8	12	14	16	18	20
	C7	22.8	28.3	33.3	43.3	51.8	59.3	64.3	74.9
	C8	20	25	30	40	48	55	60	70
	C9	28	34	44	52	60	73	73	83
	C10	M6	M6	M6	M8	M8	M8	M8	M10
	C11	9	14	18	23	27	32	38	42
Weight	3.2	5.0	8.7	13.0	19.3	27.4	39.4	61.7	

# HY-RN series

RATIO : 25.50.75.100.150 ( 2-Stage)

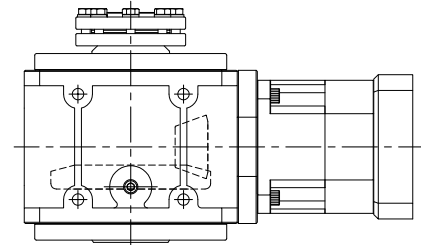


Fitted with Planetary Reducer - Single Clamping

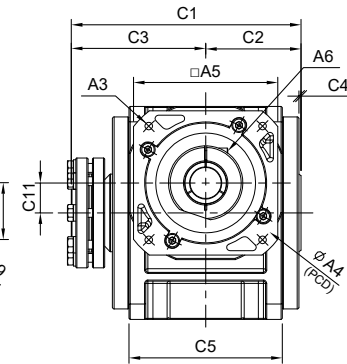
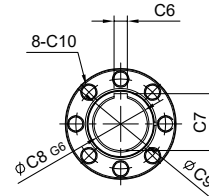
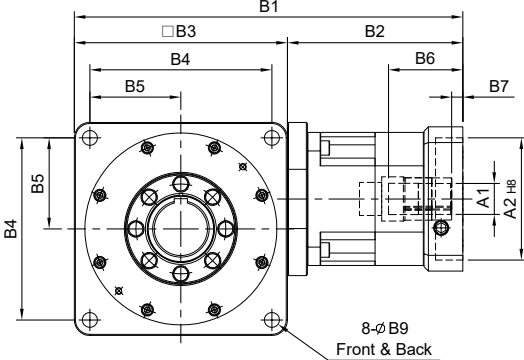


(140# )

ØA1	D	E
Ø28	8	31.3
Ø32	10	35.3
Ø35	10	38.3
Ø38	10	41.3
Ø42	12	45.3
Ø48	14	51.8
Ø55	16	59.3



R  
Shaft Direction



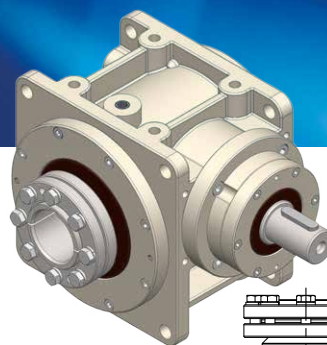
unit: mm

Model Code	55	75	90	115	130	140	160	190	
<b>A</b>	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	28 · 32 · 35 · 38	35 · 38 · 42 · 48 · 55
	A2	30 · 40 · 50	50 · 60 · 70	50 · 70 · 80 · 95	70 · 80 · 95 · 110	95 · 110 · 130	110 · 130 · 180	110 · 130 · 180	114.3 · 180 · 230 · 250
	A3	M3 · M4 · M5	M4 · M5 · M6	M5 · M6	M5 · M6 · M8	M6 · M8 · M10	M8 · M10 · M12	M8 · M10 · M12	M12 · M16
	A4	46 · 60 · 63	70 · 75 · 90	70 · 90 · 100 · 115	90 · 100 · 115 · 145	115 · 145 · 165	145 · 165 · 200	145 · 165 · 200	200 · 215 · 265 · 300
	A5	46 · 55	64 · 70 · 80	80 · 92 · 110	92 · 110 · 130	122 · 130 · 150	146 · 150 · 190	146 · 150 · 190	182 · 200 · 250 · 265
	A6	M3 x P.05	M5 x P0.8	M5 x P0.8	M6 x P1.0	M8 x P1.25	M10 x P1.5	M10 x P1.5	M10 x P1.5
<b>B</b>	B1	157	201 · 209	(224.5) · 237	287	340 · 360	405	430	508 · 510
	B2	67	86 · 94	(84.5) · 97	117	148 · 168	190	190	244 · 246
	B3	90	115	140	170	192	215	240	264
	B4	78	98	118	144	164	182	206	224
	B5	39	49	59	72	82	91	103	112
	B6	26	33.5 · 41.5	(33.5) · 45.5	59	67 · 83	84.5	84.5	114.5 · 116.5
	B7	5	6	(6) · 10	9	10 · 11	10	10	11.5 · 13.5
	B8	84	103	128	148	173	200	227	254
	B9	6.8	9	11	11	13.5	15	17.5	17.5
	B10	44	54	66	80	95	104	120	140
	B11	22	27	33	40	47.5	52	60	70
	B12	M6 x P1.0	M8 x P1.25	M10 x P1.5	M12 x P1.75	M12 x P1.75	M14 x P2.0	M16 x P2.0	M16 x P2.0
<b>C</b>	C1	109	134	160	189	207	224	249	281
	C2	44	54	66	78	86	93.5	106	121
	C3	65	80	94	111	121	130.5	143	160
	C4	2	2	2	2	2	2	2	2
	C5	60	80	100	120	138	146	166	196
	C6	6	8	8	12	14	16	18	20
	C7	22.8	28.3	33.3	43.3	51.8	59.3	64.3	74.9
	C8	20	25	30	40	48	55	60	70
	C9	28	34	44	52	60	73	73	83
	C10	M6	M6	M6	M8	M8	M8	M8	M10
	C11	9	14	18	23	27	32	38	42
Weight	3.8	6.2	10.5	16.7	28.0	41.9	53.9	88.4	

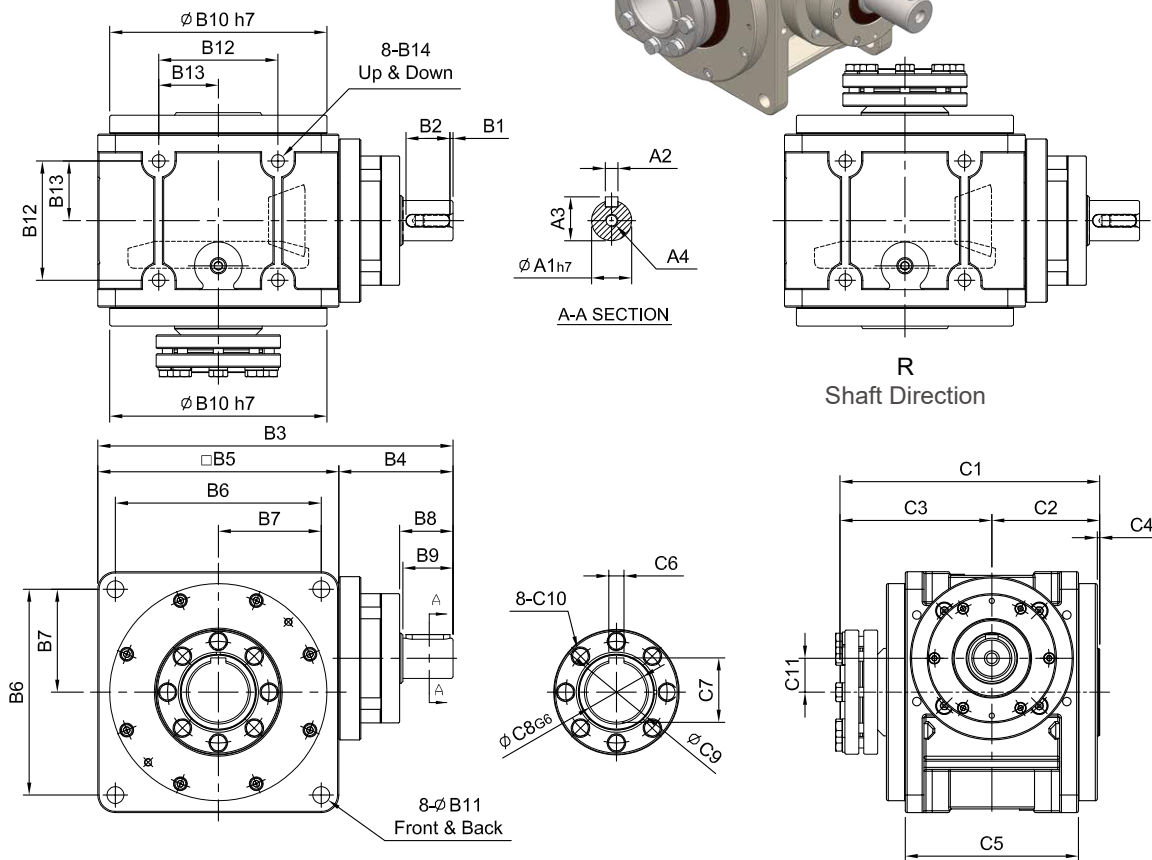


# HY-DN series

RATIO : 5.10.15 ( 1-Stage)



