ZDR SERIES
HIGH PRECISION PLANETARY GEAR BOX

Zhongda Leader Realizes Infinite Possibility In Automation Application

Motor Drivers Micro Motors Precision Reducers

Headquarters Ningbo Zhongda Leader Intelligent Transmission Co., Ltd.

Subsidiary
Ningbo Zhongda Chuangyuan Precision Equipment Co., Ltd.

Subsidiary
Foshan Zhongda Leader Drive Technology Co., Ltd.

Source Engineering, established in 1998 has been assisting OEM customers with their motion control needs for over 25 years. Our complete product line of motors, gearmotors, precision gearheads, standard and customs gives us the flexibility to provide a solution for a wide variety of industries and applications. Engineering, sales, technical support, and a stocking warehouse are located at our company headquarters in Ca.

Our Global manufacturing partner Ningbo Zhongda Leader Intelligent Transmission Co., Ltd has 9 branches and subsidiaries with 1800 employees. With their assistance, we can offer high-quality cost-effective products, R&D, special designs, and additional technical support to all our customers nationwide and overseas.

ZDR SERIES GEAR BOX

Type And Model Number

ZDR Reducers	Servo Motor

78 ① ZDR ② 20 ③ ( ) ④ (S) ⑤ - 750 ⑥ T1 ⑦ □ ⑧

① Gear head frame size:ZDR:52,78,98,125

② Gear head series code: ZDR: High precision helical gear

③ Gear Ratio: ZDR: Single Stage 3,5,7,9,10; Two Stages 15,20,25,35,45,81

④ Amount of backlash

Reducer Type No.	Stage	Standard Type P2 (Omit)	Low-blacklash Type P1	High Precision Type P0
52ZDR	1	12 arc-min	10 arc-min	3 arc-min
	2	15 arc-min	12 arc-min	5 arc-min
78ZDR	1	8 arc-min	5 arc-min	3 arc-min
	2	12 arc-min	8 arc-min	5 arc-min
98ZDR	1	8 arc-min	5 arc-min	3 arc-min
	2	12 arc-min	8 arc-min	5 arc-min
125ZDR	1	8 arc-min	5 arc-min	3 arc-min
	2	12 arc-min	8 arc-min	5 arc-min

⑤ Input shaft type
S:Overall locking(Omission)(regardless whether the motor with keyway can use it. But D Cut can't use)
S1:Locking with locking ring(regardless whether the motor with keyway can use it. But D Cut can't use)
S2:Locking with keyway (input shaft with key)
K:With keyway
A:Other type (please contact with us)

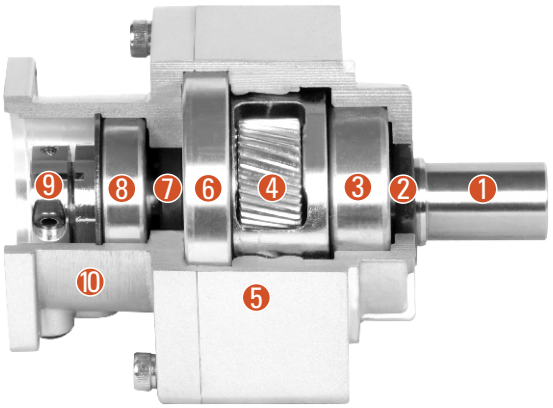
⑥ Applicable servo motor power (W)

⑦ Manufacturer name of servo motor (P33)

⑧ Model of servo motor

ZDR REDUCTION RATIO & TYPE NUMBER

Sectional Drawing



① Output shaft
② Seal for the output shaft
③ Bearing for the output shaft
④ Planetary gear
⑤ Front cover
⑥ Bearing for the output shaft
⑦ Seal for the input shaft
⑧ Bearing for the input shaft
⑨ Precision clamping system
⑩ Rear cover

When Input Speed is 3000rpm

Motor Power(W) \ Reduction Ratio	1 Stage Reduction			2 Stage Reduction					
	1/3	1/5	1/9	1/15	1/20	1/25	1/35	1/45	1/81
50W	52			52					98
100W								98	125
200W		78		78			98	125	
400W				98					
750W									
1000W	98			125			–		
1500W					–				
2000W									
2500W		125							
3000W			–						
3500W									
4000W									
4500W									
5000W									

Note1) All corresponding to helical gear

When Input Speed is 2000rpm

Motor Power(W) \ Reduction Ratio	1 Stage Reduction			2 Stage Reduction					
	1/3	1/5	1/9	1/15	1/20	1/25	1/35	1/45	1/81
50W	52			52					
100W								98	
200W		78		78			98		
400W				98					
750W									
1000W	98			125			–		
1500W					–				
2000W		125							
2500W			–						
3000W									
3500W									

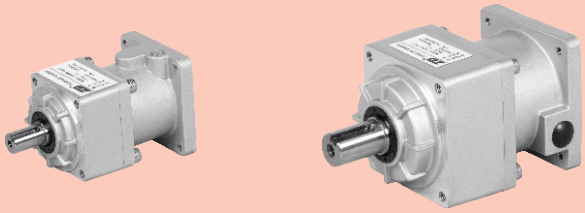
Note1) All corresponding to helical gear

※Torque is limited to the following types:
52: 1/5 reduction(100W)
78: 1/81 reduction(50W)
98: 1/3 reduction(1500W),1/45 reduction(200W)
1/81 reduction(100W)
125:1/3 reduction(3500W),1/25 reduction(250W)

About Lubricant

• Lubrication: Grease • Replacement: Not available

ZDR PERFORMANCE TABLE (WHEN INPUT SPEED IS 3000RPM)

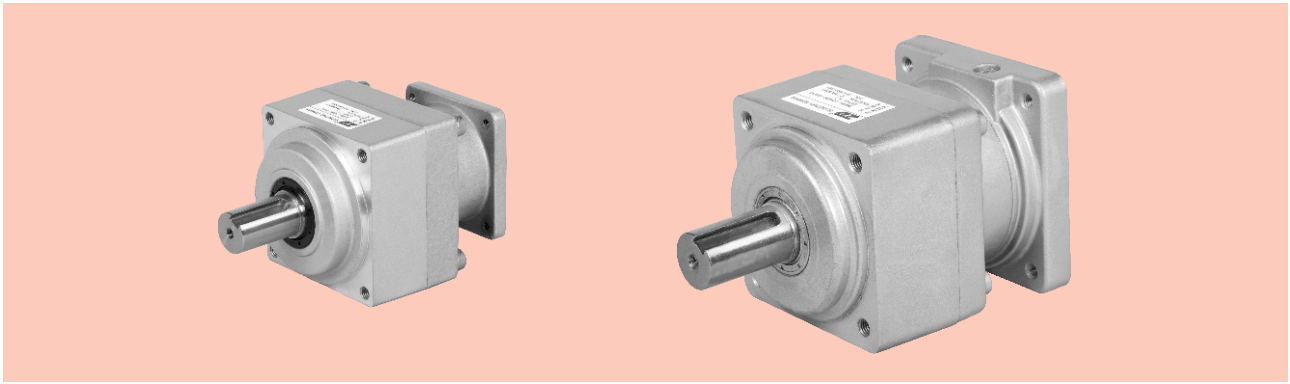


Performance Table

Reduction Ratio	Model				Outout Shaft Speed	Standard Output Torque	Instantaneous max.Output Torque	Permissible Radial Load	Permissible Axial Load	Internal Moment Ofinertia Of Input Shaftconversion	Permissible Output Torque	Instantaneous Max. Permissible Output Torque
	Type No.	Model	Reduction Ratio	Power	(rpm)	(N.m)	(N.m)	(N)	(N)	($x10^{-4}$ kg.m^2)	(N.m)	(N.m)
1/3	52	ZDR	3	-50	1000	0.255	0.784	392	196	0.0575	3.43	10.3
	52	ZDR	3	-100	1000	0.715	2.06	392	196	0.0575	3.43	10.3
	52	ZDR	3	-200	1000	1.47	4.51	392	196	0.135	3.43	10.3
	52	ZDR	3	-400	1000	3.43	10.3	392	196	0.145	3.43	10.3
	78	ZDR	3	-750	1000	6.37	19.3	784	392	0.913	6.86	20.6
	98	ZDR	3	-1000	1000	7.55	22.8	882	441	2.43	18.3	54.9
	98	ZDR	3	-1500	1000	12.3	37.1	882	441	2.43	18.3	54.9
	98	ZDR	3	-2000	1000	17.2	51.5	882	441	2.43	18.3	54.9
	125	ZDR	3	-2500	1000	19.0	57.2	1370	686	5.55	44.1	132
	125	ZDR	3	-3000	1000	23.7	71.2	1370	686	5.50	44.1	132
	125	ZDR	3	-3500	1000	28.3	85.2	1370	686	5.50	44.1	132
	125	ZDR	3	-4000	1000	33.1	99.0	1370	686	5.78	44.1	132
	125	ZDR	3	-4500	1000	37.7	113	1370	686	5.78	44.1	132
	125	ZDR	3	-5000	1000	42.9	128	1370	686	5.78	44.1	132
1/5	52	ZDR	5	-50	600	0.510	1.47	490	245	0.04	1.57	4.70
	52	ZDR	5	-100	600	1.18	3.72	490	245	0.04	1.57	4.70
	52	ZDR	5	-200	600	2.65	8.04	490	245	0.118	2.84	8.53
	78	ZDR	5	-400	600	5.39	16.2	980	490	0.363	6.57	19.7
	78	ZDR	5	-750	600	10.7	32.1	980	490	0.713	11.5	34.3
	98	ZDR	5	-1000	600	13.4	40.5	1080	539	1.85	23.5	70.6
	98	ZDR	5	-1500	600	21.5	64.4	1080	539	1.85	23.5	70.6
	125	ZDR	5	-2000	600	23.8	71.5	1670	833	3.50	56.8	171
	125	ZDR	5	-2500	600	31.8	95.5	1670	833	3.50	56.8	171
	125	ZDR	5	-3000	600	39.6	119	1670	833	3.48	56.8	171
	125	ZDR	5	-3500	600	47.2	141	1670	833	3.48	56.8	171
	125	ZDR	5	-4000	600	55.3	166	1670	833	3.75	56.8	171
1/9	52	ZDR	9	-50	333	0.921	2.74	588	294	0.035	2.35	7.25
	52	ZDR	9	-100	333	2.25	6.86	588	294	0.035	2.35	7.25
	78	ZDR	9	-200	333	3.72	11.3	1180	588	0.275	9.70	29.2
	78	ZDR	9	-400	333	9.51	28.5	1180	588	0.275	9.70	29.2
	98	ZDR	9	-750	333	18.2	54.7	1470	735	0.650	18.2	54.7
	125	ZDR	9	-1000	333	20.0	60.1	1960	980	2.81	73.5	221
	125	ZDR	9	-1500	333	34.3	103	1960	980	2.81	73.5	221
	125	ZDR	9	-2000	333	48.6	146	1960	980	2.81	73.5	221
	125	ZDR	9	-2500	333	60.8	182	1960	980	2.81	73.5	221
	125	ZDR	9	-3000	333	73.0	219	1960	980	2.77	73.5	221

Note1) The moment of input shaft conversion is only gained from the reducer, so it does not include moment of inertia of the motor.
Note2) The max. input speed is 5000rpm. Usually set to 3000rpm or less.
Note3) The permissble radial load is indicated on the center of the output shaft.
Note4) All values are within the range corresponding to helical gear.

ZDR PERFORMANCE TABLE (WHEN INPUT SPEED IS 3000RPM)



Performance Table

Reduction Ratio	Model				Outout Shaft Speed	Standard Output Torque	Instantaneous Max.Output Torque	Permissible Radial Load	Permissible Axial Load	Internal Moment Ofinertia Of Input Shaftconversion	Permissible Output Torque	Instantaneous Max. Permissible Output Torque
	Type No.	Model	Reduction Ratio	Power	(rpm)	(N.m)	(N.m)	(N)	(N)	($x10^{-4}$ $kg.m^2$)	(N.m)	(N.m)
1/15	52	ZDR	15	-50	200	1.67	5.00	784	392	0.035	4.02	12.2
	52	ZDR	15	-100	200	3.72	11.4	784	392	0.035	4.02	12.2
	78	ZDR	15	-200	200	6.27	18.8	1470	735	0.300	16.2	48.6
	78	ZDR	15	-400	200	15.8	47.5	1470	735	0.300	16.2	48.6
	98	ZDR	15	-750	200	30.4	91.2	1760	882	0.700	30.4	91.2
	125	ZDR	15	-1000	200	33.3	100	2350	1180	2.80	91.4	274
	125	ZDR	15	-1500	200	57.2	172	2350	1180	2.80	91.4	274
	125	ZDR	15	-2000	200	81.0	243	2350	1180	2.80	91.4	274
1/20	52	ZDR	20	-50	150	2.21	6.63	804	402	0.034	5.00	15.0
	52	ZDR	20	-100	150	5.00	15.0	804	402	0.034	5.00	15.0
	78	ZDR	20	-200	150	8.69	26.1	1570	785	0.294	21.1	63.3
	78	ZDR	20	-400	150	21.1	63.3	1570	785	0.294	21.1	63.3
	98	ZDR	20	-750	150	40.6	122	1910	955	0.690	40.6	122
	125	ZDR	20	-1000	150	44.5	134	2500	1250	2.72	78.4	235
1/25	52	ZDR	25	-50	120	2.74	8.33	882	441	0.0325	4.02	12.2
	52	ZDR	25	-100	120	6.27	19.0	882	441	0.0325	6.27	19.0
	78	ZDR	25	-200	120	11.1	33.3	1670	833	0.288	21.7	64.9
	78	ZDR	25	-400	120	26.4	79.2	1670	833	0.288	26.4	79.2
	98	ZDR	25	-750	120	50.7	152	2060	1030	0.680	50.7	152
	125	ZDR	25	-1000	120	55.7	167	2650	1320	2.710	65.4	196
1/35	52	ZDR	35	-50	85	3.84	11.5	882	441	0.030	3.84	11.5
	78	ZDR	35	-100	85	7.24	21.7	1670	833	0.065	13.9	41.7
	78	ZDR	35	-200	85	15.5	46.6	1670	833	0.262	15.5	46.6
	98	ZDR	35	-400	85	37.0	111	2060	1030	0.269	37.0	111
	125	ZDR	35	-750	85	71.0	213	3430	1715	0.473	71.0	213
1/45	78	ZDR	45	-50	66	3.86	11.6	1670	833	0.0285	9.50	28.6
	78	ZDR	45	-100	66	9.31	28.0	1670	833	0.0285	9.50	28.6
	98	ZDR	45	-200	66	21.1	63.5	2060	1030	0.0256	28.3	85.2
	125	ZDR	45	-400	66	47.5	142.5	3520	1760	0.245	57.0	171
	125	ZDR	45	-750	66	91.3	274	3520	1760	1.770	91.3	274
1/81	78	ZDR	81	-50	37	7.02	20.8	1670	833	0.027	9.70	29.2
	98	ZDR	81	-100	37	14.0	42.0	2060	1030	0.030	17.8	53.5
	125	ZDR	81	-200	37	36.1	108.3	3530	1765	0.240	43.3	129.9

Note1) The moment of input shaft conversion is only gained from the reducer, so it does not include moment of inertia of the motor.
Note2) The max. input speed is 5000rpm. Usually set to 3000rpm or less.
Note3) The permissble radial load is indicated on the center of the output shaft.
Note4) All values are within the range corresponding to helical gear.

