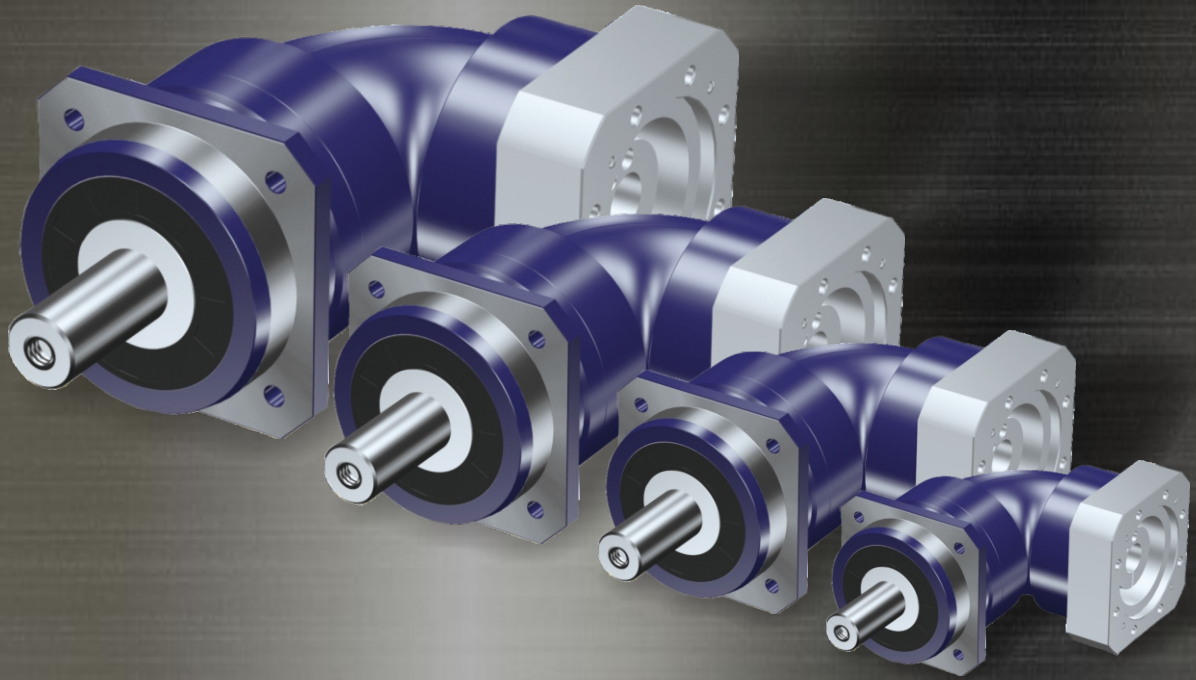


# ZAF Series Highlights Overview



## **Space Saving**

Spiral Bevel Gear adopted to realize 90 degrees motion transform and save spaces.

## **Higher Smoothness**

Enhanced smoothness and lower noise due to adoption of Helical Gears.

## **Higher Precision**

Fairly high precision enabled by backlash as 3arcmin.

## **Higher Rigidity and Torque**

Due to adoption of uncaged needle roller bearings.

## **Flexible Motor Integration**

Can be integrated with any motor in the world.