Single Input Shaft - Single Clamping



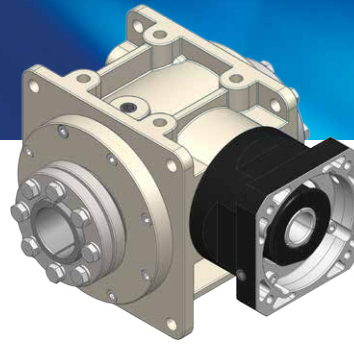
unit: mm

Model Code	55	75	90	115	130	140	160	190
<b>A</b>	A1	14	19	24	28	32	32	40
	A2	5	6	8	8	10	10	12
	A3	16	21.5	27	31	35	35	43
	A4	M5 x P0.8	M6 x P1.0	M8 x P1.25	M10 x P1.5	M10 x P1.5	M10 x P1.5	M12 x P1.75
<b>B</b>	B1	2.5	2.5	2.5	2.5	5	5	5
	B2	20	25	35	35	40	40	50
	B3	147	181	218	260	293	315	367
	B4	57	66	78	90	101	100	127
	B5	90	115	140	170	192	215	240
	B6	78	98	118	144	164	182	206
	B7	39	49	59	72	82	91	103
	B8	27	32	42.5	42.5	52.5	51.5	63
	B9	25	30	40	40	50	50	60
	B10	84	103	128	148	173	200	227
	B11	6.8	9	11	11	13.5	15	17.5
	B12	44	54	66	80	95	104	120
	B13	22	27	33	40	47.5	52	60
	B14	M6 x P1.0	M8 x P1.25	M10 x P1.5	M12 x P1.75	M12 x P1.75	M14 x P2.0	M16 x P2.0
<b>C</b>	C1	109	134	160	189	207	224	249
	C2	44	54	66	78	86	93.5	106
	C3	65	80	94	111	121	130.5	143
	C4	2	2	2	2	2	2	2
	C5	60	80	100	120	138	146	166
	C6	6	8	8	12	14	16	18
	C7	22.8	28.3	33.3	43.3	51.8	59.3	64.3
	C8	20	25	30	40	48	55	60
	C9	28	34	44	52	60	73	73
	C10	M6	M6	M6	M8	M8	M8	M8
	C11	9	14	18	23	27	32	38
Weight	3.1	5.0	8.6	11.6	19.9	27.8	38.6	58.4

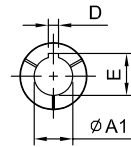
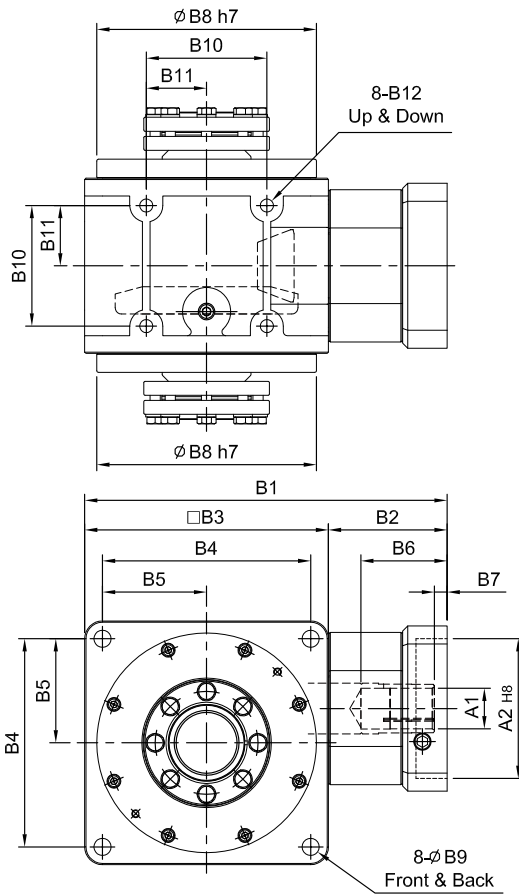
HY

# HY-FM series

RATIO : 5.10.15 ( 1-Stage)

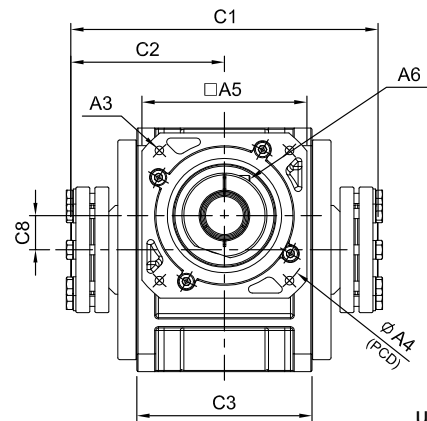


Input Flange - Double Clamping



(140#)

ØA1	D	E
Ø32	10	35.3
Ø35	10	38.3
Ø38	10	41.3
Ø42	12	45.3
Ø48	14	51.8
Ø55	16	59.3

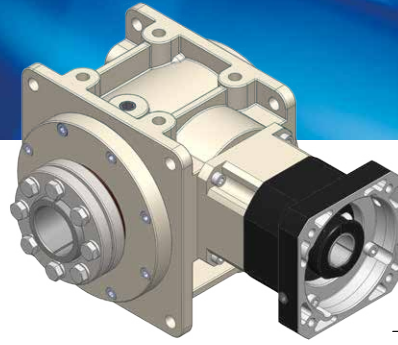


unit: mm

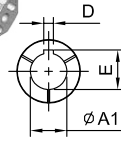
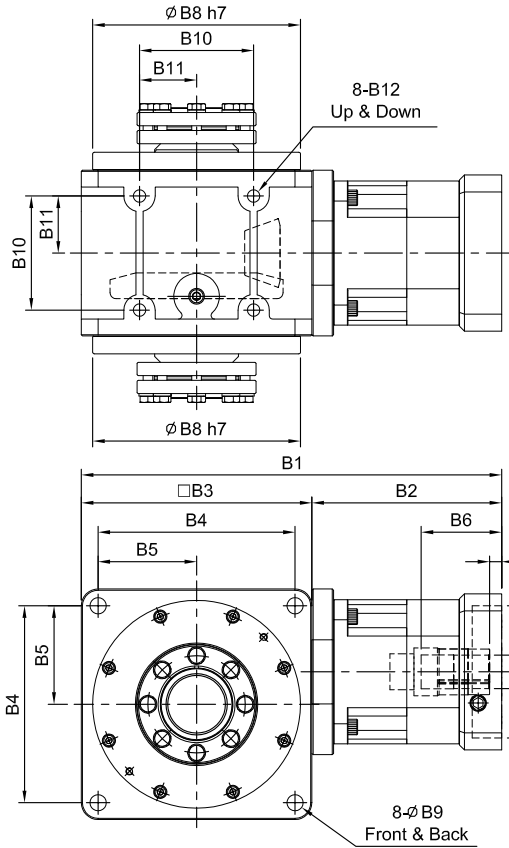
Model Code	55	75	90	115	130	140	160	190	
<b>A</b>	A1	8 · 11	14	14 · 19 · 24	19 · 22 · 24	24 · 28 · 32	32 · 35 · 38	32 · 35 · 38	42 · 48 · 55
	A2	30 · 40 · 50	50 · 60 · 70	50 · 70 · 80 · 95	70 · 80 · 95 · 110	95 · 110 · 130	110 · 130 · 180	110,130,180	114.3 · 180 · 230 · 250
	A3	M3 · M4 · M5	M4 · M5 · M6	M5 · M6	M5 · M6 · M8	M6 · M8 · M10	M8 · M10 · M12	M8 · M10 · M12	M12 · M16
	A4	46 · 60 · 63	70 · 75 · 90	70 · 90 · 100 · 115	90 · 100 · 115 · 145	115 · 145 · 165	145 · 165 · 200	145 · 165 · 200	200 · 215 · 265 · 300
	A5	46 · 55	64 · 70 · 80	80 · 92 · 110	92 · 110 · 130	122 · 130 · 150	146 · 150 · 190	146 · 150 · 190	182 · 200 · 250 · 265
	A6	M3 x P.05	M5 x P0.8	M5 x P0.8	M6 x P1.0	M8 x P1.25	M10 x P1.5	M10 x P1.5	M10 x P1.5
<b>B</b>	B1	135	172	202 · 221	241	286	333	358	417 · 419
	B2	45	57	62 · 81	71	94	118	118	153 · 155
	B3	90	115	140	170	192	215	240	264
	B4	78	98	118	144	164	182	206	224
	B5	39	49	59	72	82	91	103	112
	B6	28	38	49 · 68.5	58	69.5	81.5	81.5	114.5 · 116.5
	B7	5	6	9 · 23.5	8	10	10	10	11.5 · 13.5
	B8	84	103	128	148	173	200	227	254
	B9	6.8	9	11	11	13.5	15	17.5	17.5
	B10	44	54	66	80	95	104	120	140
	B11	22	27	33	40	47.5	52	60	70
	B12	M6 x P1.0	M8 x P1.25	M10 x P1.5	M12 x P1.75	M12 x P1.75	M14 x P2.0	M16 x P2.0	M16 x P2.0
<b>C</b>	C1	130	160	188	222	242	261	286	320
	C2	65	80	94	111	121	130.5	143	160
	C3	60	80	100	120	138	146	166	196
	C4	-	-	-	-	14	16	18	20
	C5	-	-	-	-	51.8	59.3	64.3	74.9
	C6	20	25	30	40	48	55	60	70
	C7	28	34	44	52	60	73	73	83
	C8	M6	M6	M6	M8	M8	M8	M8	M10
	C9	9	14	18	23	27	32	38	42
Weight	3.5	5.3	9.2	13.7	20.5	28.6	41.0	64.0	

# HY-RM series

RATIO : 25.50.75.100.150 ( 2-Stage)

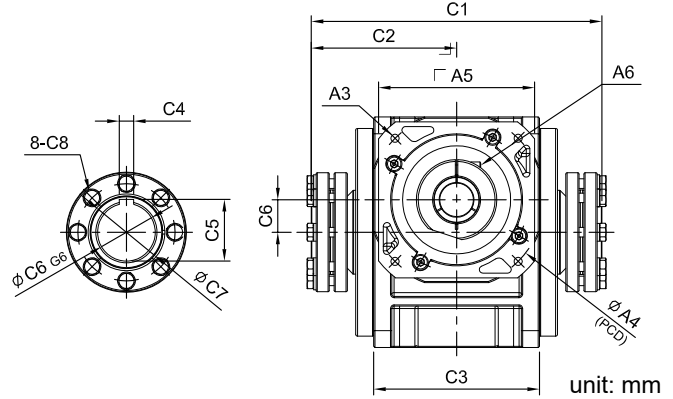


Fitted with Planetary Reducer - Double Clamping



(140#)