ZDR PERFORMANCE TABLE (WHEN INPUT SPEED IS 2000RPM)

Performance Table

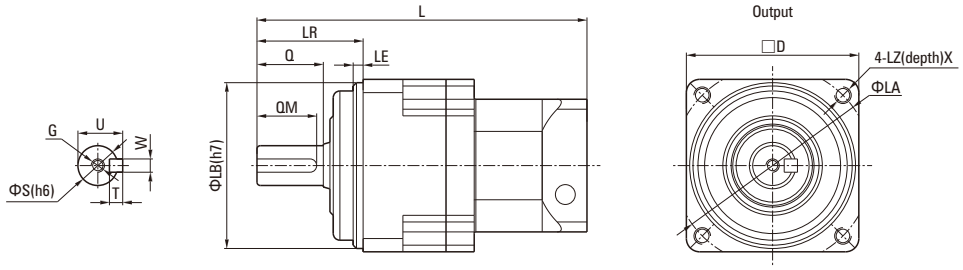
The same specification applies to all of standard type, P1(low backlash), and P2(high precision type).

Reduction Ratio	Model				Outout Shaft Speed	Standard Output Torque	Instantaneous Max.Output Torque	Permissible Radial Load	Permissible Axial Load	Internal Moment Ofinertia Of Input Shaftconversion	Permissible Output Torque	Instantaneous Max. Permissible Output Torque
	Type No.	Model	Reduction Ratio	Power	(rpm)	(N.m)	(N.m)	(N)	(N)	($x10^{-4}$ kg.m^2)	(N.m)	(N.m)
1/3	52	ZDR	3	-50	666	0.477	1.43	450	225	0.0575	3.43	10.3
	52	ZDR	3	-100	666	1.05	3.15	450	225	0.135	3.43	10.3
	52	ZDR	3	-200	666	2.48	7.45	450	225	0.145	3.43	10.3
	78	ZDR	3	-400	666	5.01	15.0	900	450	0.913	6.86	20.6
	98	ZDR	3	-750	666	8.73	26.2	1010	505	2.43	18.3	54.9
	98	ZDR	3	-1000	666	12.3	37.1	1010	505	2.43	18.3	54.9
	98	ZDR	3	-1500	666	18.3	54.9	1010	505	2.43	18.3	54.9
	125	ZDR	3	-2000	666	23.7	71.2	1570	785	5.50	44.1	132
	125	ZDR	3	-2500	666	30.8	92.5	1570	785	5.50	44.1	132
	125	ZDR	3	-3000	666	37.7	113	1570	785	5.50	44.1	132
	125	ZDR	3	-3500	666	44.1	132	1570	785	5.78	44.1	132
1/5	52	ZDR	5	-50	400	0.795	2.39	560	280	0.040	1.57	4.70
	52	ZDR	5	-100	400	1.57	4.70	560	280	0.118	1.57	4.70
	78	ZDR	5	-200	400	3.82	11.5	1120	560	0.363	6.57	19.7
	78	ZDR	5	-400	400	8.35	25.1	1120	560	0.713	11.5	34.3
	98	ZDR	5	-750	400	15.5	46.5	1230	615	1.85	23.5	70.6
	98	ZDR	5	-1000	400	21.5	64.4	1230	615	1.85	23.5	70.6
	125	ZDR	5	-1500	400	27.8	83.5	1900	950	3.50	56.8	171
	125	ZDR	5	-2000	400	39.6	119	1900	950	3.48	56.8	171
	125	ZDR	5	-2500	400	51.4	154	1900	950	3.75	56.8	171
1/9	52	ZDR	9	-50	222	1.57	4.72	670	335	0.035	2.35	7.25
	78	ZDR	9	-100	222	2.35	7.04	1340	670	0.275	9.70	29.2
	78	ZDR	9	-200	222	6.64	19.9	1340	670	0.275	9.70	29.2
	98	ZDR	9	-400	222	14.0	41.9	1680	840	0.650	18.2	54.7
	125	ZDR	9	-750	222	23.6	70.9	2240	1120	2.81	73.5	221
	125	ZDR	9	-1000	222	34.3	103	2240	1120	2.81	73.5	221
	125	ZDR	9	-1500	222	53.7	161	2240	1120	2.81	73.5	221
	125	ZDR	9	-2000	222	73.0	219	2240	1120	2.77	73.5	221
1/15	52	ZDR	15	-50	133	2.62	7.87	882	441	0.035	4.02	12.2
	78	ZDR	15	-100	133	3.91	11.7	1670	833	0.300	16.2	48.6
	78	ZDR	15	-200	133	11.1	33.2	1670	833	0.300	16.2	48.6
	98	ZDR	15	-400	133	23.3	69.8	2020	1010	0.700	30.4	91.2
	125	ZDR	15	-750	133	39.4	118	2650	1320	2.80	91.4	274
	125	ZDR	15	-1000	133	57.2	172	2650	1320	2.80	91.4	274
	125	ZDR	15	-1500	133	91.3	274	2650	1320	2.80	91.4	274
1/20	52	ZDR	20	-50	100	3.50	10.5	910	455	0.034	5.00	15.0
	78	ZDR	20	-100	100	5.73	17.2	1790	895	0.294	21.1	63.3
	78	ZDR	20	-200	100	14.8	44.4	1790	895	0.294	21.1	63.3
	98	ZDR	20	-400	100	31.0	93.1	2180	1090	0.294	40.6	122
1/25	52	ZDR	25	-50	80.0	4.37	13.1	882	441	0.0325	6.27	19.0
	78	ZDR	25	-100	80.0	7.16	21.5	1670	833	0.288	21.7	64.9
	78	ZDR	25	-200	80.0	18.5	55.4	1670	833	0.288	21.7	64.9
	98	ZDR	25	-400	80.0	38.8	116	2060	1030	0.680	50.7	152
	125	ZDR	25	-750	80.0	65.4	196	2650	1320	1.88	65.4	196
1/35	78	ZDR	35	-50	57.0	4.43	13.3	1900	950	0.262	15.5	46.6
	78	ZDR	35	-100	57.0	12.7	38.1	1900	950	0.262	15.5	46.6
	98	ZDR	35	-200	57.0	22.0	66.0	2340	1170	0.269	37.0	111
1/45	78	ZDR	45	-50	44.4	5.80	17.4	1670	833	0.0285	9.50	28.6
	98	ZDR	45	-100	44.4	14.0	42.1	2060	1030	0.0285	28.3	85.2
	98	ZDR	45	-200	44.4	28.3	85.2	2060	1030	0.0285	28.3	85.2
1/81	78	ZDR	81	-50	24.6	9.70	29.2	1670	833	0.0270	9.70	29.2
	98	ZDR	81	-100	24.6	17.8	53.5	2060	1030	0.0300	17.8	53.5

Note1) The moment of input shaft conversion is only gained from the reducer, so it does not include moment of inertia of the motor.
Note2) The permissble radial load is indicated on the center of the output shaft.
Note3) All values are within the range corresponding to helical gear.

DIMENSIONAL TABLE FOR ZDR CONCENTRIC SHAFT REDUCER

Dimensions



Dimensional Table

Type				Total Length L			Output Shaft							Flange					
Type No.	Model	Reduction Ratio	Power	Panasonic-made MSMA	Yaskawa-made SGMASH SGMSH	Mitsubishi-made HC-KFS HC-RFS	LR	S	Q	QM	G	W×U	T	D	LB	LE	LA	LZ	X
52	ZDR	3·5·9	50	99.5			32	12	20	18	M4(depth)12	4×13.5	4	52	50	3	60	M5	12
52	ZDR	15·20·25·35	50	110															
52	ZDR	3·5·9	100	99.5															
52	ZDR	15·20·25	100	110															
52	ZDR	3·5	200	104.5															
52	ZDR	3	400																
78	ZDR	45·81	50	142			50	19	30	26	M5(depth)15	6×21.5	6	80	70	3	90	M6	20
78	ZDR	35	100	150															
78	ZDR	45	100	142															
78	ZDR	9	200	139.5															
78	ZDR	15·20·25·35	200	150															
78	ZDR	5·9	400	139.5															
78	ZDR	15·20·25	400	150															
78	ZDR	3·5	750	143.5															
98	ZDR	81	100	158			61	24	40	35	M6(depth)20	8×27	7	100	90	5	115	M8	20
98	ZDR	45	200	165															
98	ZDR	35	400																
98	ZDR	9	750	158.5															
98	ZDR	15·20·25	750	171															
98	ZDR	3.5	1000	177															
98	ZDR	3.5	1500																
98	ZDR	3	2000																
125	ZDR	81	200	210			75	32	55	52	M10(depth)20	10×35	8	125	110	5	135	M10	20
125	ZDR	45	400																
125	ZDR	35	750																
125	ZDR	45	750	235															
125	ZDR	9	1000	215															
125	ZDR	15·25	1000	235															
125	ZDR	9	1500	215															
125	ZDR	15	1500	235															
125	ZDR	5·9	2000	215															
125	ZDR	15	2000	235															
125	ZDR	3·5·9	2500	215	-	-													
125	ZDR	3·5·9	3000	215	225	-													
125	ZDR	3.5	3500	215	-	225													
125	ZDR	3.5	4000	225	225	-													
125	ZDR	3	4500	225	-	-													
125	ZDR	3	5000	225															

Note1) Please inquire to us if motor model isn't standard (Matching motor list). (The flange dimension may be different if motor is different.)
Note2) Rotation of the output shaft is in the same direction as that of motor input.
Note3) All values are within the range corresponding to helical gear.

50W DIMENSIONAL DRAWING & PERFORMANCE TABLE

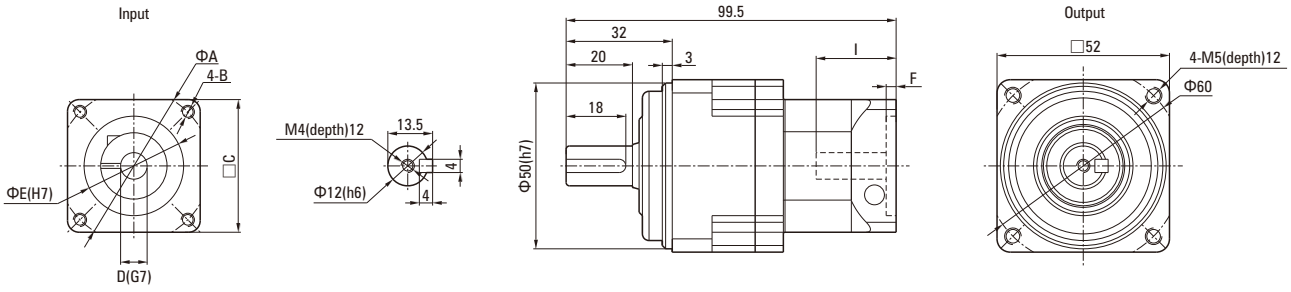
Performance Table (When Input Speed Is 3000rpm)

Rated Input Motor	Reduction Ratio	Model				Outout Shaft Speed	Standard Output Torque	Instantaneous Max.Output Torque	Permissible Radial Load	Permissible Axial Load	Internal Moment Ofinertia Of Input Shaftconversion	Permissible Output Torque	Instantaneous Max. Permissible Output Torque
		Type No.	Model	Reduction Ratio	Power	(rpm)	(N.m)	(N.m)	(N)	(N)	($x10^{-4}$ kg.m^2)	(N.m)	(N.m)
50W	1/3	52	ZDR	3	50	1000	0.255	0.784	392	196	0.0575	3.43	10.3
	1/5	52	ZDR	5	50	600	0.510	1.47	490	245	0.0400	1.57	4.70
	1/9	52	ZDR	9	50	333	0.921	2.74	588	294	0.0350	2.35	7.25
	1/15	52	ZDR	15	50	200	1.67	5.00	784	392	0.0350	4.02	12.2
	1/20	52	ZDR	20	50	150	2.21	6.63	804	402	0.0340	5.00	15.0
	1/25	52	ZDR	25	50	120	2.74	8.33	882	441	0.0325	4.02	12.2
	1/35	52	ZDR	35	50	85	3.84	11.5	882	441	0.0300	3.84	11.5
	1/45	78	ZDR	45	50	66	3.86	11.6	1670	833	0.0285	9.50	28.6
	1/81	78	ZDR	81	50	37	7.02	20.8	1670	833	0.0270	9.70	29.2

Note1) In case of attachment to a motor beyond the standard models(motor matching series), contact us. (How to measure dimensions of the flange may be changed in some cases.)
Note2) The moment of inertia of input shaft conversion is only gained from the reducer, so it does not include moment of inertia of the motor.
Note3) The max. input speed is 5000rpm, and usually set to 3000rpm or less.
Note4) The permissible radial load is indicated on the center of the output shaft.
Note5) All values are within the range corresponding to helical gear.
Note6) For motor assembly procedure, see page 31.
Note7) Rotation of the output shaft is in the same direction as motor.