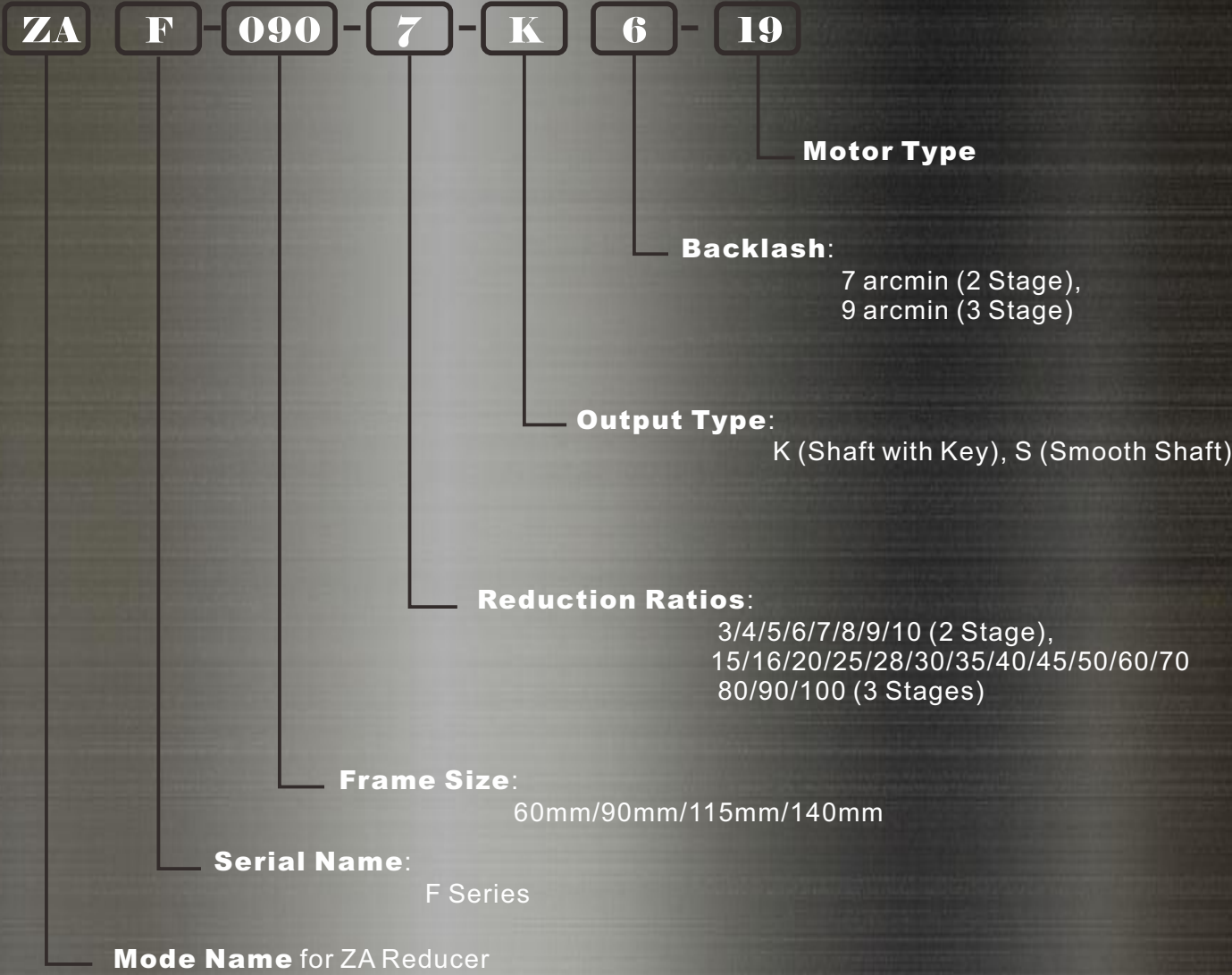
## **Free of Maintenance**

No need to replace the grease for lifelong time and maintenance of any part.

## **No Grease Leakage**

Usage of high viscosity and anti-separation lifetime grease.

# ZAF Series Naming Rules



# ZAF-060 Series Load Performance Table

Frame size	Stage	Ratio	※1	※2	※3	※4	※5	※6	※7
			Normal output torque [Nm]	Maximum output torque [Nm]	Emergency stop torque [Nm]	Normal input speed [rpm]	Maximum input speed [rpm]	Permitted radial load [N]	Permitted axial load [N]
060	2	3	12	24	50	3000	6000	430	310
		4	16	32	65	3000	6000	470	360
		5	22	40	80	3000	6000	510	390
		6	24	45	90	3000	6000	540	430
		7	24	45	90	3000	6000	570	460
		8	24	45	90	3000	6000	600	480
		9	16	32	65	3000	6000	620	510
	3	10	16	32	65	3000	6000	640	530
		15	16	32	65	3000	6000	740	630
		16	24	45	90	3000	6000	750	650
		20	24	45	90	3000	6000	810	720
		25	24	45	90	3000	6000	870	790
		28	24	45	90	3000	6000	910	830
		30	16	32	65	3000	6000	930	860
		35	24	45	90	3000	6000	980	920
		40	24	45	90	3000	6000	1000	970
		45	16	32	65	3000	6000	1100	1000
		50	24	45	90	3000	6000	1100	1100
		60	24	45	90	3000	6000	1200	1100
		70	24	45	90	3000	6000	1200	1100
80	24	45	90	3000	6000	1200	1100		
90	16	32	65	3000	6000	1200	1100		
100	16	32	65	3000	6000	1200	1100		