φ A1	D	E
φ 28	8	31.3
φ 32	10	35.3
φ 35	10	38.3
φ 38	10	41.3
φ 42	12	45.3
φ 48	14	51.8
φ 55	16	59.3

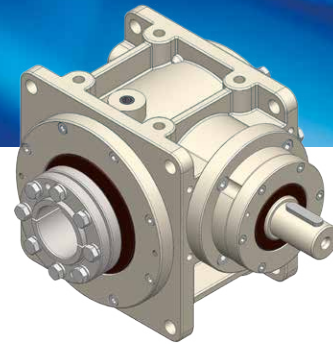


unit: mm

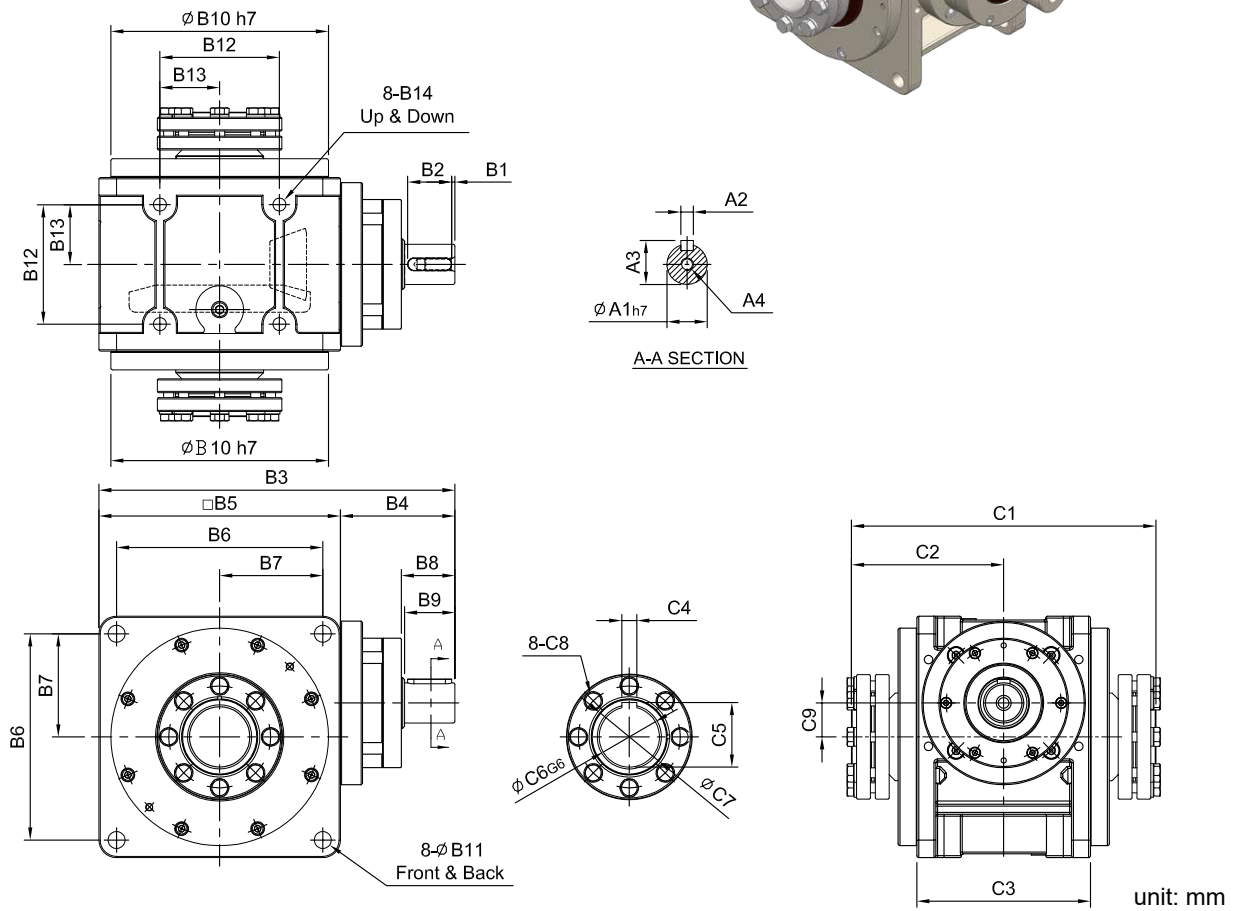
Model Code	55	75	90	115	130	140	160	190
A1	8 · 9 · 11 · 14	11 · 14 · 16 · 19	(14) · 16 · 19	16 · 19 · 22 · 24	22 · 24 · 28 · 32 · 35	28 · 32 · 35 · 38	28 · 32 · 35 · 38	35 · 38 · 42 · 48 · 55
A2	30 · 40 · 50	50 · 60 · 70	50 · 70 · 80 · 95	70 · 80 · 95 · 110	95 · 110 · 130	110 · 130 · 180	110 · 130 · 180	114.3 · 180 · 230 · 250
A3	M3 · M4 · M5	M4 · M5 · M6	M5 · M6	M5 · M6 · M8	M6 · M8 · M10	M8 · M10 · M12	M8 · M10 · M12	M12 · M16
A4	46 · 60 · 63	70 · 75 · 90	70 · 90 · 100 · 115	90 · 100 · 115 · 145	115 · 145 · 165	145 · 165 · 200	145 · 165 · 200	200 · 215 · 265 · 300
A5	46 · 55	64 · 70 · 80	80 · 92 · 110	92 · 110 · 130	122 · 130 · 150	146 · 150 · 190	146 · 150 · 190	182 · 200 · 250 · 265
A6	M3 x P.05	M5 x P0.8	M5 x P0.8	M6 x P1.0	M8 x P1.25	M10 x P1.5	M10 x P1.5	M10 x P1.5
B1	157	201 · 209	(224.5) · 237	287	340 · 360	405	430	508 · 510
B2	67	86 · 94	(84.5) · 97	117	148 · 168	190	190	244 · 246
B3	90	115	140	170	192	215	240	264
B4	78	98	118	144	164	182	206	224
B5	39	49	59	72	82	91	103	112
B6	26	33.5 · 41.5	(33.5) · 45.5	59	67 · 83	84.5	84.5	114.5 · 116.5
B7	5	6	(6) · 10	9	10 · 11	10	10	11.5 · 13.5
B8	84	103	128	148	173	200	227	254
B9	6.8	9	11	11	13.5	15	17.5	17.5
B10	44	54	66	80	95	104	120	140
B11	22	27	33	40	47.5	52	60	70
B12	M6 x P1.0	M8 x P1.25	M10 x P1.5	M12 x P1.75	M12 x P1.75	M14 x P2.0	M16 x P2.0	M16 x P2.0
C1	130	160	188	222	242	261	286	320
C2	65	80	94	111	121	130.5	143	160
C3	60	80	100	120	138	146	166	196
C4	-	-	-	-	14	16	18	20
C5	-	-	-	-	51.8	59.3	64.3	74.9
C6	20	25	30	40	48	55	60	70
C7	28	34	44	52	60	73	73	83
C8	M6	M6	M6	M8	M8	M8	M8	M10
C9	9	14	18	23	27	32	38	42
Weight	4.1	6.6	11.0	17.4	29.1	43.1	55.6	90.7

# HY-DM series

RATIO : 5.10.15 ( 1-Stage)