Dimensions

● 52ZDR3·5·9-50



● Detailed Flange Dimensions Table

Unit:mm

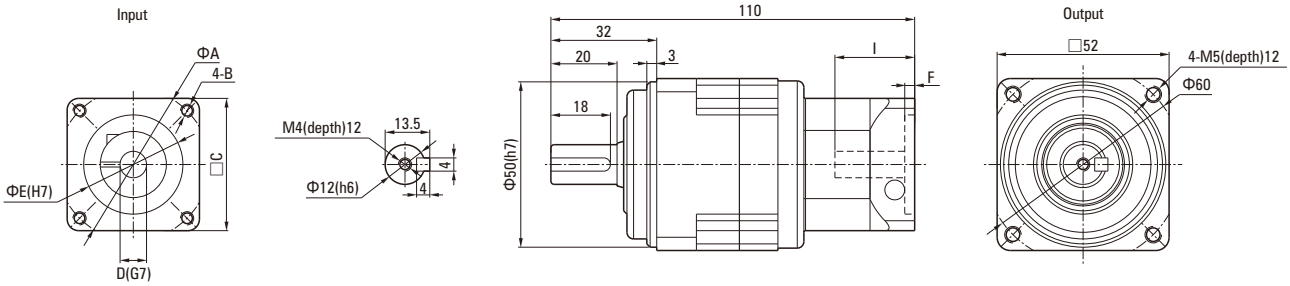
Motor Type	A	B	C	D	E	F	I
T1	45	M3(depth)6.5	40	8	30	4	26
T2	46	M4(depth)6.5	40	6	30	4	26
T3	46	M4(depth)6.5	40	8	30	4	26

- Rough weight 0.55kg
- For details of T1～3, see page 33

50W DIMENSIONAL DRAWING & PERFORMANCE TABLE

Dimensions

● 52ZDR15·20·25·35·50



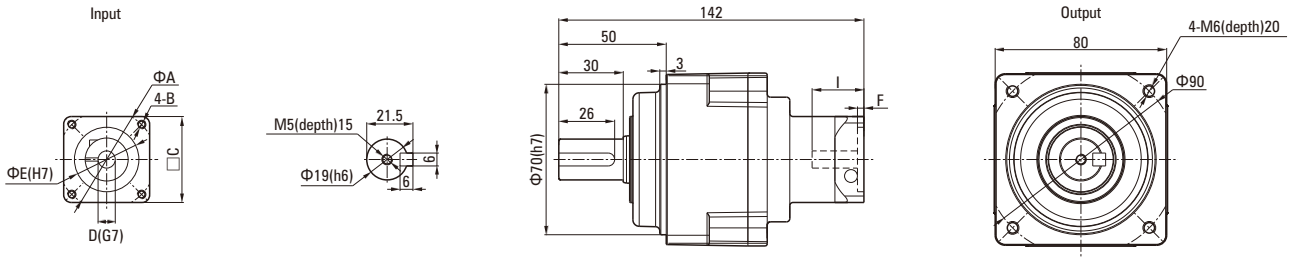
● Detailed Flange Dimensions Table

Unit:mm

Motor Type	A	B	C	D	E	F	I
T1	45	M3(depth)6.5	40	8	30	4	26
T2	46	M4(depth)6.5	40	6	30	4	26
T3	46	M4(depth)6.5	40	8	30	4	26

- Rough weight 0.7kg
- For details of T1～3, see page 33

● 78ZDR45·81-50



● Detailed Flange Dimensions Table

Unit:mm

Motor Type	A	B	C	D	E	F	I
T1	45	M3(depth)6.5	40	8	30	4	26
T2	46	M4(depth)6.5	40	6	30	4	26
T3	46	M4(depth)6.5	40	8	30	4	26

- Rough weight 1.7kg
- For details of T1～3, see page 33

100W DIMENSIONAL DRAWING & PERFORMANCE TABLE

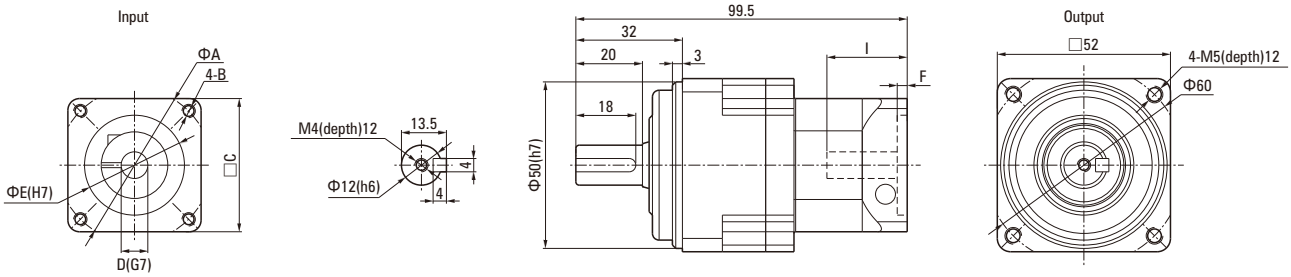
Performance Table (When Input Speed Is 3000rpm)

Rated Input Motor	Reduction Ratio	Model				Outout Shaft Speed	Standard Output Torque	Instantaneous Max.Output Torque	Permissible Radial Load	Permissible Axial Load	Internal Moment Ofinertia Of Input Shaftconversion	Permissible Output Torque	Instantaneous Max. Permissible Output Torque
		Type No.	Model	Reduction Ratio	Power	(rpm)	(N.m)	(N.m)	(N)	(N)	($x10^{-4}$ kg.m^2)	(N.m)	(N.m)
100W	1/3	52	ZDR	3	100	1000	0.715	2.06	392	196	0.0575	3.43	10.3
	1/5	52	ZDR	5	100	600	1.18	3.72	490	245	0.0400	1.57	4.70
	1/9	52	ZDR	9	100	333	2.25	6.86	588	294	0.0350	2.35	7.25
	1/15	52	ZDR	15	100	200	3.72	11.4	784	392	0.0350	4.02	12.2
	1/20	52	ZDR	20	100	150	5.00	15.0	804	402	0.0340	5.00	15.0
	1/25	52	ZDR	25	100	120	6.27	19.0	882	441	0.0325	6.27	19.0
	1/35	78	ZDR	35	100	85	7.24	21.7	1670	833	0.0650	13.9	41.7
	1/45	78	ZDR	45	100	66	9.31	28.0	1670	833	0.0285	9.50	28.6
	1/81	98	ZDR	81	100	37	14.0	42.0	2060	1030	0.0300	17.8	53.5

Note1) In case of attachment to a motor beyond the standard models(motor matching series), contact us. (How to measure dimensions of the flange may be changed in some cases.)
Note2) The moment of inertia of input shaft conversion is only gained from the reducer, so it does not include moment of inertia of the motor.
Note3) The max. input speed is 5000rpm, and usually set to 3000rpm or less.
Note4) The permissible radial load is indicated on the center of the output shaft.
Note5) All values are within the range corresponding to helical gear.
Note6) For motor assembly procedure, see page 31.
Note7) Rotation of the output shaft is in the same direction as motor.

Dimensions

● 52ZDR3·5·9-100



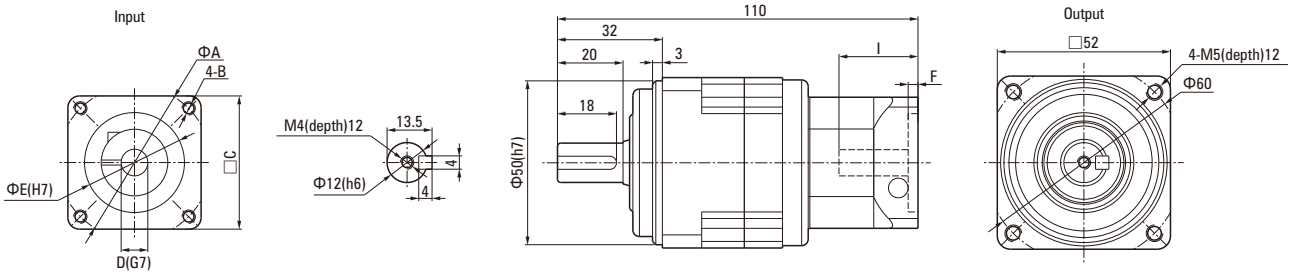
● Detailed Flange Dimensions Table

Unit:mm

Motor Type	A	B	C	D	E	F	I
T1	45	M3(depth)6.5	40	8	30	4	26
T2	46	M4(depth)6.5	40	8	30	4	26
T3	46	M4(depth)6.5	40	8	30	4	26

- Rough weight 0.55kg
- For details of T1~3, see page 33

● 52ZDR15·20·25-100



● Detailed Flange Dimensions Table

Unit:mm

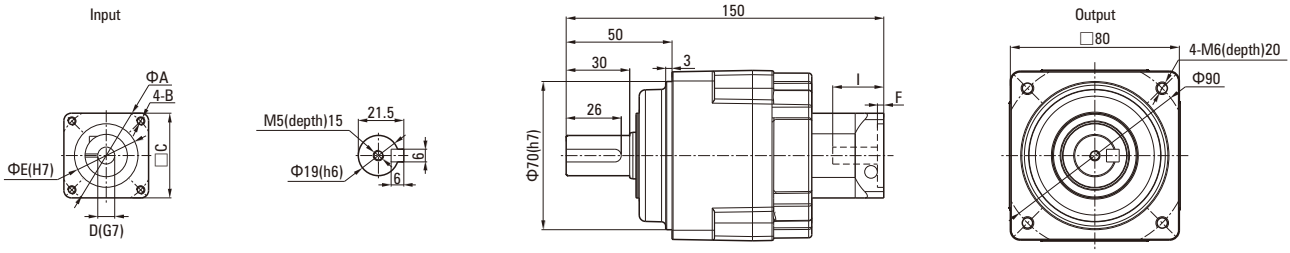
Motor Type	A	B	C	D	E	F	I
T1	45	M3(depth)6.5	40	8	30	4	26
T2	46	M4(depth)6.5	40	8	30	4	26
T3	46	M4(depth)6.5	40	8	30	4	26

- Rough weight 0.7kg
- For details of T1~3, see page 33

100W DIMENSIONAL DRAWING & PERFORMANCE TABLE

Dimensions

● 78ZDR35-100



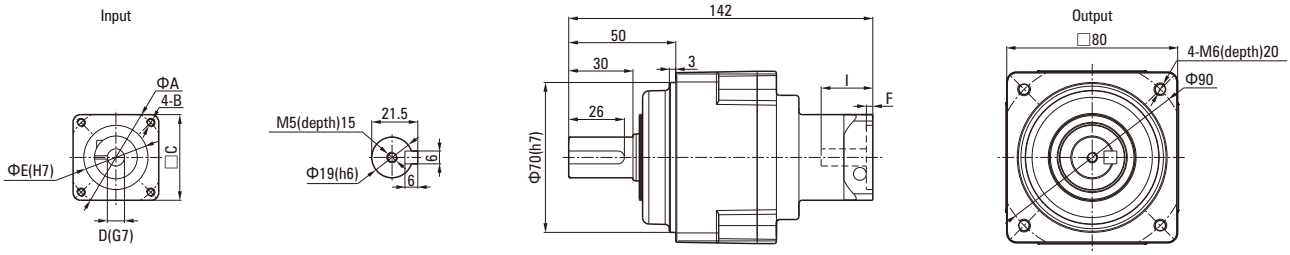
● Detailed Flange Dimensions Table

Unit:mm

Motor Type	A	B	C	D	E	F	I
T1	45	M3(depth)6.5	40	8	30	4	26
T2	46	M4(depth)6.5	40	8	30	4	26
T3	46	M4(depth)6.5	40	8	30	4	26

- Rough weight 2.0kg
- For details of T1～3, see page 33

● 78ZDR45-100



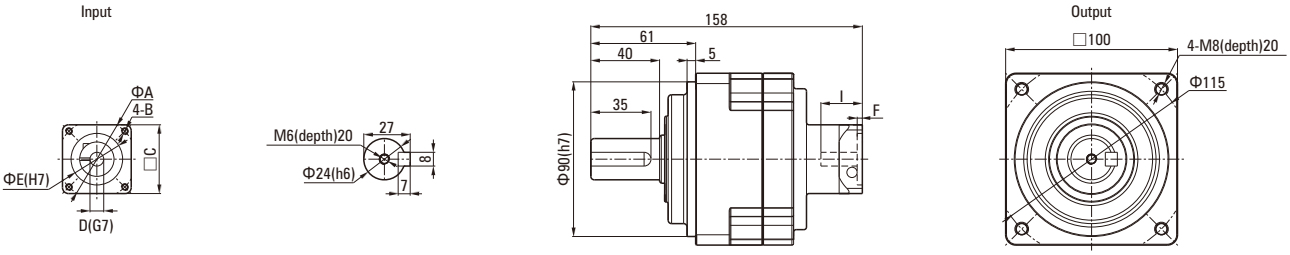
● Detailed Flange Dimensions Table

Unit:mm

Motor Type	A	B	C	D	E	F	I
T1	45	M3(depth)6.5	40	8	30	4	26
T2	46	M4(depth)6.5	40	8	30	4	26
T3	46	M4(depth)6.5	40	8	30	4	26

- Rough weight 1.7kg
- For details of T1～3, see page 33

● 98ZDR81-100



● Detailed Flange Dimensions Table

Unit:mm

Motor Type	A	B	C	D	E	F	I
T1	45	M3(depth)6.5	40	8	30	4	26
T2	46	M4(depth)6.5	40	8	30	4	26
T3	46	M4(depth)6.5	40	8	30	4	26

- Rough weight 3.0kg
- For details of T1～3, see page 33

200W DIMENSIONAL DRAWING & PERFORMANCE TABLE

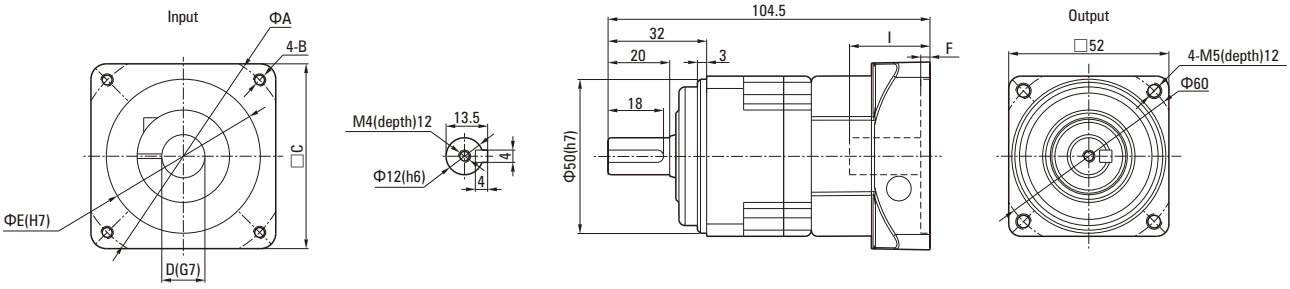
Performance Table (When Input Speed Is 3000rpm)

Rated Input Motor	Reduction Ratio	Model				Outout Shaft Speed	Standard Output Torque	Instantaneous Max.Output Torque	Permissible Radial Load	Permissible Axial Load	Internal Moment Ofinertia Of Input Shaftconversion	Permissible Output Torque	Instantaneous Max. Permissible Output Torque
		Type No.	Model	Reduction Ratio	Power	(rpm)	(N.m)	(N.m)	(N)	(N)	($x10^{-4}$ kg.m^2)	(N.m)	(N.m)
200W	1/3	52	ZDR	3	200	1000	1.47	4.51	392	196	0.135	3.43	10.3
	1/5	52	ZDR	5	200	600	2.65	8.04	490	245	0.118	2.84	8.53
	1/9	78	ZDR	9	200	333	3.72	11.3	1180	588	0.275	9.70	29.2
	1/15	78	ZDR	15	200	200	6.27	18.8	1470	735	0.300	16.2	48.6
	1/20	78	ZDR	20	200	150	8.69	26.1	1570	785	0.294	21.1	63.3
	1/25	78	ZDR	25	200	120	11.1	33.3	1670	833	0.288	21.7	64.9
	1/35	78	ZDR	35	200	85	15.5	46.6	1670	833	0.262	15.5	46.6
	1/45	98	ZDR	45	200	66	21.1	63.5	2060	1030	0.0256	28.3	85.2
	1/81	125	ZDR	81	200	37	36.1	108.3	3530	1765	0.240	43.3	129.9

Note1) In case of attachment to a motor beyond the standard models(motor matching series), contact us. (How to measure dimensions of the flange may be changed in some cases.)
Note2) The moment of inertia of input shaft conversion is only gained from the reducer, so it does not include moment of inertia of the motor.
Note3) The max. input speed is 5000rpm, and usually set to 3000rpm or less.
Note4) The permissible radial load is indicated on the center of the output shaft.
Note5) All values are within the range corresponding to helical gear.
Note6) For motor assembly procedure, see page 31.
Note7) Rotation of the output shaft is in the same direction as motor.