Frame size	Stage	Ratio	※8	※9	※10	Moment of inertia ( $\leq \Phi 8$ ) [kgcm <sup>2</sup> ]	Moment of inertia ( $\leq \Phi 14$ ) [kgcm <sup>2</sup> ]	Moment of inertia ( $\leq \Phi 19$ ) [kgcm <sup>2</sup> ]	
			Maximum radial load [N]	Maximum axial load [N]	Weight [kg]				
060	2	3	1200	1100	1.8	0.31	0.39	0.58	
		4	1200	1100		0.27	0.34	0.53	
		5	1200	1100		0.25	0.32	0.51	
		6	1200	1100		0.24	0.31	0.50	
		7	1200	1100		0.23	0.31	0.50	
		8	1200	1100		0.23	0.31	0.50	
		9	1200	1100		0.23	0.30	0.49	
	3	10	1200	1100	0.23	0.30	0.49		
		15	1200	1100	1.6	0.073	0.118	-	
		16	1200	1100		0.079	0.124	-	
		20	1200	1100		0.071	0.116	-	
		25	1200	1100		0.071	0.115	-	
		28	1200	1100		0.077	0.122	-	
		30	1200	1100		0.062	0.106	-	
		35	1200	1100		0.070	0.115	-	
		40	1200	1100		0.061	0.106	-	
		45	1200	1100		0.070	0.115	-	
		50	1200	1100		0.061	0.106	-	
		60	1200	1100		0.061	0.106	-	
		70	1200	1100		0.061	0.105	-	
80	1200	1100	0.061	0.105		-			
90	1200	1100	0.061	0.105	-				
100	1200	1100	0.061	0.105	-				

- ※ 1 With nominal input speed, service life is 20,000 hours
- ※ 2 The maximum torque when starting and stopping
- ※ 3 The maximum torque when it receives shock (up to 1000times)
- ※ 4 The maximum average input speed.
- ※ 5 The maximum momentary input speed.
- ※ 6 With this load and nominal input speed, service life will be 20,000 hours (Applied to the output shaft center, at axial load 0)
- ※ 7 With this load and nominal input speed, service life will be 20,000 hours (Applied to the output side bearing, at radial load 0)
- ※ 8 The maximum radial load the reducer can accept
- ※ 9 The maximum axial load the reducer can accept
- ※ 10 The weight may vary slightly model to model.

# ZAF-090 Series Load Performance Table

Frame size	Stage	Ratio	※1	※2	※3	※4	※5	※6	※7
			Normal output torque [Nm]	Maximum output torque [Nm]	Emergency stop torque [Nm]	Normal input speed [rpm]	Maximum input speed [rpm]	Permitted radial load [N]	Permitted axial load [N]
090	2	3	45	65	130	3000	6000	810	930
		4	60	90	170	3000	6000	890	1100
		5	65	90	220	3000	6000	960	1200
		6	65	90	220	3000	6000	1000	1300
		7	65	90	220	3000	6000	1100	1300
		8	65	90	220	3000	6000	1100	1400
		9	45	65	170	3000	6000	1200	1500
	3	10	45	65	170	3000	6000	1200	1600
		15	45	65	170	3000	6000	1400	1900
		16	65	110	220	3000	6000	1400	1900
		20	65	110	220	3000	6000	1500	2100
		25	65	110	220	3000	6000	1600	2200
		28	65	110	220	3000	6000	1700	2200
		30	45	65	170	3000	6000	1700	2200
		35	65	110	220	3000	6000	1800	2200
		40	65	110	220	3000	6000	1900	2200
		45	45	65	170	3000	6000	2000	2200
		50	65	110	220	3000	6000	2100	2200
		60	65	110	220	3000	6000	2200	2200
		70	65	110	220	3000	6000	2300	2200
80	65	110	220	3000	6000	2400	2200		
90	45	65	170	3000	6000	2400	2200		
100	45	65	170	3000	6000	2400	2200		