Single Input Shaft - Double Clamping

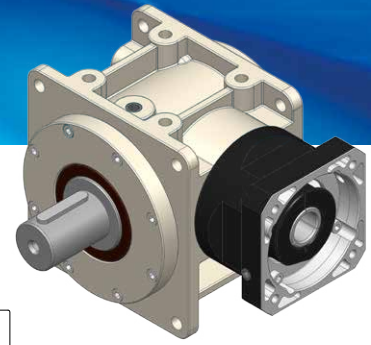


unit: mm

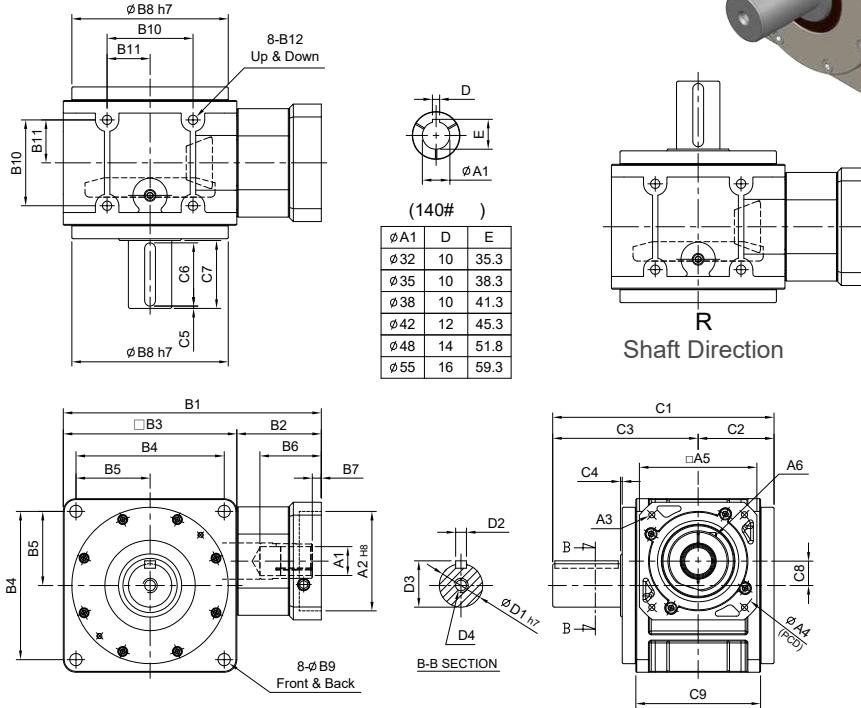
Model Code	55	75	90	115	130	140	160	190
	<b>A</b>	A1 14	A1 19	A1 24	A1 28	A1 32	A1 32	A1 38
	A2 5	A2 6	A2 8	A2 8	A2 10	A2 10	A2 12	A2 12
	A3 16	A3 21.5	A3 27	A3 31	A3 35	A3 35	A3 41	A3 43
	A4 M5 x P0.8	A4 M6 x P1.0	A4 M8 x P1.25	A4 M10 x P1.5	A4 M10 x P1.5	A4 M10 x P1.5	A4 M12 x P1.75	A4 M12 x P1.75
<b>B</b>	B1 2.5	B1 2.5	B1 2.5	B1 2.5	B1 5	B1 5	B1 5	B1 5
	B2 20	B2 25	B2 35	B2 35	B2 40	B2 40	B2 50	B2 50
	B3 147	B3 181	B3 218	B3 260	B3 293	B3 315	B3 367	B3 403
	B4 57	B4 66	B4 78	B4 90	B4 101	B4 100	B4 127	B4 139
	B5 90	B5 115	B5 140	B5 170	B5 192	B5 215	B5 240	B5 264
	B6 78	B6 98	B6 118	B6 144	B6 164	B6 182	B6 206	B6 224
	B7 39	B7 49	B7 59	B7 72	B7 82	B7 91	B7 103	B7 112
	B8 27	B8 32	B8 42.5	B8 42.5	B8 52.5	B8 51.5	B8 63	B8 63.5
	B9 25	B9 30	B9 40	B9 40	B9 50	B9 50	B9 60	B9 60
	B10 84	B10 103	B10 128	B10 148	B10 173	B10 200	B10 227	B10 254
	B11 6.8	B11 9	B11 11	B11 11	B11 13.5	B11 15	B11 17.5	B11 17.5
	B12 44	B12 54	B12 66	B12 80	B12 95	B12 104	B12 120	B12 140
	B13 22	B13 27	B13 33	B13 40	B13 47.5	B13 52	B13 60	B13 70
	B14 M6 x P1.0	B14 M8 x P1.25	B14 M10 x P1.5	B14 M12 x P1.75	B14 M12 x P1.75	B14 M14 x P2.0	B14 M16 x P2.0	B14 M16 x P2.0
<b>C</b>	C1 130	C1 160	C1 188	C1 222	C1 242	C1 261	C1 286	C1 320
	C2 65	C2 80	C2 94	C2 111	C2 121	C2 130.5	C2 143	C2 160
	C3 60	C3 80	C3 100	C3 120	C3 138	C3 146	C3 166	C3 196
	C4 -	C4 -	C4 -	C4 -	C4 14	C4 16	C4 18	C4 20
	C5 -	C5 -	C5 -	C5 -	C5 51.8	C5 59.3	C5 64.3	C5 74.9
	C6 20	C6 25	C6 30	C6 40	C6 48	C6 55	C6 60	C6 70
	C7 28	C7 34	C7 44	C7 52	C7 60	C7 73	C7 73	C7 83
	C8 M6	C8 M6	C8 M6	C8 M8	C8 M8	C8 M8	C8 M8	C8 M10
	C9 9	C9 14	C9 18	C9 23	C9 27	C9 32	C9 38	C9 42
Weight	3.4	5.3	8.9	11.9	20.7	29.7	41	60.7

# HY-FS series

RATIO : 5.10.15 ( 1-Stage)



Input Flange - Single Output Shaft



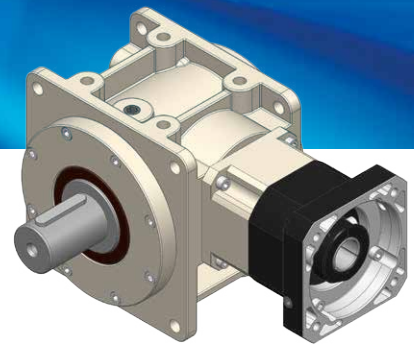
unit: mm

Model Code	55	75	90	115	130	140	160	190	
<b>A</b>	A1	8 · 11	14	14 · 19 · 24	19 · 22 · 24	24 · 28 · 32	32 · 35 · 38	32 · 35 · 38	42 · 48 · 55
	A2	30 · 40 · 50	50 · 60 · 70	50 · 70 · 80 · 95	70 · 80 · 95 · 110	95 · 110 · 130	110 · 130 · 180	110 · 130 · 180	114.3 · 180 · 230 · 250
	A3	M3 · M4 · M5	M4 · M5 · M6	M5 · M6	M5 · M6 · M8	M6 · M8 · M10	M8 · M10 · M12	M8 · M10 · M12	M12 · M16
	A4	46 · 60 · 63	70 · 75 · 90	70 · 90 · 100 · 115	90 · 100 · 115 · 145	115 · 145 · 165	145 · 165 · 200	145 · 165 · 200	200 · 215 · 265 · 300
	A5	46 · 55	64 · 70 · 80	80 · 92 · 110	92 · 110 · 130	122 · 130 · 150	146 · 150 · 190	146 · 150 · 190	182 · 200 · 250 · 265
	A6	M3 x P.05	M5 x P0.8	M5 x P0.8	M6 x P1.0	M8 x P1.25	M10 x P1.5	M10 x P1.5	M10 x P1.5
<b>B</b>	B1	135	172	202 · 221	241	286	333	358	417 · 419
	B2	45	57	62 · 81	71	94	118	118	153 · 155
	B3	90	115	140	170	192	215	240	264
	B4	78	98	118	144	164	182	206	224
	B5	39	49	59	72	82	91	103	112
	B6	28	38	49 · 68.5	58	69.5	81.5	81.5	114.5 · 116.5
	B7	5	6	9 · 23.5	8	10	10	10	11.5 · 13.5
	B8	84	103	128	148	173	200	227	254
	B9	6.8	9	11	11	13.5	15	17.5	17.5
	B10	44	54	66	80	95	104	120	140
	B11	22	27	33	40	47.5	52	60	70
	B12	M6 x P1.0	M8 x P1.25	M10 x P1.5	M12 x P1.75	M12 x P1.75	M14 x P2.0	M16 x P2.0	M16 x P2.0
<b>C</b>	C1	121	146	180	214	245	275	310	350
	C2	42	52	64	76	84	91.5	103	118
	C3	79	94	120	138	161	183.5	206	231
	C4	2	2	2	2	2	2	2	2
	C5	5	5	5	5	5	5	5	5
	C6	25	30	40	50	65	80	90	100
	C7	35	40	50	60	75	90	100	110
	C8	9	14	18	23	27	32	38	42
	C9	60	80	100	120	138	146	166	196
<b>D</b>	D1	20	24	32	40	48	55	60	70
	D2	6	8	10	12	14	16	18	20
	D3	22.5	27	35	43	51.5	59	64	74.5
	D4	M6 x P1.0	M8 x P1.25	M10 x P1.5	M10 x P1.5	M12 x P1.75	M16 x P2.0	M20 x P2.5	M20 x P2.5
Weight	3.2	5.0	9.1	14.0	21.0	30.6	42.8	67.9	

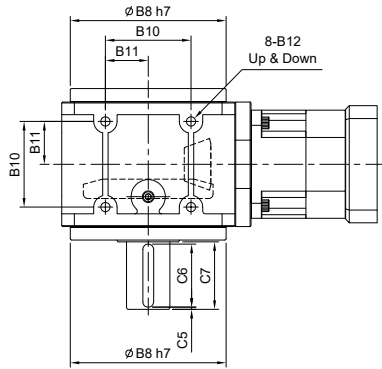


# HY-RS series

RATIO : 25.50.75.100.150 ( 2-Stage)

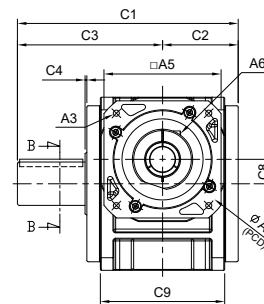
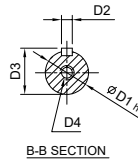
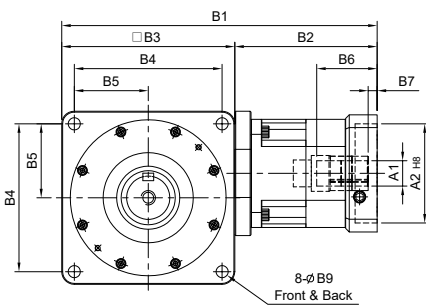
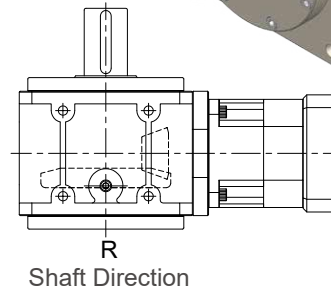


Fitted with Planetary Reducer - Single Output Shaft



(140#)

φA1	D	E
φ28	8	31.3
φ32	10	35.3
φ35	10	38.3
φ38	10	41.3
φ42	12	45.3
φ48	14	51.8
φ55	16	59.3