Dimensions

52ZDR3·5-200



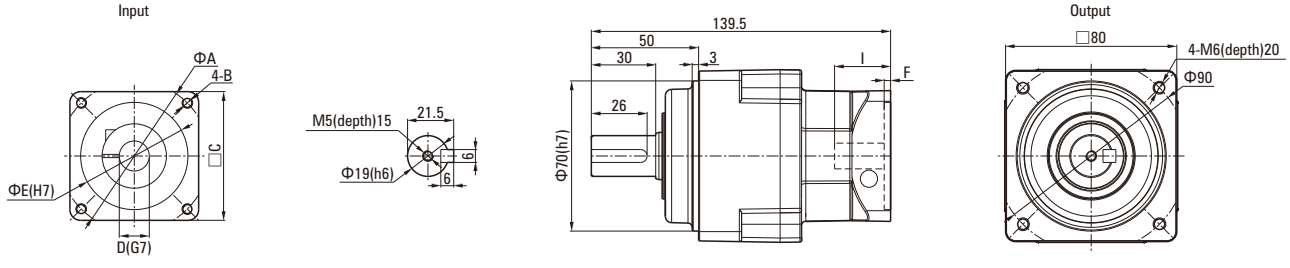
● Detailed Flange Dimensions Table

Unit:mm

Motor Type	A	B	C	D	E	F	I
T1	70	M4(depth)10	60	11	50	4	30
T2	70	M5(depth)10	60	14	50	4	30
T3	70	M5(depth)10	60	14	50	4	30

- Rough weight 0.72kg
- For details of T1~3, see page 33

78ZDR9-200



● Detailed Flange Dimensions Table

Unit:mm

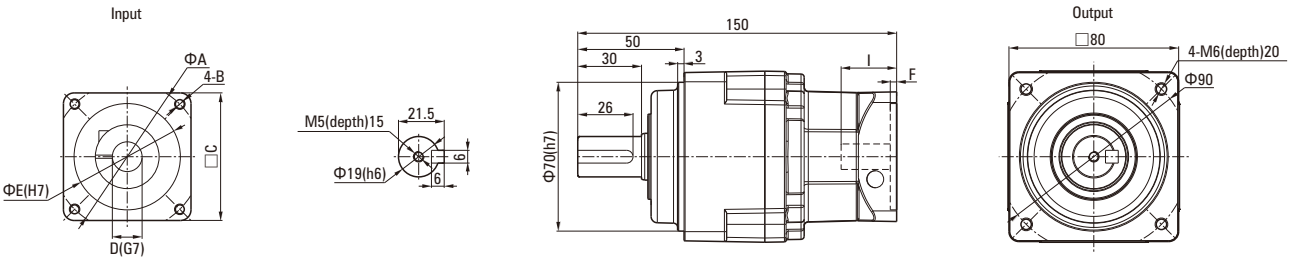
Motor Type	A	B	C	D	E	F	I
T1	70	M4(depth)10	60	11	50	4	30
T2	70	M5(depth)10	60	14	50	4	30
T3	70	M5(depth)10	60	14	50	4	30

- Rough weight 1.7kg
- For details of T1~3, see page 33

200W DIMENSIONAL DRAWING & PERFORMANCE TABLE

Dimensions

● 78ZDR15·20·25·35-200



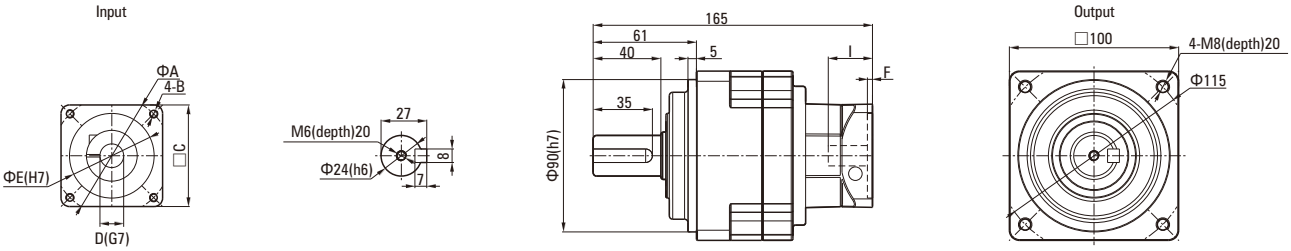
● Detailed Flange Dimensions Table

Unit:mm

Motor Type	A	B	C	D	E	F	I
T1	70	M4(depth)10	60	11	50	4	30
T2	70	M5(depth)10	60	14	50	4	30
T3	70	M5(depth)10	60	14	50	4	30

- Rough weight 2.1kg
- For details of T1～3, see page 33

● 98ZDR45-200



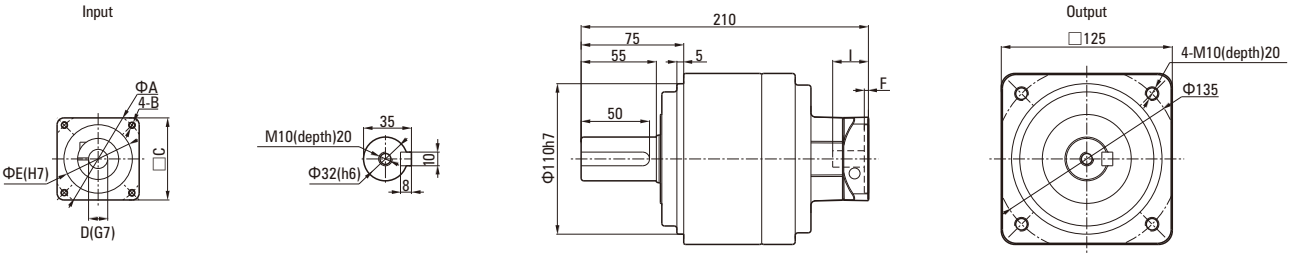
● Detailed Flange Dimensions Table

Unit:mm

Motor Type	A	B	C	D	E	F	I
T1	70	M4(depth)10	60	11	50	4	30
T2	70	M5(depth)10	60	14	50	4	30
T3	70	M5(depth)10	60	14	50	4	30

- Rough weight 3.2kg
- For details of T1～3, see page 33

● 125ZDR81-200



● Detailed Flange Dimensions Table

Unit:mm

Motor Type	A	B	C	D	E	F	I
T1	70	M4(depth)10	60	11	50	4	30
T2	70	M5(depth)10	60	14	50	4	30
T3	70	M5(depth)10	60	14	50	4	30

- Rough weight 3.0kg
- For details of T1～3, see page 33

400W DIMENSIONAL DRAWING & PERFORMANCE TABLE

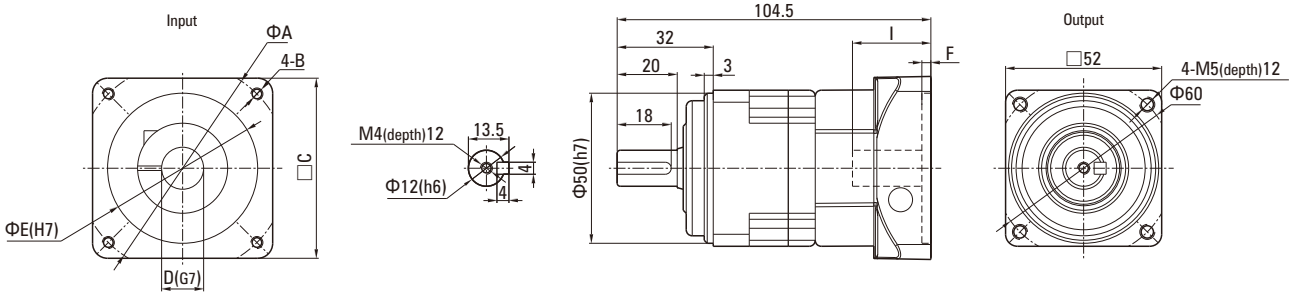
Performance Table (When Input Speed Is 3000rpm)

Rated Input Motor	Reduction Ratio	Model				Outout Shaft Speed	Standard Output Torque	Instantaneous Max.Output Torque	Permissible Radial Load	Permissible Axial Load	Internal Moment Ofinertia Of Input Shaftconversion	Permissible Output Torque	Instantaneous Max. Permissible Output Torque
		Type No.	Model	Reduction Ratio	Power	(rpm)	(N.m)	(N.m)	(N)	(N)	($x10^{-4}$ kg.m^2)	(N.m)	(N.m)
400W	1/3	52	ZDR	3	400	1000	3.43	10.3	392	196	0.145	3.43	10.3
	1/5	78	ZDR	5	400	600	5.39	16.2	980	490	0.363	6.57	19.7
	1/9	78	ZDR	9	400	333	9.51	28.5	1180	588	0.275	9.70	29.2
	1/15	78	ZDR	15	400	200	15.8	47.5	1470	735	0.300	16.2	48.6
	1/20	78	ZDR	20	400	150	21.1	63.3	1570	785	0.294	21.1	63.3
	1/25	78	ZDR	25	400	120	26.4	79.2	1670	833	0.288	26.4	79.2
	1/35	98	ZDR	35	400	85	37.0	111	2060	1030	0.269	37.0	111
	1/45	125	ZDR	45	400	66	47.5	142.5	3520	1760	0.245	57	171

Note1) In case of attachment to a motor beyond the standard models(motor matching series), contact us. (How to measure dimensions of the flange may be changed in some cases.)
Note2) The moment of inertia of input shaft conversion is only gained from the reducer, so it does not include moment of inertia of the motor.
Note3) The max. input speed is 5000rpm, and usually set to 3000rpm or less.
Note4) The permissible radial load is indicated on the center of the output shaft.
Note5) All values are within the range corresponding to helical gear.
Note6) For motor assembly procedure, see page 31.
Note7) Rotation of the output shaft is in the same direction as motor.

Dimensions

52ZDR3-400



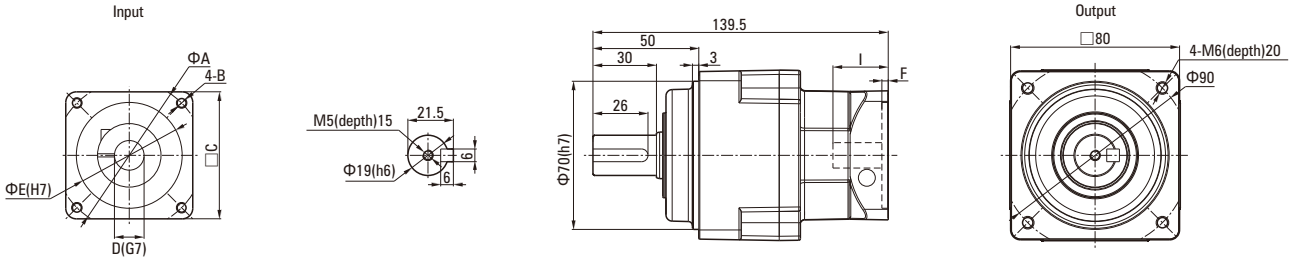
● Detailed Flange Dimensions Table

Unit:mm

Motor Type	A	B	C	D	E	F	I
T1	70	M4(depth)10	60	14	50	4	30
T2	70	M5(depth)10	60	14	50	4	30
T3	70	M5(depth)10	60	14	50	4	30

- Rough weight 0.71kg
- For details of T1~3, see page 33

78ZDR5·9-400



● Detailed Flange Dimensions Table

Unit:mm

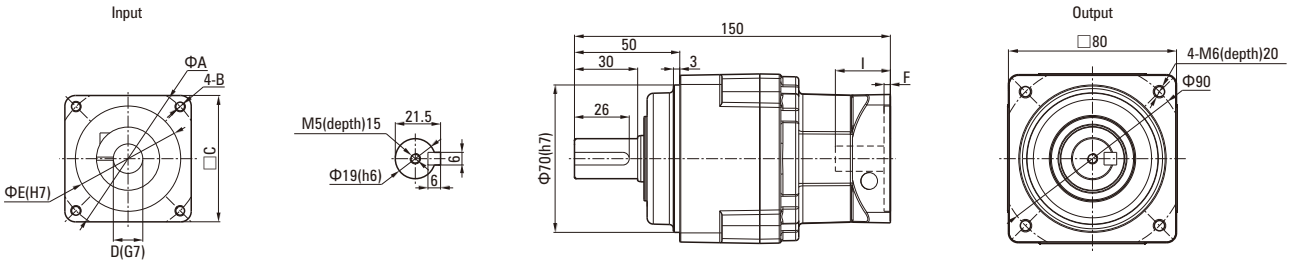
Motor Type	A	B	C	D	E	F	I
T1	70	M4(depth)10	60	14	50	4	30
T2	70	M5(depth)10	60	14	50	4	30
T3	70	M5(depth)10	60	14	50	4	30

- Rough weight 1.7kg
- For details of T1~3, see page 33

400W DIMENSIONAL DRAWING & PERFORMANCE TABLE

Dimensions

● 78ZDR15·20·25-400



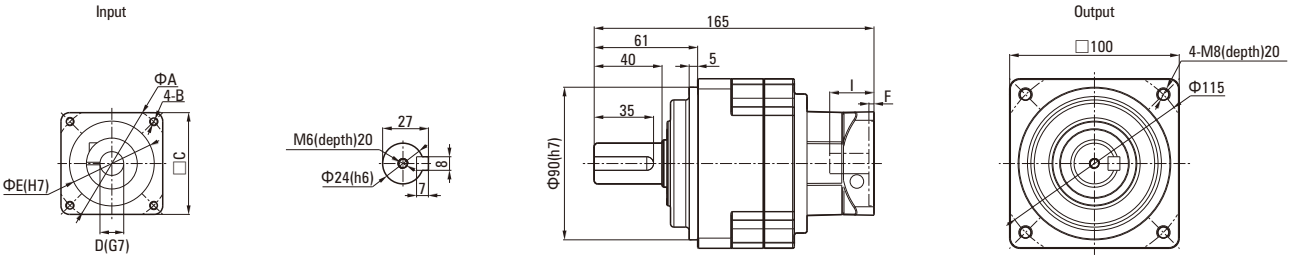
● Detailed Flange Dimensions Table

Unit:mm

Motor Type	A	B	C	D	E	F	I
T1	70	M4(depth)10	60	14	50	4	30
T2	70	M5(depth)10	60	14	50	4	30
T3	70	M5(depth)10	60	14	50	4	30