Frame size	Stage	Ratio	※8	※9	※10	Moment of inertia (≤Φ8) [kgcm <sup>2</sup> ]	Moment of inertia (≤Φ14) [kgcm <sup>2</sup> ]	Moment of inertia (≤Φ19) [kgcm <sup>2</sup> ]	Moment of inertia (≤Φ19) [kgcm <sup>2</sup> ]
			Maximum radial load [N]	Maximum axial load [N]	Weight [kg]				
090	2	3	2400	2200	5.1	-	2.12	2.45	4.57
		4	2400	2200		-	1.89	2.22	4.35
		5	2400	2200		-	1.80	2.13	4.26
		6	2400	2200		-	1.76	2.09	4.21
		7	2400	2200		-	1.73	2.06	4.18
		8	2400	2200		-	1.71	2.04	4.17
		9	2400	2200		-	1.70	2.03	4.16
	3	10	2400	2200	-	1.69	2.02	4.15	
		15	2400	2200	4.4	0.34	0.41	0.60	-
		16	2400	2200		0.38	0.46	0.65	-
		20	2400	2200		0.33	0.40	0.59	-
		25	2400	2200		0.32	0.40	0.59	-
		28	2400	2200		0.37	0.45	0.64	-
		30	2400	2200		0.25	0.33	0.51	-
		35	2400	2200		0.25	0.40	0.59	-
		40	2400	2200		0.32	0.32	0.51	-
		45	2400	2200		0.25	0.39	0.58	-
		50	2400	2200		0.25	0.32	0.51	-
		60	2400	2200		0.25	0.32	0.51	-
		70	2400	2200		0.25	0.32	0.51	-
80	2400	2200	0.25	0.32		0.51	-		
90	2400	2200	0.25	0.32	0.51	-			
100	2400	2200	0.25	0.32	0.51	-			

- ※ 1 With nominal input speed, service life is 20,000 hours
- ※ 2 The maximum torque when starting and stopping
- ※ 3 The maximum torque when it receives shock (up to 1000times)
- ※ 4 The maximum average input speed.
- ※ 5 The maximum momentary input speed.
- ※ 6 With this load and nominal input speed, service life will be 20,000 hours (Applied to the output shaft center, at axial load 0)
- ※ 7 With this load and nominal input speed, service life will be 20,000 hours (Applied to the output side bearing, at radial load 0)
- ※ 8 The maximum radial load the reducer can accept
- ※ 9 The maximum axial load the reducer can accept
- ※ 10 The weight may vary slightly model to model.

# ZAF-115 Series Load Performance Table

Frame size	Stage	Ratio	※1	※2	※3	※4	※5	※6	※7
			Normal output torque [Nm]	Maximum output torque [Nm]	Emergency stop torque [Nm]	Normal input speed [rpm]	Maximum input speed [rpm]	Permitted radial load [N]	Permitted axial load [N]
115	2	3	75	150	320	3000	6000	1300	1500
		4	100	200	430	3000	6000	1500	1700
		5	120	240	500	3000	6000	1600	1900
		6	150	300	550	3000	6000	1700	2000
		7	150	300	550	3000	6000	1800	2100
		8	150	300	550	3000	6000	1900	2300
		9	110	200	450	3000	6000	1900	2400
	3	10	110	200	450	3000	6000	2000	2500
		15	110	200	450	3000	6000	2300	3000
		16	130	260	550	3000	6000	2300	3100
		20	150	300	550	3000	6000	2500	3400
		25	150	300	550	3000	6000	2700	3700
		28	150	300	550	3000	6000	2800	3900
		30	110	200	450	3000	6000	2900	3900
		35	150	300	550	3000	6000	3000	3900
		40	150	300	550	3000	6000	3200	3900
		45	110	200	450	3000	6000	3300	3900
		50	150	300	550	3000	6000	3400	3900
		60	150	300	550	3000	6000	3600	3900
		70	150	300	550	3000	6000	3800	3900
80	150	300	550	3000	6000	4000	3900		
90	110	200	450	3000	6000	4200	3900		
100	110	200	450	3000	6000	4300	3900		