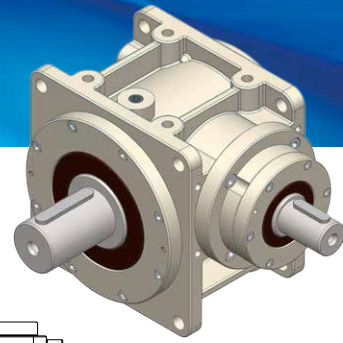


unit: mm

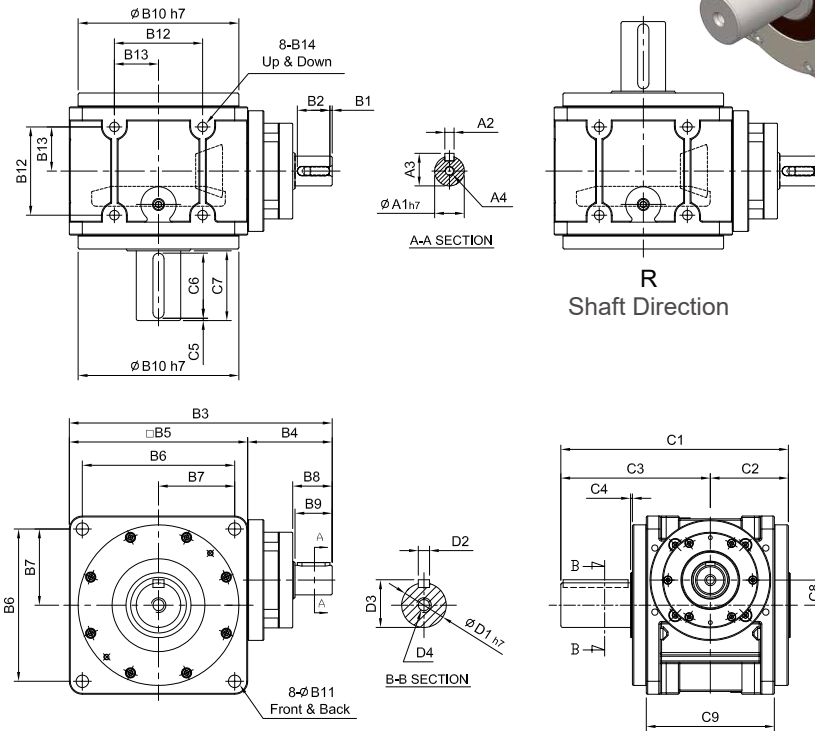
Model Code	55	75	90	115	130	140	160	190
<b>A</b>	A1	8·9·11·14	11·14·16·19	(14)·16·19	16·19·22·24	22·24·28·32·35	28·32·35·38	35·38·42·48·55
	A2	30·40·50	50·60·70	50·70·80·95	70·80·95·110	95·110·130	110·130·180	114.3·180·230·250
	A3	M3·M4·M5	M4·M5·M6	M5·M6	M5·M6·M8	M6·M8·M10	M8·M10·M12	M8·M10·M12
	A4	46·60·63	70·75·90	70·90·100·115	90·100·115·145	115·145·165	145·165·200	145·165·200
	A5	46·55	64·70·80	80·92·110	92·110·130	122·130·150	146·150·190	146·150·190
	A6	M3 x P.05	M5 x P.0.8	M5 x P.0.8	M6 x P.1.0	M8 x P.1.25	M10 x P.1.5	M10 x P.1.5
<b>B</b>	B1	157	201·209	(224.5)·237	287	340·360	405	430
	B2	67	86·94	(84.5)·97	117	148·168	190	190
	B3	90	115	140	170	192	215	240
	B4	78	98	118	144	164	182	206
	B5	39	49	59	72	82	91	103
	B6	26	33.5·41.5	(33.5)·45.5	59	67·83	84.5	84.5
	B7	5	6	(6)·10	9	10·11	10	10
	B8	84	103	128	148	173	200	227
	B9	6.8	9	11	11	13.5	15	17.5
	B10	44	54	66	80	95	104	120
	B11	22	27	33	40	47.5	52	60
	B12	M6 x P.1.0	M8 x P.1.25	M10 x P.1.5	M12 x P.1.75	M12 x P.1.75	M14 x P.2.0	M16 x P.2.0
<b>C</b>	C1	121	146	180	214	245	275	310
	C2	42	52	64	76	84	91.5	103
	C3	79	94	120	138	161	183.5	206
	C4	2	2	2	2	2	2	2
	C5	5	5	5	5	5	5	5
	C6	25	30	40	50	65	80	90
	C7	35	40	50	60	75	90	100
	C8	9	14	18	23	27	32	38
	C9	60	80	100	120	138	146	166
<b>D</b>	D1	20	24	32	40	48	55	60
	D2	6	8	10	12	14	16	18
	D3	22.5	27	35	43	51.5	59	64
	D4	M6 x P.1.0	M8 x P.1.25	M10 x P.1.5	M10 x P.1.5	M12 x P.1.75	M16 x P.2.0	M20 x P.2.5
Weight		3.8	6.3	10.9	17.7	29.6	45.2	57.4

# HY-DS series

RATIO : 5.10.15 ( 1-Stage)



Single Input Shaft - Single Output Shaft



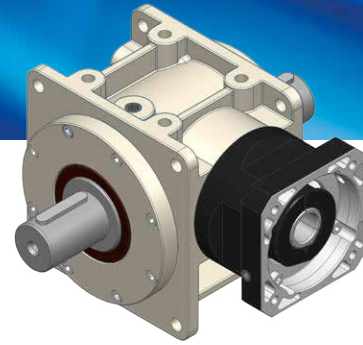
R  
Shaft Direction

unit: mm

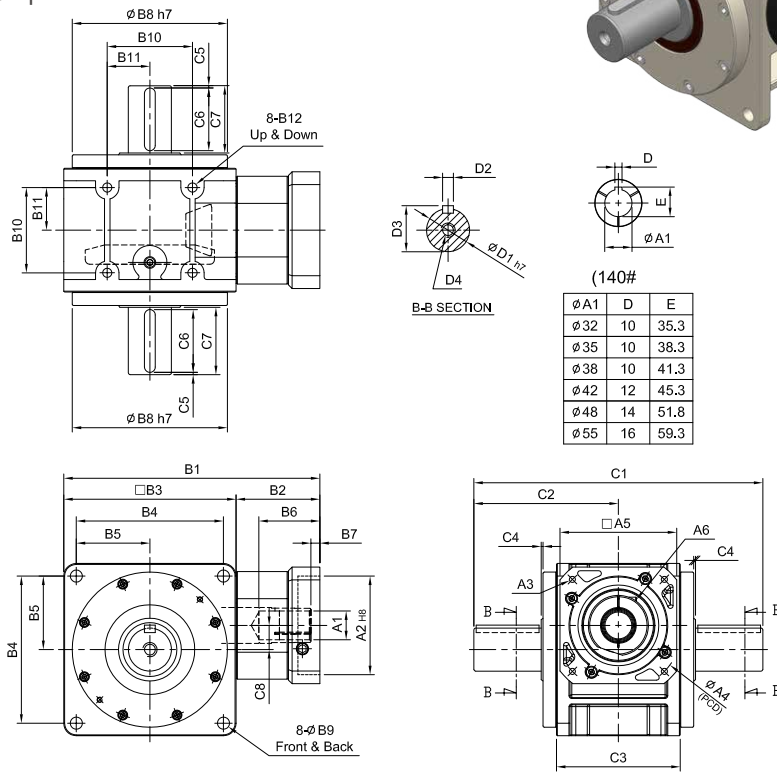
A	Model Code	55	75	90	115	130	140	160	190
	A1	14	19	24	28	32	32	38	40
A2	5	6	8	8	10	10	12	12	
A3	16	21.5	27	31	35	35	41	43	
A4	M5 x P0.8	M6 x P1.0	M8 x P1.25	M10 x P1.5	M10 x P1.5	M10 x P1.5	M12 x P1.75	M12 x P1.75	
B	B1	2.5	2.5	2.5	2.5	5	5	5	5
	B2	20	25	35	35	40	40	50	50
	B3	147	180.5	218	260	293	315	367	402.5
	B4	57	65.5	78	90	101	100	127	138.5
	B5	90	115	140	170	192	215	240	264
	B6	78	98	118	144	164	182	206	224
	B7	39	49	59	72	82	91	103	112
	B8	27	32	42.5	42.5	52.5	51.5	63	63.5
	B9	25	30	40	40	50	50	60	60
	B10	84	103	128	148	173	200	227	254
	B11	6.8	9	11	11	13.5	15	17.5	17.5
	B12	44	54	66	80	95	104	120	140
	B13	22	27	33	40	47.5	52	60	70
	B14	M6 x P1.0	M8 x P1.25	M10 x P1.5	M12 x P1.75	M12 x P1.75	M14 x P2.0	M16 x P2.0	M16 x P2.0
C	C1	121	146	180	214	245	275	310	350
	C2	42	52	64	76	84	91.5	103	118
	C3	79	94	120	138	161	183.5	206	231
	C4	2	2	2	2	2	2	2	2
	C5	5	5	5	5	5	5	5	5
	C6	25	30	40	50	65	80	90	100
	C7	35	40	50	60	75	90	100	110
	C8	9	14	18	23	27	32	38	42
	C9	60	80	100	120	138	146	166	196
D	D1	20	24	32	40	48	55	60	70
	D2	6	8	10	12	14	16	18	20
	D3	22.5	27	35	43	51.5	59	64	74.5
	D4	M6 x P1.0	M8 x P1.25	M10 x P1.5	M10 x P1.5	M12 x P1.75	M16 x P2.0	M20 x P2.5	M20 x P2.5
Weight		2.9	5.0	8.7	12.0	21.1	32.8	42.0	64.6