- Rough weight 2.1kg
- For details of T1～3, see page 33

● 98ZDR35-400



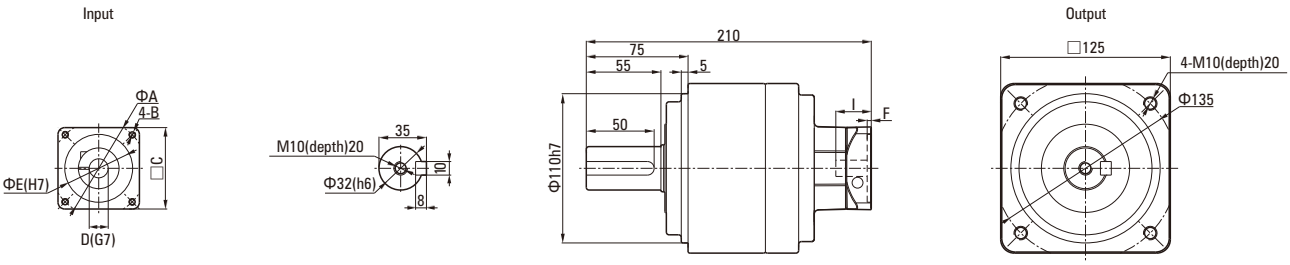
● Detailed Flange Dimensions Table

Unit:mm

Motor Type	A	B	C	D	E	F	I
T1	70	M4(depth)10	60	14	50	4	30
T2	70	M5(depth)10	60	14	50	4	30
T3	70	M5(depth)10	60	14	50	4	30

- Rough weight 3.2kg
- For details of T1～3, see page 33

● 125ZDR45-400



● Detailed Flange Dimensions Table

Unit:mm

Motor Type	A	B	C	D	E	F	I
T1	70	M4(depth)10	60	14	50	4	30
T2	70	M5(depth)10	60	14	50	4	30
T3	70	M5(depth)10	60	14	50	4	30

- Rough weight 7.2kg
- For details of T1～3, see page 33

750W DIMENSIONAL DRAWING & PERFORMANCE TABLE

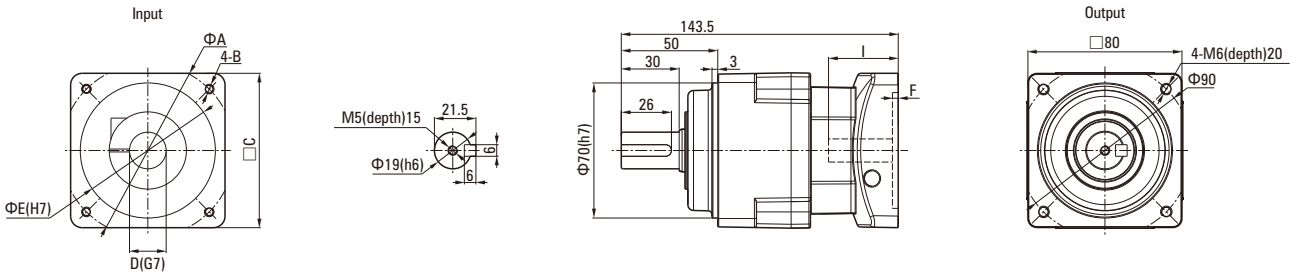
Performance Table (When Input Speed Is 3000rpm)

Rated Input Motor	Reduction Ratio	Model				Outout Shaft Speed	Standard Output Torque	Instantaneous Max.Output Torque	Permissible Radial Load	Permissible Axial Load	Internal Moment Ofinertia Of Input Shaftconversion	Permissible Output Torque	Instantaneous Max. Permissible Output Torque
		Type No.	Model	Reduction Ratio	Power	(rpm)	(N.m)	(N.m)	(N)	(N)	($x10^{-4}$ kg.m^2)	(N.m)	(N.m)
750W	1/3	78	ZDR	3	750	1000	6.37	19.3	784	392	0.913	6.86	20.6
	1/5	78	ZDR	5	750	600	10.7	32.1	980	490	0.713	11.5	34.3
	1/9	98	ZDR	9	750	333	18.2	54.7	1470	735	0.650	18.2	54.7
	1/15	98	ZDR	15	750	200	30.4	91.2	1760	882	0.700	30.4	91.2
	1/20	98	ZDR	20	750	150	40.6	122	1910	955	0.690	40.6	122
	1/25	98	ZDR	25	750	120	50.7	152	2060	1030	0.680	50.7	152
	1/35	125	ZDR	35	750	85	71.0	213	3430	1715	0.473	71.0	213
	1/45	125	ZDR	45	750	66	91.3	274	3520	1760	1.77	91.3	274

Note1) In case of attachment to a motor beyond the standard models(motor matching series), contact us. (How to measure dimensions of the flange may be changed in some cases.)
Note2) The moment of inertia of input shaft conversion is only gained from the reducer, so it does not include moment of inertia of the motor.
Note3) The max. input speed is 5000rpm, and usually set to 3000rpm or less.
Note4) The permissible radial load is indicated on the center of the output shaft.
Note5) All values are within the range corresponding to helical gear.
Note6) For motor assembly procedure, see page 31.
Note7) Rotation of the output shaft is in the same direction as motor.

Dimensions

78ZDR3·5-750



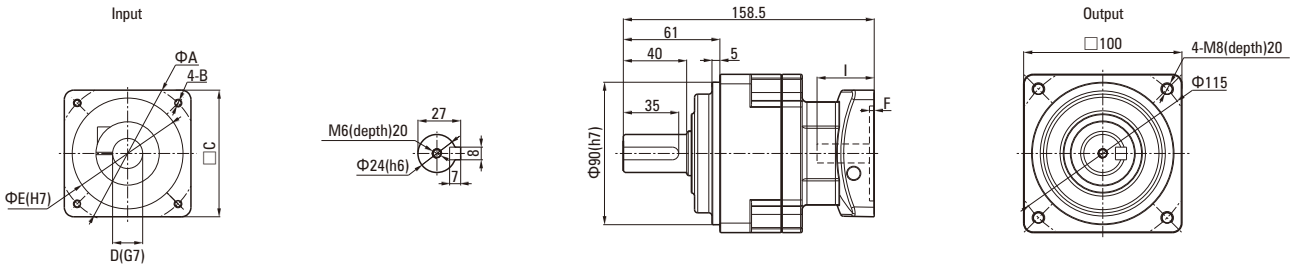
● Detailed Flange Dimensions Table

Unit:mm

Motor Type	A	B	C	D	E	F	I
T1	90	M5(depth)10	80	19	70	4	40
T2	90	M6(depth)10	80	16	70	4	40
T3	90	M6(depth)10	80	19	70	4	40

- Rough weight 2.1kg
- For details of T1~3, see page 33

98ZDR9-750



● Detailed Flange Dimensions Table

Unit:mm

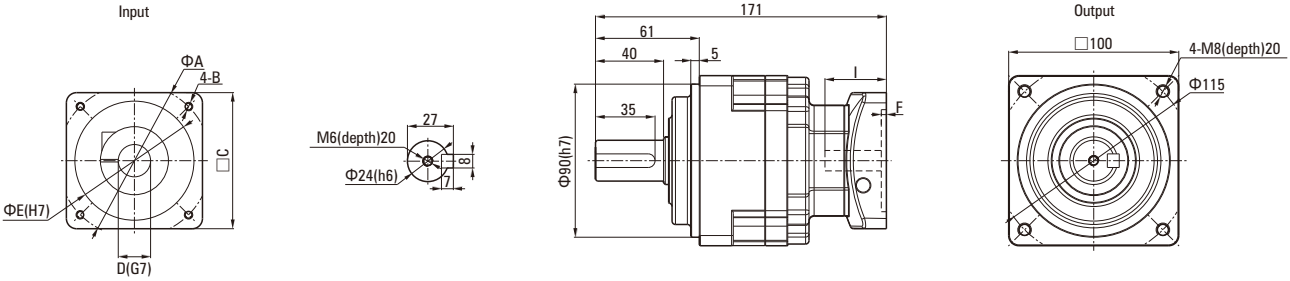
Motor Type	A	B	C	D	E	F	I
T1	90	M5(depth)10	80	19	70	4	40
T2	90	M6(depth)10	80	16	70	4	40
T3	90	M6(depth)10	80	19	70	4	40

- Rough weight 3.4kg
- For details of T1~3, see page 33

750W DIMENSIONAL DRAWING & PERFORMANCE TABLE

Dimensions

98ZDR15·20·25-750



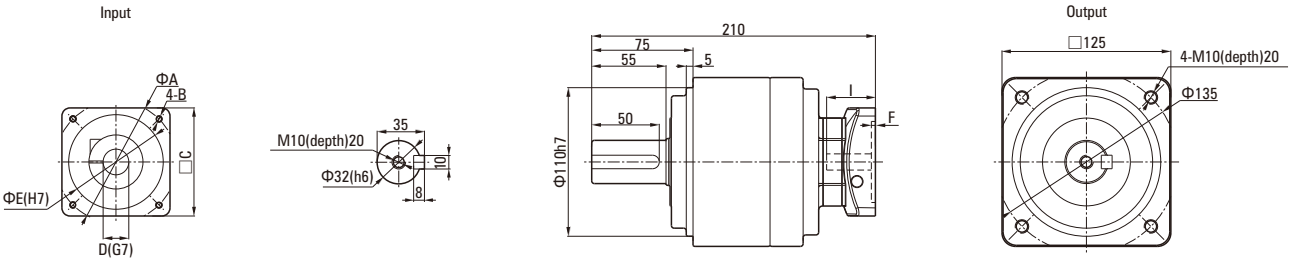
● Detailed Flange Dimensions Table

Unit:mm

Motor Type	A	B	C	D	E	F	I
T1	90	M5(depth)10	80	19	70	4	40
T2	90	M6(depth)10	80	16	70	4	40
T3	90	M6(depth)10	80	19	70	4	40

- Rough weight 3.8kg
- For details of T1～3, see page 33

125ZDR35-750



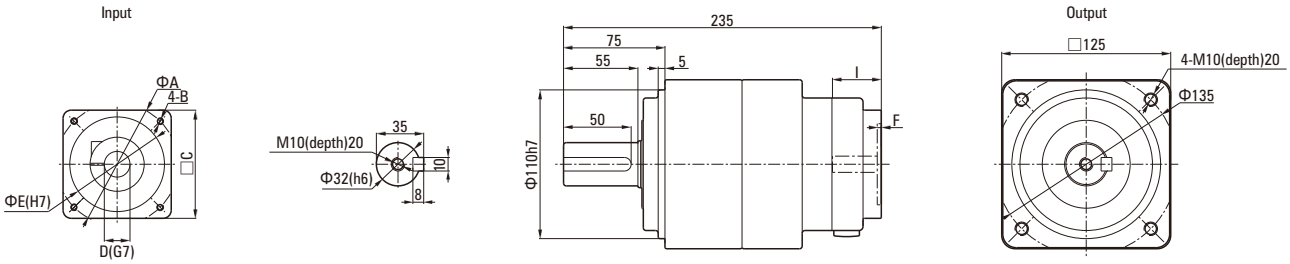
● Detailed Flange Dimensions Table

Unit:mm

Motor Type	A	B	C	D	E	F	I
T1	90	M5(depth)10	80	19	70	4	40
T2	90	M6(depth)10	80	16	70	4	40
T3	90	M6(depth)10	80	19	70	4	40

- Rough weight 7.2kg
- For details of T1～3, see page 33

125ZDR45-750



● Detailed Flange Dimensions Table

Unit:mm

Motor Type	A	B	C	D	E	F	I
T1	90	M5(depth)10	80	19	70	4	40
T2	90	M6(depth)10	80	16	70	4	40
T3	90	M6(depth)10	80	19	70	4	40

- Rough weight 12.0kg
- For details of T1～3, see page 33

1000W DIMENSIONAL DRAWING & PERFORMANCE TABLE

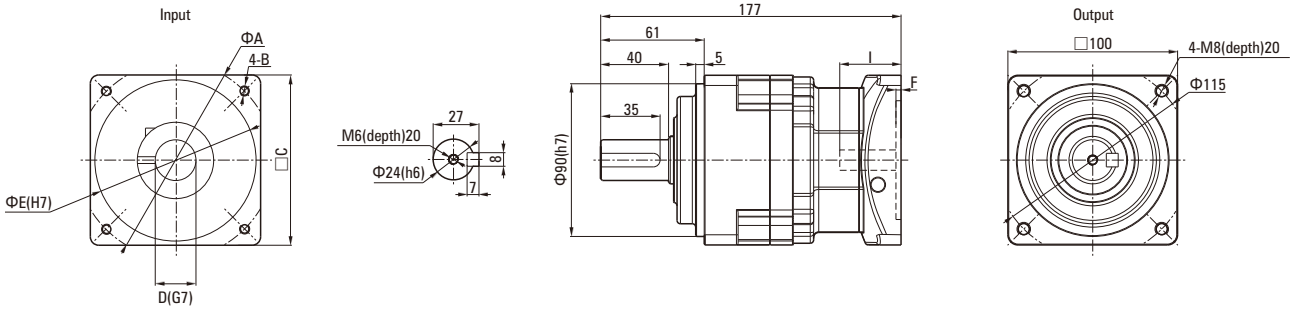
Performance Table (When Input Speed Is 3000rpm)

Rated Input Motor	Reduction Ratio	Model				Outout Shaft Speed	Standard Output Torque	Instantaneous Max.Output Torque	Permissible Radial Load	Permissible Axial Load	Internal Moment Ofinertia Of Input Shaftconversion	Permissible Output Torque	Instantaneous Max. Permissible Output Torque
		Type No.	Model	Reduction Ratio	Power	(rpm)	(N.m)	(N.m)	(N)	(N)	($x10^{-4}$ kg.m^2)	(N.m)	(N.m)
1000W	1/3	98	ZDR	3	1000	1000	7.55	22.8	882	441	2.43	18.3	54.9
	1/5	98	ZDR	5	1000	600	13.4	40.5	1080	539	1.85	23.5	70.6
	1/9	125	ZDR	9	1000	333	20.2	60.1	1960	980	2.81	73.5	221
	1/15	125	ZDR	15	1000	200	33.3	100	2350	1180	2.80	91.4	274
	1/20	125	ZDR	20	1000	150	44.5	134	2500	1250	2.72	78.4	235
	1/25	125	ZDR	25	1000	120	55.7	167	2650	1320	2.71	65.4	196

Note1) In case of attachment to a motor beyond the standard models(motor matching series), contact us. (How to measure dimensions of the flange may be changed in some cases.)
Note2) The moment of inertia of input shaft conversion is only gained from the reducer, so it does not include moment of inertia of the motor.
Note3) The max. input speed is 5000rpm, and usually set to 3000rpm or less.
Note4) The permissible radial load is indicated on the center of the output shaft.
Note5) All values are within the range corresponding to helical gear.
Note6) For motor assembly procedure, see page 31.
Note7) Rotation of the output shaft is in the same direction as motor.