Frame size	Stage	Ratio	※8	※9	※10	Moment of inertia ( $\leq \Phi 14$ ) [kgcm <sup>2</sup> ]	Moment of inertia ( $\leq \Phi 19$ ) [kgcm <sup>2</sup> ]	Moment of inertia ( $\leq \Phi 28$ ) [kgcm <sup>2</sup> ]	Moment of inertia ( $\leq \Phi 38$ ) [kgcm <sup>2</sup> ]
			Maximum radial load [N]	Maximum axial load [N]	Weight [kg]				
115	2	3	4300	3900	10.4	-	6.74	8.34	15.41
		4	4300	3900		-	5.49	7.08	14.15
		5	4300	3900		-	5.02	6.61	13.69
		6	4300	3900		-	4.77	6.36	13.43
		7	4300	3900		-	4.65	6.24	13.31
		8	4300	3900		-	4.55	6.14	13.22
		9	4300	3900		-	4.49	6.08	13.16
	3	10	4300	3900	-	4.46	6.05	13.12	
		15	4300	3900	10.1	2.25	2.58	4.70	-
		16	4300	3900		2.46	2.79	4.91	-
		20	4300	3900		2.20	2.53	4.65	-
		25	4300	3900		2.18	2.51	4.64	-
		28	4300	3900		2.40	2.73	4.86	-
		30	4300	3900		1.87	2.20	4.33	-
		35	4300	3900		2.16	2.49	4.62	-
		40	4300	3900		1.86	2.19	4.32	-
		45	4300	3900		2.15	2.48	4.61	-
		50	4300	3900		1.86	2.19	4.31	-
		60	4300	3900		1.85	2.18	4.31	-
		70	4300	3900		1.85	2.18	4.31	-
80	4300	3900	1.85	2.18		4.31	-		
90	4300	3900	1.85	2.18	4.31	-			
100	4300	3900	1.85	2.18	4.31	-			

- ※ 1 With nominal input speed, service life is 20,000 hours
- ※ 2 The maximum torque when starting and stopping
- ※ 3 The maximum torque when it receives shock (up to 1000times)
- ※ 4 The maximum average input speed.
- ※ 5 The maximum momentary input speed.
- ※ 6 With this load and nominal input speed, service life will be 20,000 hours (Applied to the output shaft center, at axial load 0)
- ※ 7 With this load and nominal input speed, service life will be 20,000 hours (Applied to the output side bearing, at radial load 0)
- ※ 8 The maximum radial load the reducer can accept
- ※ 9 The maximum axial load the reducer can accept
- ※ 10 The weight may vary slightly model to model.

# ZAF-140 Series Load Performance Table

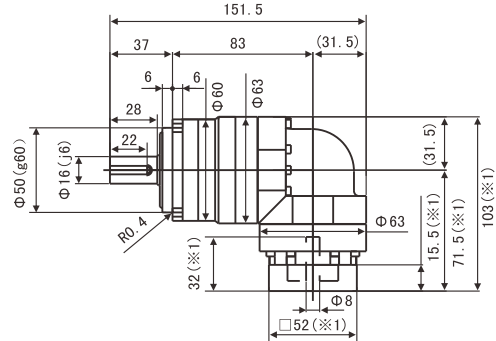
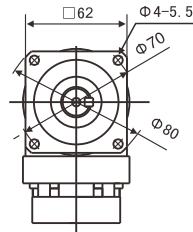
Frame size	Stage	Ratio	※1	※2	※3	※4	※5	※6	※7
			Normal output torque [Nm]	Maximum output torque [Nm]	Emergency stop torque [Nm]	Normal input speed [rpm]	Maximum input speed [rpm]	Permitted radial load [N]	Permitted axial load [N]
140	2	3	130	260	700	2000	4000	3200	2400
		4	170	340	950	2000	4000	3500	2700
		5	200	400	1100	2000	4000	3800	3000
		6	260	520	1100	2000	4000	4000	3300
		7	300	600	1100	2000	4000	4200	3500
		8	300	600	1100	2000	4000	4400	3700
		9	200	400	750	2000	4000	4600	3900
	3	10	200	400	750	2000	4000	4700	4100
		15	200	400	750	2000	4000	5400	4900
		16	300	600	1100	2000	4000	5500	5000
		20	300	600	1100	2000	4000	6000	5500
		25	300	600	1100	2000	4000	6400	6100
		28	300	600	1100	2000	4000	6700	6400
		30	200	400	750	2000	4000	6800	6600
		35	300	600	1100	2000	4000	7200	7000
		40	300	600	1100	2000	4000	7500	7500
		45	200	400	750	2000	4000	7800	7900
		50	300	600	1100	2000	4000	8100	8200
		60	300	600	1100	2000	4000	8600	8200
		70	300	600	1100	2000	4000	9100	8200
80	300	600	1100	2000	4000	9100	8200		
90	200	400	750	2000	4000	9100	8200		
100	200	400	750	2000	4000	9100	8200		