# HY-FV series

RATIO : 5.10.15 ( 1-Stage)



Input Flange - Double Output Shaft

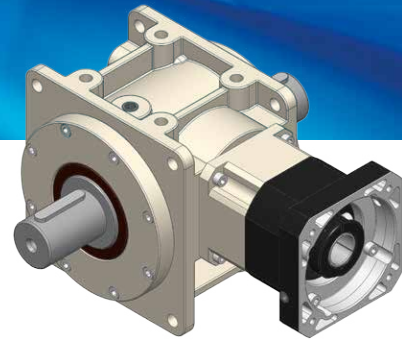


unit: mm

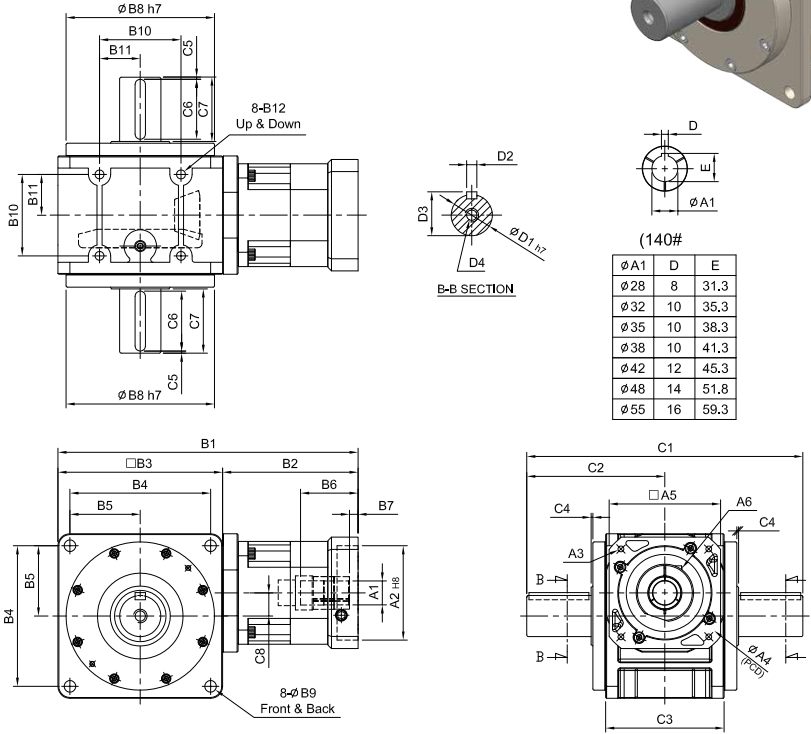
Model Code	55	75	90	115	130	140	160	190	
<b>A</b>	A1	8 · 11	14	14 · 19 · 24	19 · 22 · 24	24 · 28 · 32	32 · 35 · 38	32 · 35 · 38	42 · 48 · 55
	A2	30 · 40 · 50	50 · 60 · 70	50 · 70 · 80 · 95	70 · 80 · 95 · 110	95 · 110 · 130	110 · 130 · 180	110 · 130 · 180	114.3 · 180 · 230 · 250
	A3	M3 · M4 · M5	M4 · M5 · M6	M5 · M6	M5 · M6 · M8	M6 · M8 · M10	M8 · M10 · M12	M8 · M10 · M12	M12 · M16
	A4	46 · 60 · 63	70 · 75 · 90	70 · 90 · 100 · 115	90 · 100 · 115 · 145	115 · 145 · 165	145 · 165 · 200	145 · 165 · 200	200 · 215 · 265 · 300
	A5	46 · 55	64 · 70 · 80	80 · 92 · 110	92 · 110 · 130	122 · 130 · 150	146 · 150 · 190	146 · 150 · 190	182 · 200 · 250 · 265
	A6	M3 x P.05	M5 x P0.8	M5 x P0.8	M6 x P1.0	M8 x P1.25	M10 x P1.5	M10 x P1.5	M10 x P1.5
<b>B</b>	B1	135	172	202 · 221	241	286	333	358	417 · 419
	B2	45	57	62 · 81	71	94	118	118	153 · 155
	B3	90	115	140	170	192	215	240	264
	B4	78	98	118	144	164	182	206	224
	B5	39	49	59	72	82	91	103	112
	B6	28	38	49 · 68.5	58	69.5	81.5	81.5	114.5 · 116.5
	B7	5	6	9 · 23.5	8	10	10	10	11.5 · 13.5
	B8	84	103	128	148	173	200	227	254
	B9	6.8	9	11	11	13.5	15	17.5	17.5
	B10	44	54	66	80	95	104	120	140
	B11	22	27	33	40	47.5	52	60	70
	B12	M6 x P1.0	M8 x P1.25	M10 x P1.5	M12 x P1.75	M12 x P1.75	M14 x P2.0	M16 x P2.0	M16 x P2.0
<b>C</b>	C1	158	188	232	276	322	367	412	462
	C2	79	94	116	138	161	183.5	206	231
	C3	60	80	100	120	138	146	166	196
	C4	2	2	2	2	2	2	2	2
	C5	5	5	5	5	5	5	5	5
	C6	25	30	40	50	65	80	90	100
	C7	35	40	50	60	75	90	100	110
	C8	9	14	18	23	27	32	38	42
<b>D</b>	D1	20	24	32	40	48	55	60	70
	D2	6	8	10	12	14	16	18	20
	D3	22.5	27	35	43	51.5	59	64	74.5
	D4	M6 x P1.0	M8 x P1.25	M10 x P1.5	M10 x P1.5	M12 x P1.75	M16 x P2.0	M20 x P2.5	M20 x P2.5
Weight	3.4	5.4	9.7	15.3	23.1	34.7	47.1	74.0	

# HY-RV series

RATIO : 25.50.75.100.150 ( 2-Stage)



Fitted with Planetary Reducer - Double Output Shaft

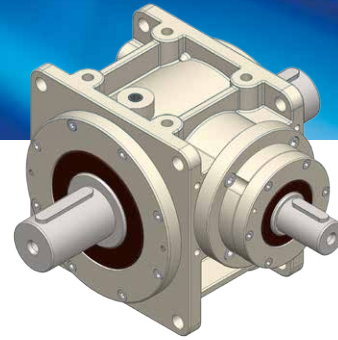


unit: mm

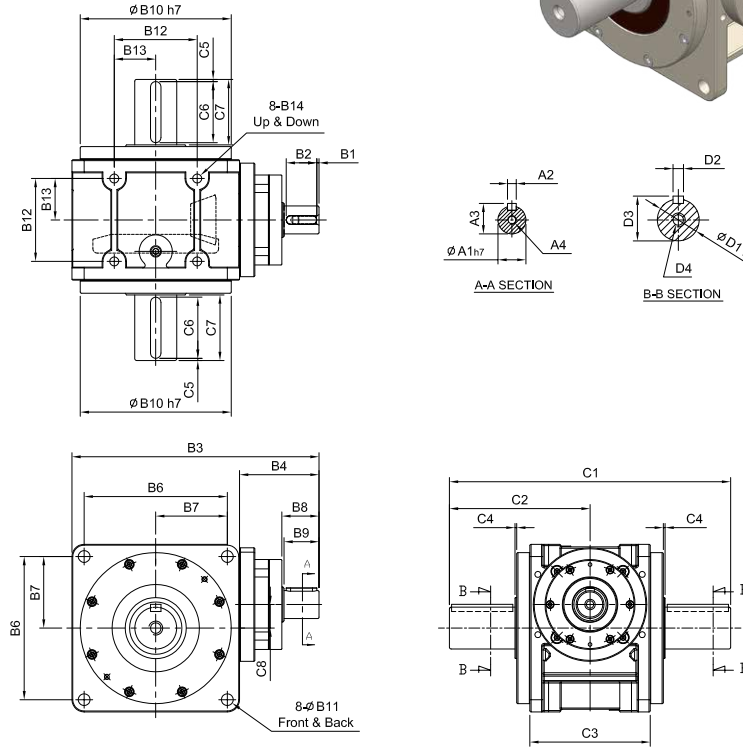
	Model Code	55	75	90	115	130	140	160	190
		<b>A</b>	A1	8 · 9 · 11 · 14	11 · 14 · 16 · 19	(14) · 16 · 19	16 · 19 · 22 · 24	22 · 24 · 28 · 32 · 35	28 · 32 · 35 · 38
	A2	30 · 40 · 50	50 · 60 · 70	50 · 70 · 80 · 95	70 · 80 · 95 · 110	95 · 110 · 130	110 · 130 · 180	110 · 130 · 180	114.3 · 180 · 230 · 250
	A3	M3 · M4 · M5	M4 · M5 · M6	M5 · M6	M5 · M6 · M8	M6 · M8 · M10	M8 · M10 · M12	M8 · M10 · M12	M12 · M16
	A4	46 · 60 · 63	70 · 75 · 90	70 · 90 · 100 · 115	90 · 100 · 115 · 145	115 · 145 · 165	145 · 165 · 200	145 · 165 · 200	200 · 215 · 265 · 300
	A5	46 · 55	64 · 70 · 80	80 · 92 · 110	92 · 110 · 130	122 · 130 · 150	146 · 150 · 190	146 · 150 · 190	182 · 200 · 250 · 265
	A6	M3 x P.05	M5 x P0.8	M5 x P0.8	M6 x P1.0	M8 x P1.25	M10 x P1.5	M10 x P1.5	M10 x P1.5
<b>B</b>	B1	157	201 · 209	(224.5) · 237	287	340 · 360	405	430	508 · 510
	B2	67	86 · 94	(84.5) · 97	117	148 · 168	190	190	244 · 246
	B3	90	115	140	170	192	215	240	264
	B4	78	98	118	144	164	182	206	224
	B5	39	49	59	72	82	91	103	112
	B6	26	33.5 · 41.5	(33.5) · 45.5	59	67 · 83	84.5	84.5	114.5 · 116.5
	B7	5	6	(6) · 10	9	10 · 11	10	10	11.5 · 13.5
	B8	84	103	128	148	173	200	227	254
	B9	6.8	9	11	11	13.5	15	17.5	17.5
	B10	44	54	66	80	95	104	120	140
	B11	22	27	33	40	47.5	52	60	70
	B12	M6 x P1.0	M8 x P1.25	M10 x P1.5	M12 x P1.75	M12 x P1.75	M14 x P2.0	M16 x P2.0	M16 x P2.0
<b>C</b>	C1	158	188	232	276	322	367	412	462
	C2	79	94	116	138	161	183.5	206	231
	C3	60	80	100	120	138	146	166	196
	C4	2	2	2	2	2	2	2	2
	C5	5	5	5	5	5	5	5	5
	C6	25	30	40	50	65	80	90	100
	C7	35	40	50	60	75	90	100	110
	C8	9	14	18	23	27	32	38	42
<b>D</b>	D1	20	24	32	40	48	55	60	70
	D2	6	8	10	12	14	16	18	20
	D3	22.5	27	35	43	51.5	59	64	74.5
	D4	M6 x P1.0	M8 x P1.25	M10 x P1.5	M10 x P1.5	M12 x P1.75	M16 x P2.0	M20 x P2.5	M20 x P2.5
Weight		4.0	6.6	11.5	18.9	31.7	41.2	61.6	100.6