Dimensions

● 98ZDR3·5-1000



● Detailed Flange Dimensions Table

Unit:mm

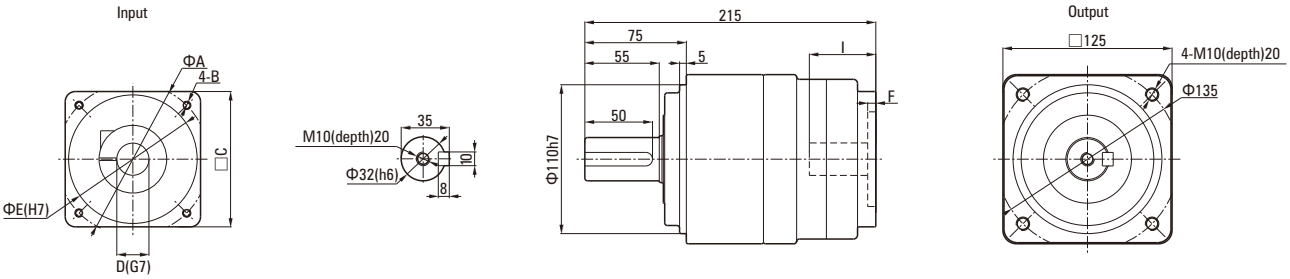
Motor Type	A	B	C	D	E	F	I
T1	100	M6(depth)15	90	19	80	4	55
T2	115	M6(depth)15	100	24	95	4	55
T3	115	M8(depth)15	100	24	95	4	55

- Rough weight 3.9kg
- For details of T1~3, see page 33

1000W DIMENSIONAL DRAWING & PERFORMANCE TABLE

Dimensions

● 125ZDR9-1000



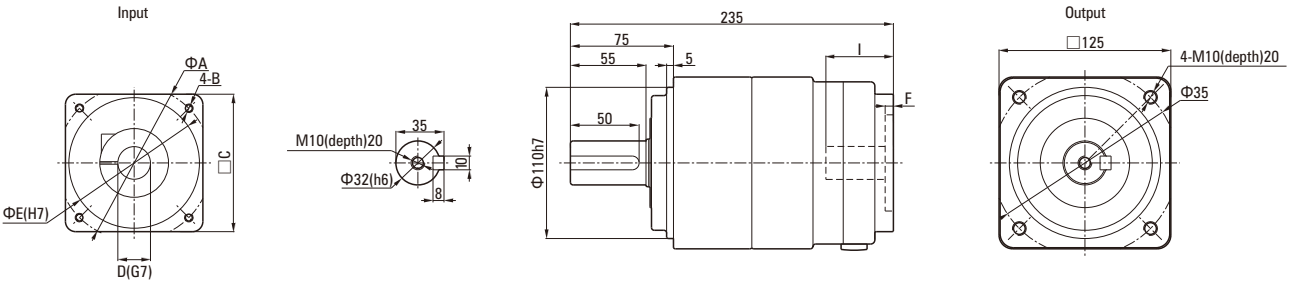
● Detailed Flange Dimensions Table

Unit:mm

Motor Type	A	B	C	D	E	F	I
T1	100	M6(depth)15	90	19	80	4	55
T2	115	M6(depth)15	100	24	95	4	55
T3	115	M8(depth)15	100	24	95	4	55

- Rough weight 11.0kg
- For details of T1～3, see page 33

● 125ZDR15·25-1000



● Detailed Flange Dimensions Table

Unit:mm

Motor Type	A	B	C	D	E	F	I
T1	100	M6(depth)15	90	19	80	4	55
T2	115	M6(depth)15	100	24	95	4	55
T3	115	M8(depth)15	100	24	95	4	55

- Rough weight 12.0kg
- For details of T1～3, see page 33

1500W DIMENSIONAL DRAWING & PERFORMANCE TABLE

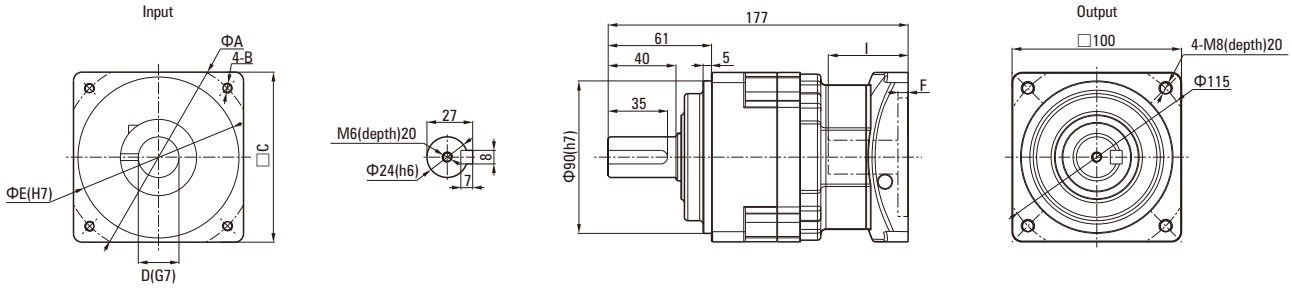
Performance Table (When Input Speed Is 3000rpm)

Rated Input Motor	Reduction Ratio	Model				Outout Shaft Speed	Standard Output Torque	Instantaneous Max.Output Torque	Permissible Radial Load	Permissible Axial Load	Internal Moment Ofinertia Of Input Shaftconversion	Permissible Output Torque	Instantaneous Max. Permissible Output Torque
		Type No.	Model	Reduction Ratio	Power	(rpm)	(N.m)	(N.m)	(N)	(N)	($x10^{-4}$ kg.m^2)	(N.m)	(N.m)
1500W	1/3	98	ZDR	3	1500	1000	12.3	37.1	882	441	2.43	18.3	54.9
	1/5	98	ZDR	5	1500	600	21.5	64.4	1080	539	1.85	23.5	70.6
	1/9	125	ZDR	9	1500	333	34.3	103	1960	980	2.81	73.5	221
	1/15	125	ZDR	15	1500	200	57.2	172	2350	1180	2.80	91.4	274

Note1) In case of attachment to a motor beyond the standard models(motor matching series), contact us. (How to measure dimensions of the flange may be changed in some cases.)
Note2) The moment of inertia of input shaft conversion is only gained from the reducer, so it does not include moment of inertia of the motor.
Note3) The max. input speed is 5000rpm, and usually set to 3000rpm or less.
Note4) The permissible radial load is indicated on the center of the output shaft.
Note5) All values are within the range corresponding to helical gear.
Note6) For motor assembly procedure, see page 31.
Note7) Rotation of the output shaft is in the same direction as motor.

Dimensions

● 98ZDR3·5-1500



● Detailed Flange Dimensions Table

Unit:mm

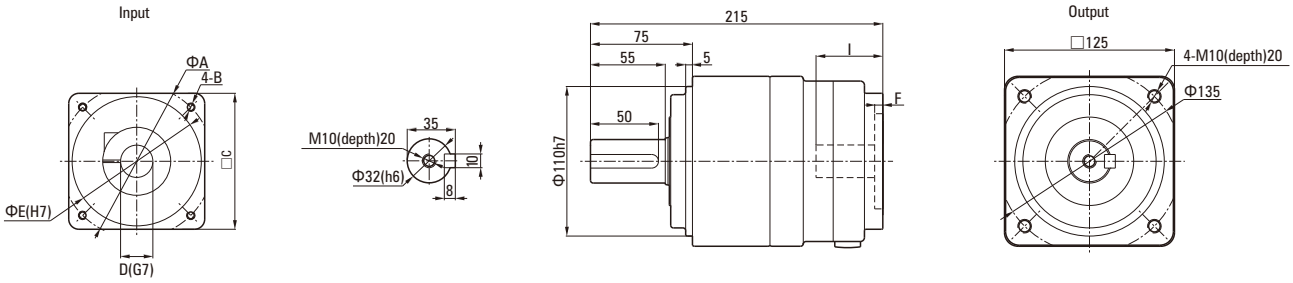
Motor Type	A	B	C	D	E	F	I
T1	115	M8(depth)15	100	19	95	4	55
T2	115	M6(depth)15	100	24	95	4	55
T3	115	M8(depth)15	100	24	95	4	55

- Rough weight 3.9kg
- For details of T1～3, see page 33

1500W DIMENSIONAL DRAWING & PERFORMANCE TABLE

Dimensions

● 125ZDR9-1500



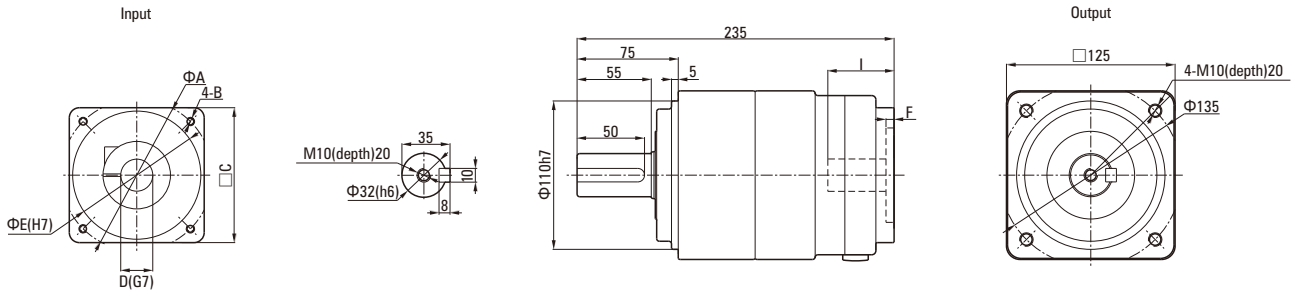
● Detailed Flange Dimensions Table

Unit:mm

Motor Type	A	B	C	D	E	F	I
T1	115	M8(depth)15	100	19	95	4	55
T2	115	M6(depth)15	100	24	95	4	55
T3	115	M8(depth)15	100	24	95	4	55

- Rough weight 11.5kg
- For details of T1～3, see page 33

● 125ZDR15-1500



● Detailed Flange Dimensions Table

Unit:mm

Motor Type	A	B	C	D	E	F	I
T1	115	M8(depth)15	100	19	95	4	55
T2	115	M6(depth)15	100	24	95	4	55
T3	115	M8(depth)15	100	24	95	4	55

- Rough weight 12.5kg
- For details of T1～3, see page 33

2000W DIMENSIONAL DRAWING & PERFORMANCE TABLE

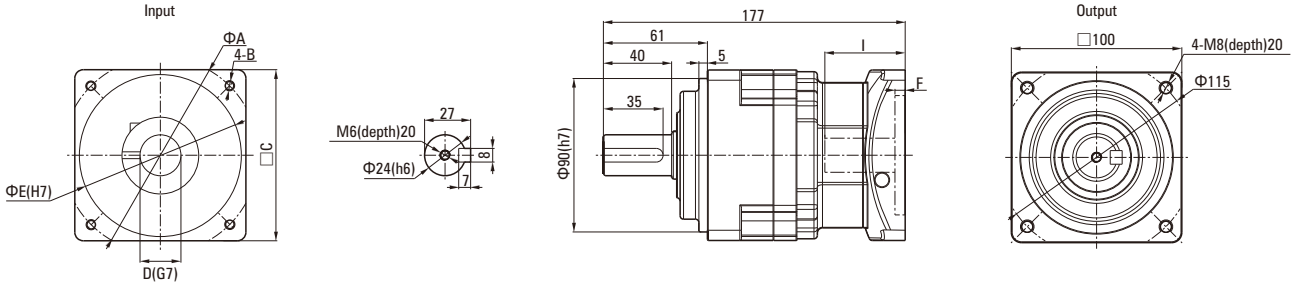
Performance Table (When Input Speed Is 3000rpm)

Rated Input Motor	Reduction Ratio	Model				Outout Shaft Speed	Standard Output Torque	Instantaneous Max.Output Torque	Permissible Radial Load	Permissible Axial Load	Internal Moment Ofinertia Of Input Shaftconversion	Permissible Output Torque	Instantaneous Max. Permissible Output Torque
		Type No.	Model	Reduction Ratio	Power	(rpm)	(N.m)	(N.m)	(N)	(N)	($x10^{-4}$ kg.m^2)	(N.m)	(N.m)
2000W	1/3	98	ZDR	3	2000	1000	17.2	51.5	882	441	2.43	18.3	54.9
	1/5	125	ZDR	5	2000	600	23.8	71.5	1670	833	3.50	56.8	171
	1/9	125	ZDR	9	2000	333	48.6	146	1960	980	2.81	73.5	221
	1/15	125	ZDR	15	2000	200	81.0	243	2350	1180	2.80	91.4	274

Note1) In case of attachment to a motor beyond the standard models(motor matching series), contact us. (How to measure dimensions of the flange may be changed in some cases.)
Note2) The moment of inertia of input shaft conversion is only gained from the reducer, so it does not include moment of inertia of the motor.
Note3) The max. input speed is 5000rpm, and usually set to 3000rpm or less.
Note4) The permissible radial load is indicated on the center of the output shaft.
Note5) All values are within the range corresponding to helical gear.
Note6) For motor assembly procedure, see page 31.
Note7) Rotation of the output shaft is in the same direction as motor.

Dimensions

● 98ZDR3-2000



● Detailed Flange Dimensions Table

Unit:mm

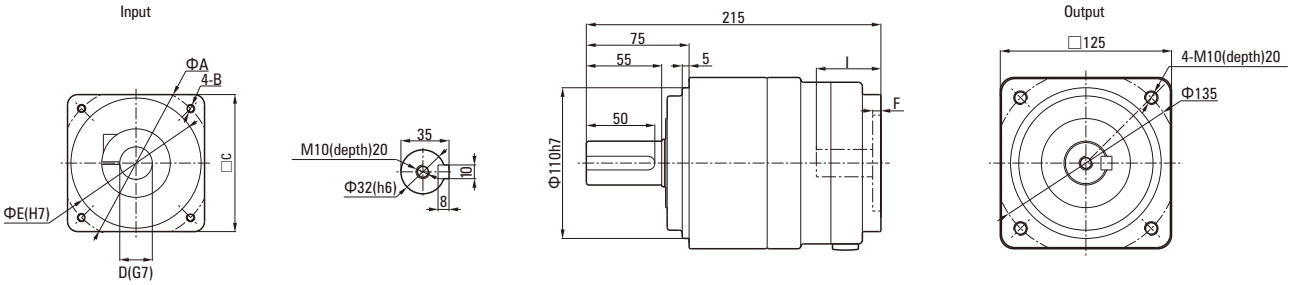
Motor Type	A	B	C	D	E	F	I
T1	115	M8(depth)15	100	19	95	4	55
T2	115	M6(depth)15	100	24	95	4	55
T3	115	M8(depth)15	100	24	95	4	55

- Rough weight 3.9kg
- For details of T1~3, see page 33

2000W DIMENSIONAL DRAWING & PERFORMANCE TABLE

Dimensions

125ZDR5·9-2000



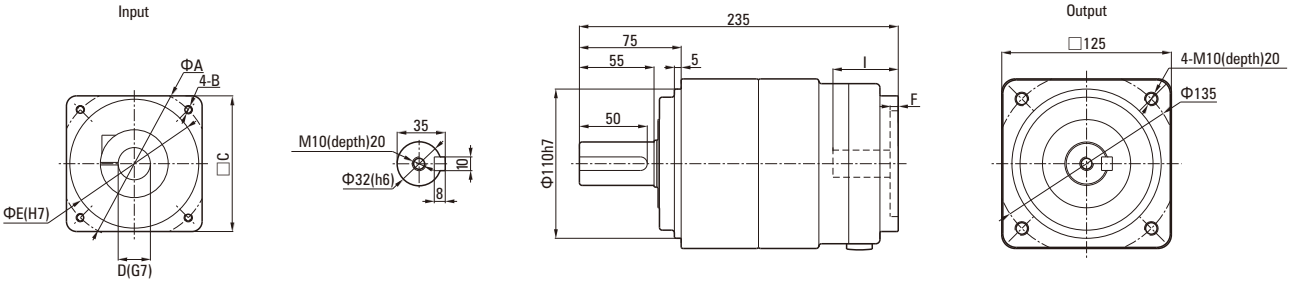
● Detailed Flange Dimensions Table

Unit:mm

Motor Type	A	B	C	D	E	F	I
T1	115	M8(depth)15	100	19	95	4	55
T2	115	M6(depth)15	100	24	95	4	55
T3	115	M8(depth)15	100	24	95	4	55