Frame size	Stage	Ratio	※8	※9	※10	Moment of inertia (≤Φ19) [kgcm <sup>2</sup> ]	Moment of inertia (≤Φ28) [kgcm <sup>2</sup> ]	Moment of inertia (≤Φ38) [kgcm <sup>2</sup> ]	Moment of inertia (≤Φ48) [kgcm <sup>2</sup> ]
			Maximum radial load [N]	Maximum axial load [N]	Weight [kg]				
140	2	3	9100	8200	19.1	-	23.13	27.50	40.73
		4	9100	8200		-	18.57	22.94	36.17
		5	9100	8200		-	16.91	21.28	34.51
		6	9100	8200		-	16.01	20.38	33.61
		7	9100	8200		-	15.58	19.95	33.18
		8	9100	8200		-	15.23	19.61	32.84
		9	9100	8200		-	14.77	19.41	32.37
	3	10	9100	8200	-	14.66	19.03	32.26	
		15	9100	8200	19.6	6.40	8.00	15.07	-
		16	9100	8200		7.29	8.88	15.96	-
		20	9100	8200		6.22	7.81	14.89	-
		25	9100	8200		6.15	7.75	14.82	-
		28	9100	8200		7.09	8.68	15.76	-
		30	9100	8200		4.99	6.58	13.66	-
		35	9100	8200		6.09	7.69	14.76	-
		40	9100	8200		4.95	6.54	13.61	-
		45	9100	8200		6.07	7.66	14.74	-
		50	9100	8200		4.93	6.52	13.59	-
		60	9100	8200		4.92	6.51	13.59	-
		70	9100	8200		4.91	6.51	13.58	-
80	9100	8200	4.91	6.50		13.58	-		
90	9100	8200	4.91	6.50	13.57	-			
100	9100	8200	4.91	6.50	13.57	-			

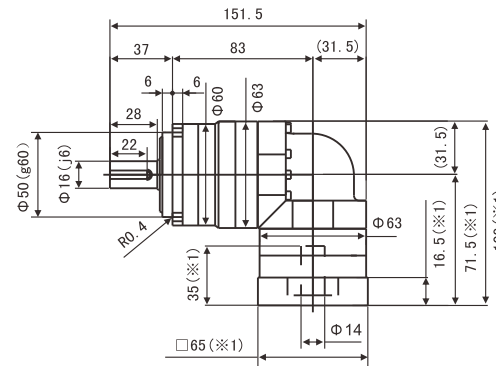
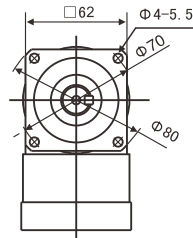
- ※ 1 With nominal input speed, service life is 20,000 hours
- ※ 2 The maximum torque when starting and stopping
- ※ 3 The maximum torque when it receives shock (up to 1000times)
- ※ 4 The maximum average input speed.
- ※ 5 The maximum momentary input speed.
- ※ 6 With this load and nominal input speed, service life will be 20,000 hours (Applied to the output shaft center, at axial load 0)
- ※ 7 With this load and nominal input speed, service life will be 20,000 hours (Applied to the output side bearing, at radial load 0)
- ※ 8 The maximum radial load the reducer can accept
- ※ 9 The maximum axial load the reducer can accept
- ※ 10 The weight may vary slightly model to model.