# HY-DV series

RATIO : 5.10.15 ( 1-Stage)



Single Input Shaft - Double Output Shaft



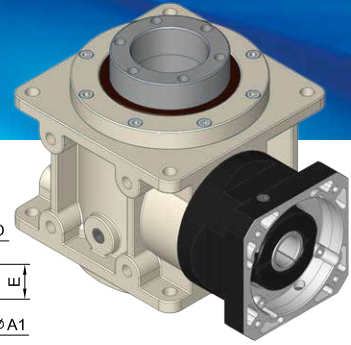
unit: mm

Model Code	55	75	90	115	130	140	160	190
<b>A</b>	A1	14	19	24	28	32	38	40
	A2	5	6	8	8	10	12	12
	A3	16	21.5	27	31	35	41	43
	A4	M5 x P0.8	M6 x P1.0	M8 x P1.25	M10 x P1.5	M10 x P1.5	M10 x P1.5	M12 x P1.75
<b>B</b>	B1	2.5	2.5	2.5	2.5	5	5	5
	B2	20	25	35	35	40	40	50
	B3	147	181	218	260	293	315	367
	B4	57	66	78	90	101	100	127
	B5	90	115	140	170	192	215	240
	B6	78	98	118	144	164	182	206
	B7	39	49	59	72	82	91	103
	B8	27	32	42.5	42.5	52.5	51.5	63
	B9	25	30	40	40	50	50	60
	B10	84	103	128	148	173	200	227
	B11	6.8	9	11	11	13.5	15	17.5
	B12	44	54	66	80	95	104	120
	B13	22	27	33	40	47.5	52	60
	B14	M6 x P1.0	M8 x P1.25	M10 x P1.5	M12 x P1.75	M12 x P1.75	M14 x P2.0	M16 x P2.0
<b>C</b>	C1	158	188	232	276	322	412	462
	C2	79	94	116	138	161	183.5	231
	C3	60	80	100	120	138	146	166
	C4	2	2	2	2	2	2	2
	C5	5	5	5	5	5	5	5
	C6	25	30	40	50	65	80	90
	C7	35	40	50	60	75	90	100
	C8	9	14	18	23	27	32	38
<b>D</b>	D1	20	24	32	40	48	60	70
	D2	6	8	10	12	14	18	20
	D3	22.5	27	35	43	51.5	59	74.5
	D4	M6 x P1.0	M8 x P1.25	M10 x P1.5	M10 x P1.5	M12 x P1.75	M16 x P2.0	M20 x P2.5
Weight	3.1	5.3	9.2	14.7	23.6	37.7	47.8	70.6

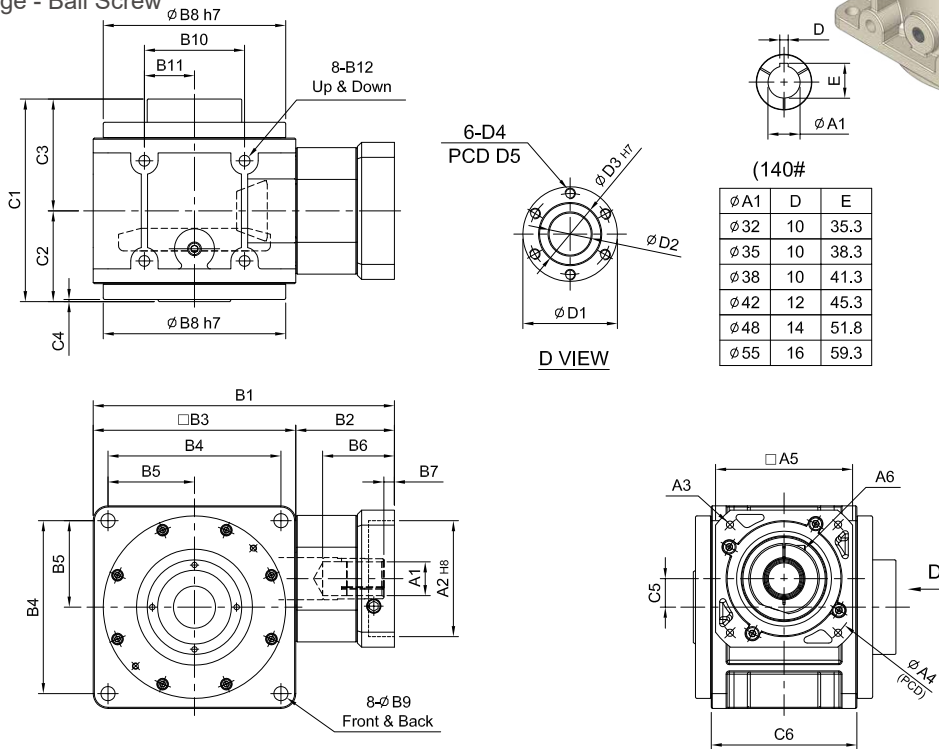


# HY-FP series

RATIO : 5.10.15 ( 1-Stage)



Input Flange - Ball Screw



(140#)

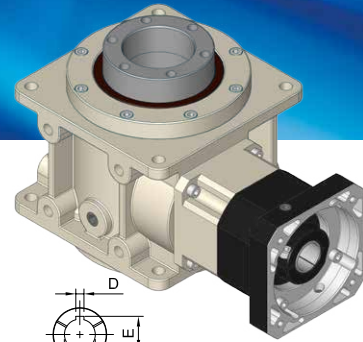
φA1	D	E
φ32	10	35.3
φ35	10	38.3
φ38	10	41.3
φ42	12	45.3
φ48	14	51.8
φ55	16	59.3

unit: mm

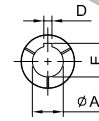
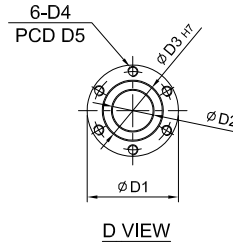
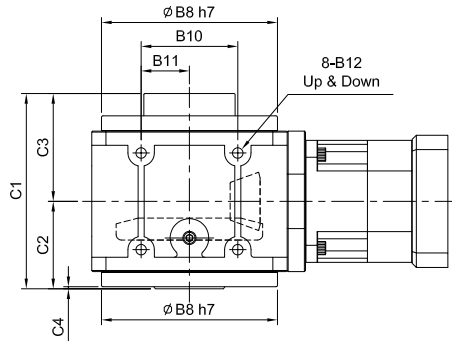
Model Code	75	90	115	130	140	160	190	
<b>A</b>	A1	14	14 · 19 · 24	19 · 22 · 24	24 · 28 · 32	32 · 35 · 38	32 · 35 · 38	42 · 48 · 55
	A2	50 · 60 · 70	50 · 70 · 80 · 95	70 · 80 · 95 · 110	95 · 110 · 130	110 · 130 · 180	110 · 130 · 180	114.3 · 180 · 230 · 250
	A3	M4 · M5 · M6	M5 · M6	M5 · M6 · M8	M6 · M8 · M10	M8 · M10 · M12	M8 · M10 · M12	M12 · M16
	A4	70 · 75 · 90	70 · 90 · 100 · 115	90 · 100 · 115 · 145	115 · 145 · 165	145 · 165 · 200	145 · 165 · 200	200 · 215 · 265 · 300
	A5	64 · 70 · 80	80 · 92 · 110	92 · 110 · 130	122 · 130 · 150	146 · 150 · 190	146 · 150 · 190	182 · 200 · 250 · 265
	A6	M5 x P0.8	M5 x P0.8	M6 x P1.0	M8 x P1.25	M10 x P1.5	M10 x P1.5	M10 x P1.5
<b>B</b>	B1	172	202 · 221	241	286	333	358	417 · 419
	B2	57	62 · 81	71	94	118	118	153 · 155
	B3	115	140	170	192	215	240	264
	B4	98	118	144	164	182	206	224
	B5	49	59	72	82	91	103	112
	B6	38	49 · 68.5	58	69.5	81.5	81.5	114.5 · 116.5
	B7	6	9 · 23.5	8	10	10	10	11.5 · 13.5
	B8	103	128	148	173	200	227	254
	B9	9	11	11	13.5	15	17.5	17.5
	B10	54	66	80	95	104	120	140
	B11	27	33	40	47.5	52	60	70
	B12	M8 x P1.25	M10 x P1.5	M12 x P1.75	M12 x P1.75	M14 x P2.0	M16 x P2.0	M16 x P2.0
<b>C</b>	C1	125	140	177	193	205	230	260
	C2	58	66	78.5	87	94	107	123
	C3	67	74	98.5	106	111	123	137
	C4	3.25	2	2.5	2	2.5	2.5	3
	C5	50	58	72	72	82	92	117
	C6	75	82	105	121	123	138	143
	C7	14	18	23	27	32	38	42
	C8	80	100	120	138	146	166	196
<b>D</b>	D1	54.7	64.7	89.7	89.7	99.7	117.7	129.7
	D2	22	30	38	40	44	54	65
	D3	34	40	58	58	64	75	90
	D4	M5 x P0.8	M5 x P0.8	M10 x P1.5	M10 x P1.5	M10 x P1.5	M12 x P1.75	M12 x P1.75
	D5	45	51	77	77	84	97	112
Weight	4.3	8.3	12.7	18.7	26.9	37.9	58.9	