- Rough weight 11.5kg
- For details of T1～3, see page 33

125ZDR15-2000



● Detailed Flange Dimensions Table

Unit:mm

Motor Type	A	B	C	D	E	F	I
T1	115	M8(depth)15	100	19	95	4	55
T2	115	M6(depth)15	100	24	95	4	55
T3	115	M8(depth)15	100	24	95	4	55

- Rough weight 12.5kg
- For details of T1～3, see page 33

2500W DIMENSIONAL DRAWING & PERFORMANCE TABLE

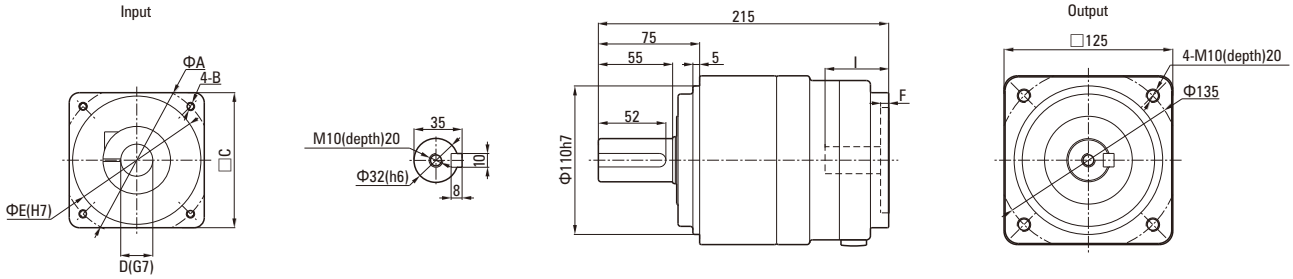
Performance Table (When Input Speed Is 3000rpm)

Rated Input Motor	Reduction Ratio	Model				Outout Shaft Speed	Standard Output Torque	Instantaneous Max.Output Torque	Permissible Radial Load	Permissible Axial Load	Internal Moment Ofinertia Of Input Shaftconversion	Permissible Output Torque	Instantaneous Max. Permissible Output Torque
		Type No.	Model	Reduction Ratio	Power	(rpm)	(N.m)	(N.m)	(N)	(N)	($x10^{-4}$ kg.m^2)	(N.m)	(N.m)
2500W	1/3	125	ZDR	3	2500	1000	19.0	57.2	1370	686	5.55	44.1	132
	1/5	125	ZDR	5	2500	600	31.8	95.5	1670	833	3.50	56.8	171
	1/9	125	ZDR	9	2500	333	60.8	182	1960	980	2.81	73.5	221

Note1) In case of attachment to a motor beyond the standard models (motor matching series),contact us. (How to measure dimensions of the flange may be changed in some cases.)
Note2) The moment of inertia of input shaft conversion is only gained from the reducer, so it does not include moment of inertia of the motor.
Note3) The max. input speed is 5000rpm, and usually set to 3000rpm or less.
Note4) The permissible radial load is indicated on the center of the output shaft.
Note5) All values are within the range corresponding to helical gear.
Note6) For motor assembly procedure, see page 31.
Note7) Rotation of the output shaft is in the same direction as motor.

Dimensions

● 125ZDR3·5·9-2500



● Detailed Flange Dimensions Table

Unit:mm

Motor Type	A	B	C	D	E	F	I
T1	115	M8(depth)15	100	19	95	4	55
T2	115	M6(depth)15	100	24	95	4	55
T3	-	-	-	-	-	-	-

- Rough weight 11.5kg
- For details of T1～3, see page 33

3000W DIMENSIONAL DRAWING & PERFORMANCE TABLE

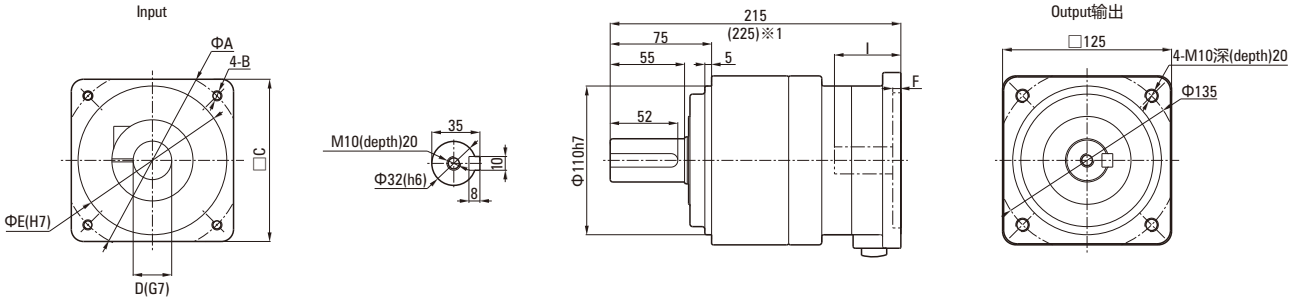
Performance Table (When Input Speed Is 3000rpm)

Rated Input Motor	Reduction Ratio	Model				Outout Shaft Speed	Standard Output Torque	Instantaneous Max.Output Torque	Permissible Radial Load	Permissible Axial Load	Internal Moment Ofinertia Of Input Shaftconversion	Permissible Output Torque	Instantaneous Max. Permissible Output Torque
		Type No.	Model	Reduction Ratio	Power	(rpm)	(N.m)	(N.m)	(N)	(N)	($x10^{-4}$ kg.m^2)	(N.m)	(N.m)
3000W	1/3	125	ZDR	3	3000	1000	23.7	71.2	1370	686	5.50	44.1	132
	1/5	125	ZDR	5	3000	600	39.6	119	1670	833	3.48	56.8	171
	1/9	125	ZDR	9	3000	333	73.0	219	1960	980	2.77	73.5	221

Note1) In case of attachment to a motor beyond the standard models (motor matching series),contact us. (How to measure dimensions of the flange may be changed in some cases.)
Note2) The moment of inertia of input shaft conversion is only gained from the reducer, so it does not include moment of inertia of the motor.
Note3) The max. input speed is 5000rpm, and usually set to 3000rpm or less.
Note4) The permissible radial load is indicated on the center of the output shaft.
Note5) All values are within the range corresponding to helical gear.
Note6) For motor assembly procedure, see page 31.
Note7) Rotation of the output shaft is in the same direction as motor.

Dimensions

● 125ZDR3·5·9-3000



● Detailed Flange Dimensions Table

Unit:mm

Motor Type	A	B	C	D	E	F	I
T1	130	M8(depth)15	120	22	110	7	55
T2	145	M8(depth)15	130	28	110	7	65
T3	-	-	-	-	-	-	-

- Rough weight 12.0kg
- For details of T1～3, see page 33

3500W DIMENSIONAL DRAWING & PERFORMANCE TABLE

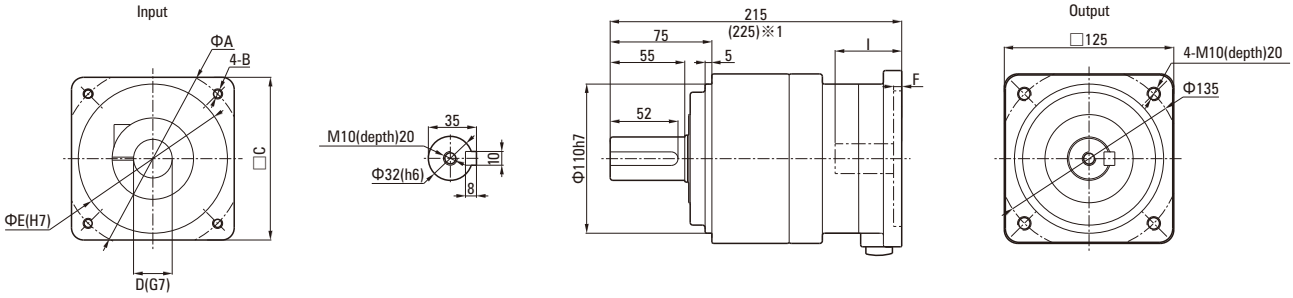
Performance Table (When Input Speed Is 3000rpm)

Rated Input Motor	Reduction Ratio	Model				Outout Shaft Speed	Standard Output Torque	Instantaneous Max.Output Torque	Permissible Radial Load	Permissible Axial Load	Internal Moment Ofinertia Of Input Shaftconversion	Permissible Output Torque	Instantaneous Max. Permissible Output Torque
		Type No.	Model	Reduction Ratio	Power	(rpm)	(N.m)	(N.m)	(N)	(N)	($x10^{-4}$ kg.m^2)	(N.m)	(N.m)
3500W	1/3	125	ZDR	3	3500	1000	28.3	85.2	1370	686	5.50	44.1	132
	1/5	125	ZDR	5	3500	600	47.2	141	1670	833	3.48	56.8	171

Note1) In case of attachment to a motor beyond the standard models (motor matching series),contact us. (How to measure dimensions of the flange may be changed in some cases.)
Note2) The moment of inertia of input shaft conversion is only gained from the reducer, so it does not include moment of inertia of the motor.
Note3) The max. input speed is 5000rpm, and usually set to 3000rpm or less.
Note4) The permissible radial load is indicated on the center of the output shaft.
Note5) All values are within the range corresponding to helical gear.
Note6) For motor assembly procedure, see page 31.
Note7) Rotation of the output shaft is in the same direction as motor.

Dimensions

● 125ZDR3·5-3500



● Detailed Flange Dimensions Table

Unit:mm

Motor Type	A	B	C	D	E	F	I
T1	130	M8(depth)15	120	22	110	7	55
T2	-	-	-	-	-	-	-
T3	145	M8(depth)15	130	28	110	7	65

- Rough weight 12.0kg
- For details of T1~3, see page 33

4000W DIMENSIONAL DRAWING & PERFORMANCE TABLE

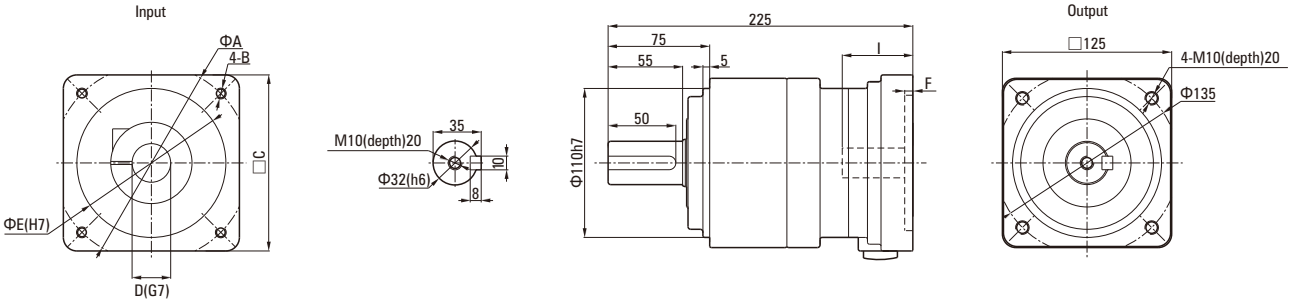
Performance Table (When Input Speed Is 3000rpm)

Rated Input Motor	Reduction Ratio	Model				Outout Shaft Speed	Standard Output Torque	Instantaneous Max.Output Torque	Permissible Radial Load	Permissible Axial Load	Internal Moment Ofinertia Of Input Shaftconversion	Permissible Output Torque	Instantaneous Max. Permissible Output Torque
		Type No.	Model	Reduction Ratio	Power	(rpm)	(N.m)	(N.m)	(N)	(N)	($x10^{-4}$ kg.m^2)	(N.m)	(N.m)
4000W	1/3	125	ZDR	3	4000	1000	33.1	99.0	1370	686	5.78	44.1	132
	1/5	125	ZDR	5	4000	600	55.3	166	1670	833	3.75	56.8	171

Note1) In case of attachment to a motor beyond the standard models (motor matching series),contact us. (How to measure dimensions of the flange may be changed in some cases.)
Note2) The moment of inertia of input shaft conversion is only gained from the reducer, so it does not include moment of inertia of the motor.
Note3) The max. input speed is 5000rpm, and usually set to 3000rpm or less.
Note4) The permissible radial load is indicated on the center of the output shaft.
Note5) All values are within the range corresponding to helical gear.
Note6) For motor assembly procedure, see page 31.
Note7) Rotation of the output shaft is in the same direction as motor.

Dimensions

● 125ZDR3·5-4000



● Detailed Flange Dimensions Table

Unit:mm

Motor Type	A	B	C	D	E	F	I
T1	145	M8(depth)15	130	24	110	7	65
T2	145	M8(depth)15	130	28	110	7	65
T3	-	-	-	-	-	-	-

- Rough weight 13.0kg
- For details of T1~3, see page 33

4500W DIMENSIONAL DRAWING & PERFORMANCE TABLE

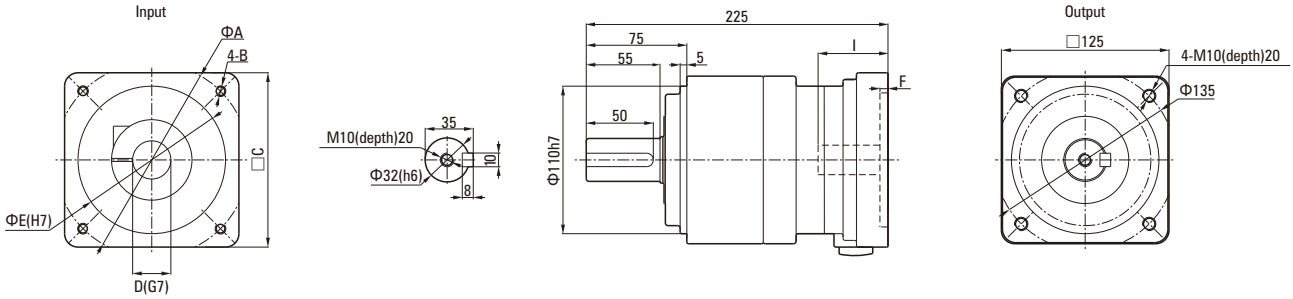
Performance Table (When Input Speed Is 3000rpm)

Rated Input Motor	Reduction Ratio	Model				Outout Shaft Speed	Standard Output Torque	Instantaneous Max.Output Torque	Permissible Radial Load	Permissible Axial Load	Internal Moment Ofinertia Of Input Shaftconversion	Permissible Output Torque	Instantaneous Max. Permissible Output Torque
		Type No.	Model	Reduction Ratio	Power	(rpm)	(N.m)	(N.m)	(N)	(N)	($x10^{-4}$ kg.m^2)	(N.m)	(N.m)
4500W	1/3	125	ZDR	3	4500	1000	37.7	113	1370	686	5.78	44.1	132

Note1) In case of attachment to a motor beyond the standard models (motor matching series),contact us. (How to measure dimensions of the flange may be changed in some cases.)
Note2) The moment of inertia of input shaft conversion is only gained from the reducer, so it does not include moment of inertia of the motor.
Note3) The max. input speed is 5000rpm, and usually set to 3000rpm or less.
Note4) The permissible radial load is indicated on the center of the output shaft.
Note5) All values are within the range corresponding to helical gear.
Note6) For motor assembly procedure, see page 31.
Note7) Rotation of the output shaft is in the same direction as motor.