# ZAF-060 2-Stage Series Mechanical Dimensions

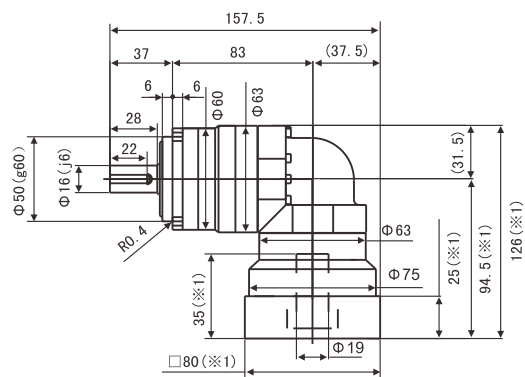
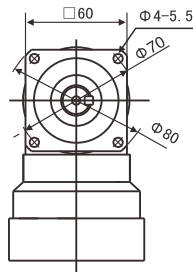
Input Shaft Diameter  $\leq \phi 8$  (in mm)



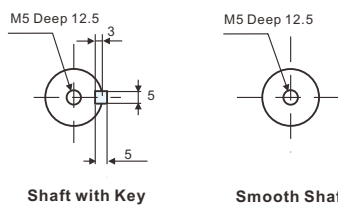
Input Shaft Diameter  $\leq \phi 14$  (in mm)



Input Shaft Diameter  $\leq \phi 19$  (in mm)



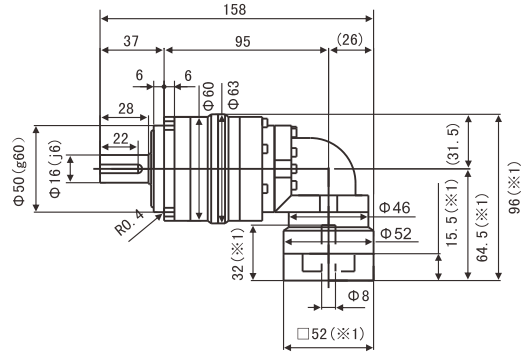
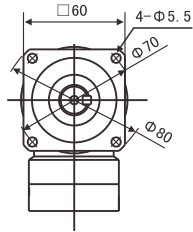
Output Shaft Type (in mm)



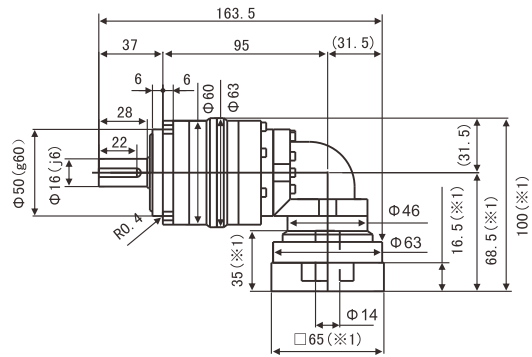
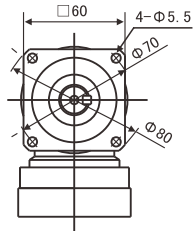
- ※1 Length may change for different motors.
- ※1 Adaptors available to match different input shaft diameters.

# ZAF-060 3-Stage Series Mechanical Dimensions

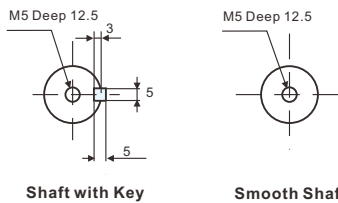
Input Shaft Diameter  $\leq \phi 8$  (in mm)



Input Shaft Diameter  $\leq \phi 14$  (in mm)



Output Shaft Type (in mm)

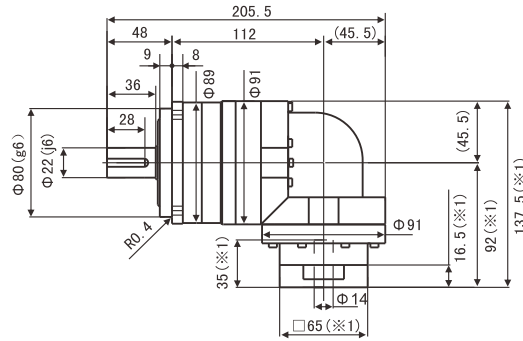
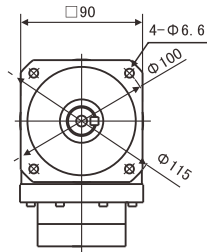


- ※1 Length may change for different motors.
- ※1 Adaptors available to match different input shaft diameters.