# HY-RP series

RATIO : 25.50.75.100.150 ( 2-Stage)

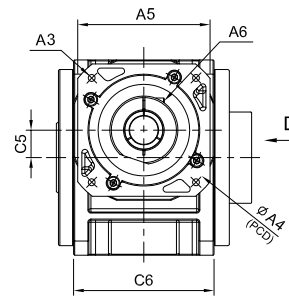
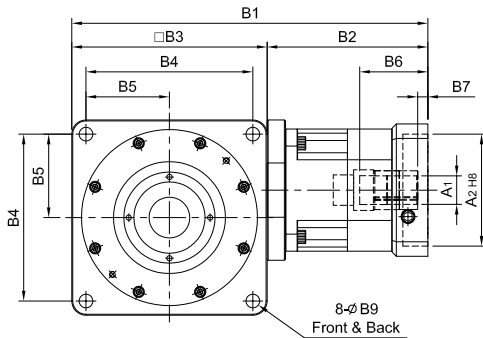


Fitted with Planetary Reducer - Ball Screw



(140#)

φA1	D	E
φ28	8	31.3
φ32	10	35.3
φ35	10	38.3
φ38	10	41.3
φ42	12	45.3
φ48	14	51.8
φ55	16	59.3

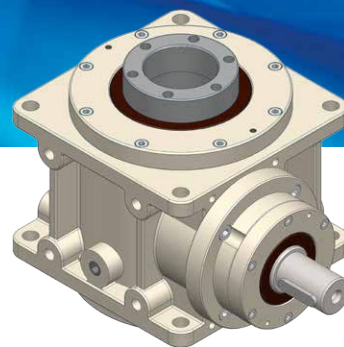


unit: mm

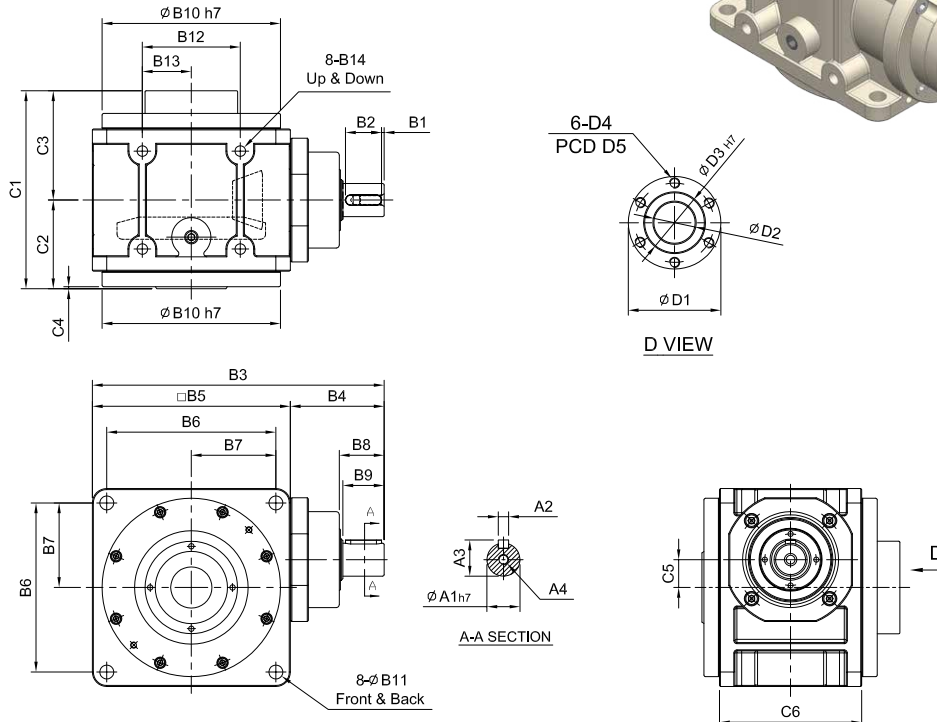
Model Code	75	90	115	130	140	160	190
	<b>A</b>	A1: 11·14·16·19 A2: 50·60·70 A3: M4·M5·M6 A4: 70·75·90 A5: 64·70·80 A6: M5 x P0.8	(14)·16·19 50·70·80·95 M5·M6 70·90·100·115 80·92·110 M5 x P0.8	16·19·22·24 70·80·95·110 M5·M6·M8 90·100·115·145 92·110·130 M6 x P1.0	22·24·28·32·35 95·110·130 M6·M8·M10 115·145·165 122·130·150 M8 x P1.25	28·32·35·38 110·130·180 M8·M10·M12 145·165·200 146·150·190 M10 x P1.5	28·32·35·38 110·130·180 M8·M10·M12 145·165·200 146·150·190 M10 x P1.5
<b>B</b>	B1: 201·209 B2: 86·94 B3: 115 B4: 98 B5: 49 B6: 33.5·41.5 B7: 6 B8: 103 B9: 9 B10: 54 B11: 27 B12: M8 x P1.25	(224.5)·237 (84.5)·97 140 118 59 (33.5)·45.5 (6)·10 128 11 66 33 M10 x P1.5	287 117 170 144 72 59 9 148 11 80 40 M12 x P1.75	340·360 148·168 192 164 82 67·83 10·11 173 13.5 95 47.5 M12 x P1.75	405 190 215 182 91 84.5 10 200 15 104 52 M14 x P2.0	430 190 240 206 103 84.5 10 227 17.5 120 60 M16 x P2.0	508·510 244·246 264 224 112 114.5·116.5 11.5·13.5 254 17.5 140 70 M16 x P2.0
<b>C</b>	C1: 125 C2: 58 C3: 67 C4: 3.25 C5: 50 C6: 75 C7: 14 C8: 80	140 66 74 2 58 82 18 100	177 78.5 98.5 2.5 72 105 23 120	193 87 106 2 72 121 27 138	205 94 111 2.5 82 123 32 146	230 107 123 2.5 92 138 38 166	260 123 137 3 117 143 42 196
<b>D</b>	D1: 54.7 D2: 22 D3: 34 D4: M5 x P0.8 D5: 45	64.7 30 40 M5 x P0.8 51	89.7 38 58 M10 x P1.5 77	89.7 40 58 M10 x P1.5 77	99.7 44 64 M10 x P1.5 84	117.7 54 75 M12 x P1.75 97	129.7 65 90 M12 x P1.75 112
Weight	5.5	10.1	16.4	27.3	41.5	52.5	85.5

# HY-DP series

RATIO : 5.10.15 ( 1-Stage)



Single Input Shaft - Ball Screw



unit: mm

Model Code	75	90	115	130	140	160	190	
<b>A</b>	A1	19	24	28	32	32	40	
	A2	6	8	8	10	10	12	
	A3	21.5	27	31	35	35	43	
	A4	M6 x P1.0	M8 x P1.25	M10 x P1.5	M10 x P1.5	M10 x P1.5	M12 x P1.75	M12 x P1.75
<b>B</b>	B1	2.5	2.5	2.5	5	5	5	
	B2	25	35	35	40	40	50	50
	B3	181	218	260	293	315	367	403
	B4	66	78	90	101	100	127	139
	B5	115	140	170	192	215	240	264
	B6	98	118	144	164	182	206	224
	B7	49	59	72	82	91	103	112
	B8	32	42.5	42.5	52.5	51.5	63	63.5
	B9	30	40	40	50	50	60	60
	B10	103	128	148	173	200	227	254
	B11	9	11	11	13.5	15	17.5	17.5
	B12	54	66	80	95	104	120	140
	B13	27	33	40	47.5	52	60	70
	B14	M8 x P1.25	M10 x P1.5	M12 x P1.75	M12 x P1.75	M14 x P2.0	M16 x P2.0	M16 x P2.0
<b>C</b>	C1	125	140	177	193	205	230	260
	C2	58	66	78.5	87	94	107	123
	C3	67	74	98.5	106	111	123	137
	C4	3.25	2	2.5	2	2.5	2.5	3
	C5	50	58	72	72	82	92	117
	C6	75	82	105	121	123	138	143
	C7	14	18	23	27	32	38	42
	C8	80	100	120	138	146	166	196
<b>D</b>	D1	54.7	64.7	89.7	89.7	99.7	117.7	129.7
	D2	22	30	38	40	44	54	65
	D3	34	40	58	58	64	75	90
	D4	M5 x P0.8	M5 x P0.8	M10 x P1.5	M10 x P1.5	M10 x P1.5	M12 x P1.75	M12 x P1.75
	D5	45	51	77	77	84	97	112
Weight	4.2	7.8	12.2	19.2	29.6	38.7	55.5	

HY