Dimensions

● 125ZDR3-4500



● Detailed Flange Dimensions Table

Unit:mm

Motor Type	A	B	C	D	E	F	I
T1	145	M8(depth)15	130	24	110	7	65
T2	-	-	-	-	-	-	-
T3	-	-	-	-	-	-	-

- Rough weight 13.0kg
- For details of T1～3, see page 33

5000W DIMENSIONAL DRAWING & PERFORMANCE TABLE

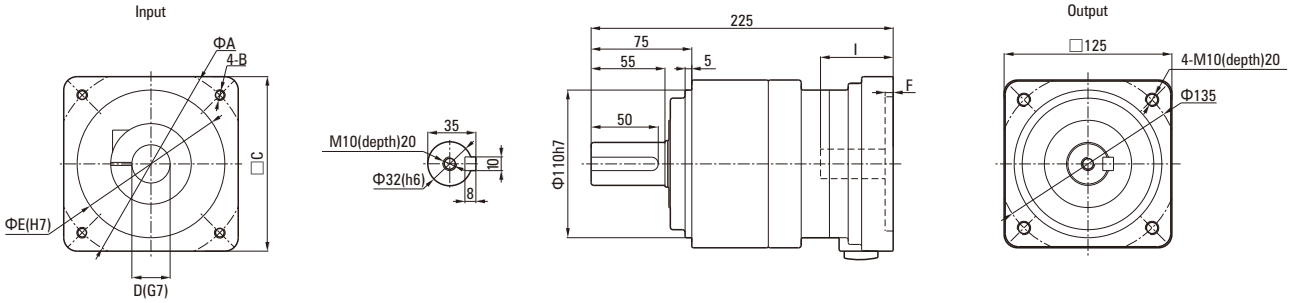
Performance Table (When Input Speed Is 3000rpm)

Rated Input Motor	Reduction Ratio	Model				Outout Shaft Speed	Standard Output Torque	Instantaneous Max.Output Torque	Permissible Radial Load	Permissible Axial Load	Internal Moment Ofinertia Of Input Shaftconversion	Permissible Output Torque	Instantaneous Max. Permissible Output Torque
		Type No.	Model	Reduction Ratio	Power	(rpm)	(N.m)	(N.m)	(N)	(N)	($x10^{-4}$ kg.m^2)	(N.m)	(N.m)
5000W	1/3	125	ZDR	3	5000	1000	42.9	128	1370	686	5.78	44.1	132

Note1) In case of attachment to a motor beyond the standard models (motor matching series),contact us. (How to measure dimensions of the flange may be changed in some cases.)
Note2) The moment of inertia of input shaft conversion is only gained from the reducer, so it does not include moment of inertia of the motor.
Note3) The max. input speed is 5000rpm, and usually set to 3000rpm or less.
Note4) The permissible radial load is indicated on the center of the output shaft.
Note5) All values are within the range corresponding to helical gear.
Note6) For motor assembly procedure, see page 31.
Note7) Rotation of the output shaft is in the same direction as motor.

Dimensions

● 125ZDR3-5000



● Detailed Flange Dimensions Table

Unit:mm

Motor Type	A	B	C	D	E	F	I
T1	145	M8(depth)15	130	24	110	7	65
T2	145	M8(depth)15	130	28	110	7	65
T3	145	M8(depth)15	130	28	110	7	65

- Rough weight 13.0kg
- For details of T1～3, see page 33

ASSEMBLY

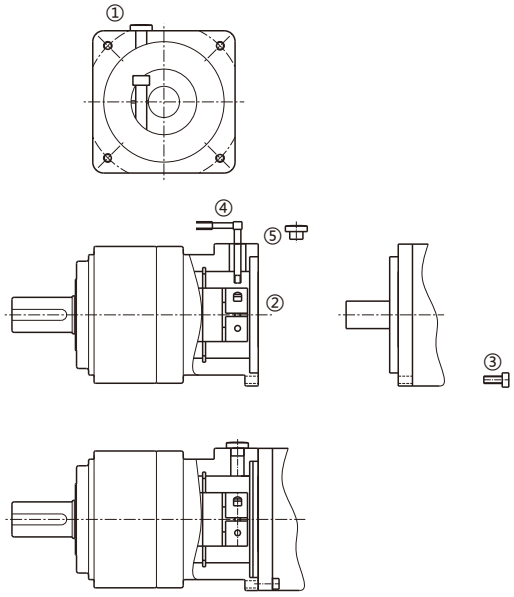
Assembly Procedure

If a customer personally assembles the servo motor and reducer please use the following tip. The reducer flange to which the servo motor is attached has different dimensions based on the motor specified. Therefore, assembly may be impossible for some motor. Make sure the correct motor is specified before ordering the reducer.

1. Spec. In Case Of Assembling A Motor Without Key

①Take off the rubber cap, turn the input shaft, and match the head of the bolt to the hole of the rubber cap. Make sure that the set bolt is loosened.
②Gradually put the motor shaft into the input shaft (Ensure that it is smoothly put in without jam). Be careful not to be inserted with the motor tilted.
③Attach the motor to the reducer and fasten the bolt with designated fastening torque. See table 1.
④Fasten the set bolt of the input shaft with designated fastening torque wrench, etc. See table 2.
⑤Put on the rubber cap. It is the end of assembling.

● ZDR Series Schematic Diagram



● Table1

Motor Combination Bolt	Fastening Torque	
	N·m	kgf·cm
M3	1.0	10
M4	3.0	30
M5	5.8	60
M6	9.8	100
M8	19.6	200
M10	39.2	400
M12	68.6	700
M16	168	1650

● Table2

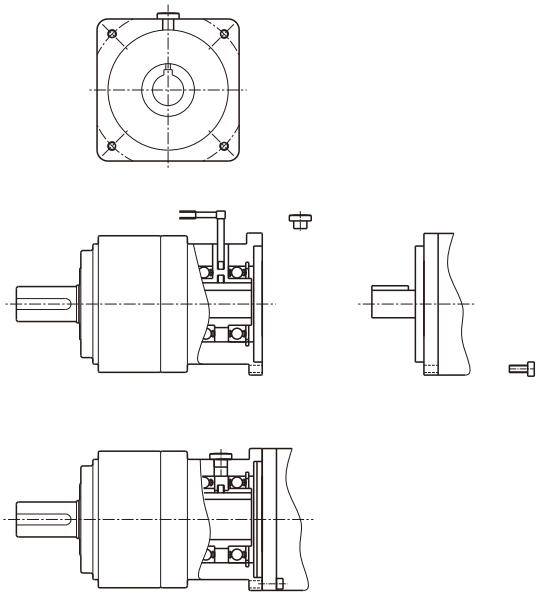
Combination Bolt	Fastening Torque	
	N·m	kgf·cm
M3	1.5	15
M4	3.5	35
M5	7.1	71
M6	12	120
M8	30	300
M10	60	612

You can assemble the motor with keyway like above when take off the key. There is no risk of dislocation.

ASSEMBLY

2. Spec. In Case Of Assembling A Motor With Key

①Take off the rubber cap, turn the input shaft, and match the head of the bolt to the hole of the rubber cap.
②Coat carbon formation inhibitors (molybdenum dioxide etc.) onto the motor shaft, match the key slot, and gradually.
③Combine the motor with the reducer and fasten with the designated fastening bolt. See table 1
④For set bolt of the input shaft, fasten using torque wrench with the designated fastening torque with the key firmly pressed. See table 3
⑤Puton a rubber cap. The is the end.



● Table3

Combination Bolt	Fastening Torque	
	(N·m)	(kgf·cm)
M4	2.0	20
M5	4.3	43
M6	7.3	73
M8	16.8	168

Peducer Assembly

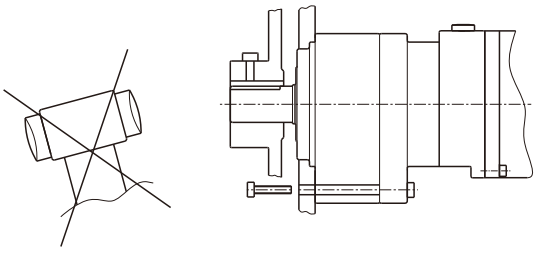
Jointing with reducer in case of jointing a reducer with the device, make sure that the combining side is plane without inconsistency, and when assemble reducer outo equipment, ensuring assembly surface smooth and without burr. See Table 4.

● Table4

Reducer Combination Bolt	Fastening Torque	
	(N·m)	(kgf·cm)
M5	5.8	60
M6	9.8	100
M8	19.6	200
M10	39.2	400
M12	68.6	700
M16	16.8	1650

Connection To The Output Shaft

Cautions:
1. When assemble a coupling, pulley, etc. onto the output shaft, make sure that excessive axial load not be given to the output shaft.
2. In case of strongly hitting the shaft with a hammer, the shaft inlet or the inside of the reducer may be damaged, therefore it shall be prohibited.
3. If the shaft or key of a coupling assembled is loosed, it may cause carbonization, so be careful when assembling.
4. For assembling of a coupling, fix the key with a set bolt.
5. Please adjust shaft centre carefully in connecting.



MOTOR MATCHING TABLE (WHEN INPUT SPEED IS 3,000RPM)

Matching Table

Motor Manufacturer	Motor Series	Motor Power (W)				
		50W	100W	200W	400W	750W
Panasonic	MSM	T1				
	MSMA	T1				
	MSMD	T1				
	MUMA	Out of standard	Out of standard	T1		
	MBMK	T1	Out of standard	T1		
	MUMS	Out of standard				
Yaskawa electric	SGM	T2				
	SGMAH	T2				
	SGMAS	T2				
	SJME	No subject	T2			
	SGMJV	T3				
	SGMAV	T3				
Mitsubishi electric	HC-KF	T3				
	HC-KFS	T3				
	HC-MF	T3				
	HC-MFS	T3				
	HA-ME	T3				
	HC-PQ	T3				No subject
	HC-KQ	T3				No subject
	HF-KP	T3				
	HF-MP	T3				
Omrom	R88M-U	T2				
	R88M-W	T2				
	R7M-A	T2				
	R7M-Z	T2				
Fuji electric systems	GYS※	T2				
Sanyo Denki	P30B	T3				T2
	Q1	T3				Out of standard
Keyence	MV	T3				Out of standard
Toshiba machine	VLBSV-Z※	Out of standard		T3		
	VLBSV-ZA※	Out of standard		T3		
	VLBSVT	Out of standard		T3		Out of standard
Tamagawa seiki	TBL-i※	T3				No subject
	TBL-ill※	T3				Out of standard
Nikki denso	NA50	T1				
	NA70※	T3				No subject
	NA80※	T3				Out of standard
Sanmei	TS※	T3				Out of standard
	SS※	T3				Out of standard
Hitachi industrial equipment systems	ADMA	T3				Out of standard
Miki pulley	SA3	T1				

1. If an oil-seal is not present and the size is different, attachment of the oil-seal may correspond to special order, in some cases.
2. If the motor shaft is of D-cut and taper type, it corresponds to a special order.
3. Note that thrust power arsing out of instantaneous max, output torque bu the combination of motor capacity (motor of the motor series table) and reduction ratio may exceed permissible thrust power of the servo motor.
4. Out-of-standard may correspond to a special order in some cases, For details, contact us.

MOTOR MATCHING TABLE (WHEN INPUT SPEED IS 3,000RPM)

Matching Table

Motor Manufacturer	Motor Series	Motor Power (W)								
		1000W	1500W	2000W	2500W	3000W	3500W	4000W	4500W	5000W
Panasonic	MSM	T1								
	MSMA	T1								
Yaskawa electric	SGMS	T2			No subject	T2	No subject	T2	No subject	T2
	SGMSH	T2			No subject	T2	No subject	T2	No subject	T2
	SGMSS	T2					No subject	T2	No subject	T2
Mitsubishi electric	HC-RF	T3			No subject		T3	No subject		T3
	HC-RFS	T3			No subject		T3	No subject		T3
	HC-RP	T3			No subject		T3	No subject		T3
Omrom	R88M-U	T2			No subject	T2	No subject	T2	No subject	T2
	R88M-W	T2			No subject	T2	No subject	T2	No subject	T2
Fuji electric systems	GYS	T3			No subject	T2	No subject	T2	No subject	T2

Standard Compatibility With The Follwing Motor Series

Motor Manufacturer	Motor Series	Motor Power (W)
Mitsubishi electric	HC-SFS※	500W,1000W,1500W,2000W,3500W
	HF-SP	
Yaskawa electric	SGMP	100W,200W,400W,750W,1500
	SGMPH	
	SGMPS	
Panasonic	MQMA	100W,200W,400W
Omrom	R88M-WP	100W,200W,400W,750W,1500W
	R7M-AP	100W,200W,400W,750W
Fuji electric systems	GYC	100W,200W,400W
Fanuc	BiS※	200W,400W,500W,750W,1200W

Note1) If an oil-seal is not present and the size is different, attachment of the oil-seal may correspond to specia order, in some cases. Note2) If the motor shaft is of D-cut and taper type, it corresponds to a special order. Note3) Note that thrust power arsing out of instantaneous max, ouyput torque bu the combination of motor capactith (motor of the motor series table) and reduction ratio may exceed permissible thrust power of the servo motor. Note4) Out-of-standard may correspond to a special order in some cases, For details, contact us.

Our gearbox can match to servo motor of followings manufacturers,including aboves.Please ask us about the assembly.

SHINKO ELECTRIC	NIDEC	DELTA	LUST	Bosch Rexroth
FANUC	POCKWELL	Sanyo Denki	Tamagawa	Keyence
Toshiba machine	Nikki denso	Sanmei	Hitachi industrial equipment systems	
Miki pulley	etc.			

CATALOGUE

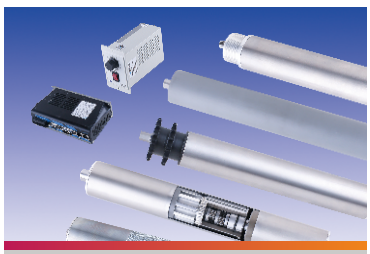
PRECISION HARMONIC REDUCER

CYCLOIDAL PIN WHEEL
PRECISION REDUCER

TRANSMISSION PLANETARY
GEAR MOTOR

SERVO DRIVER
BRUSHLESS DRIVER
INDUSTRIAL VEHICLE DRIVER
AC SPEED CONTROLLER

DC BRUSHLESS GEAR MOTOR



MOTOR ROLLER

HIGH PRECISION PLANETARY GEAR BOX CATALOGUE

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