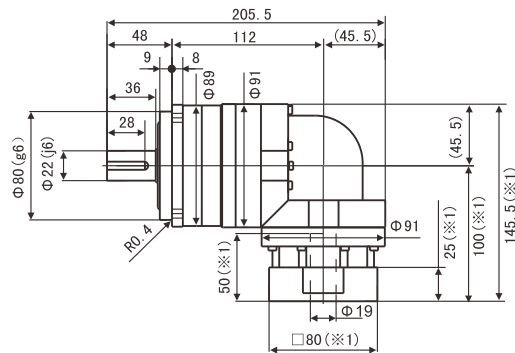
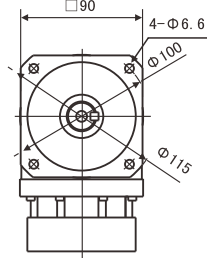


# ZAF-090 2-Stage Series Mechanical Dimensions

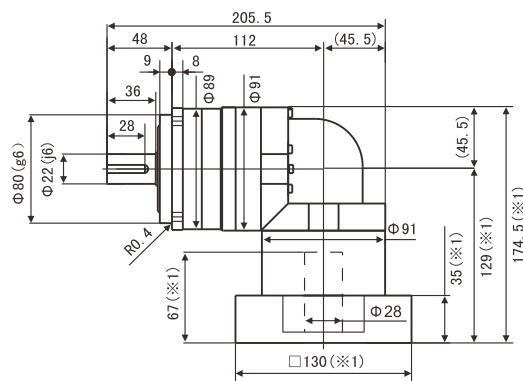
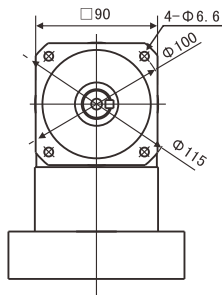
Input Shaft Diameter  $\leq \phi 14$  (in mm)



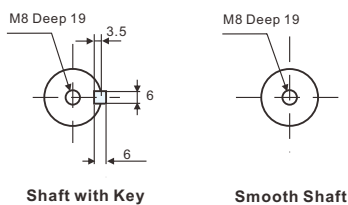
Input Shaft Diameter  $\leq \phi 19$  (in mm)



Input Shaft Diameter  $\leq \phi 28$  (in mm)



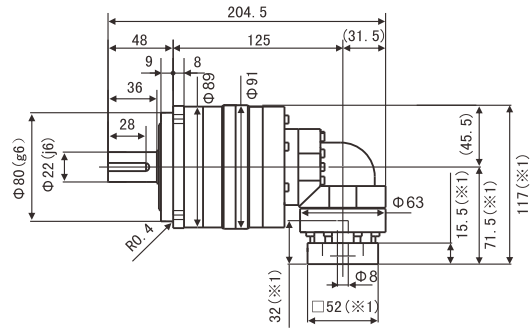
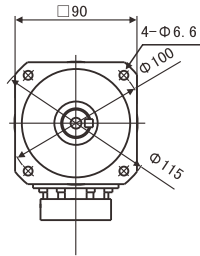
Output Shaft Type (in mm)



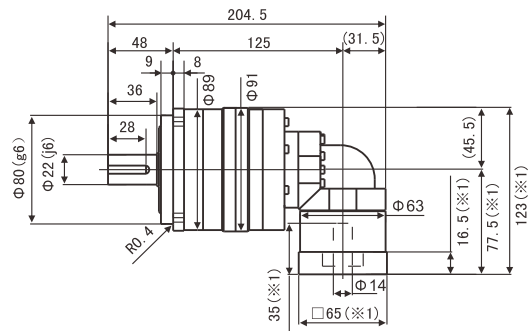
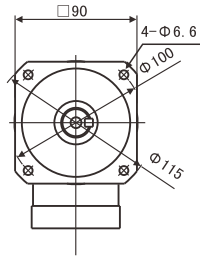
- ※1 Length may change for different motors.
- ※1 Adaptors available to match different input shaft diameters.

# ZAF-090 3-Stage Series Mechanical Dimensions

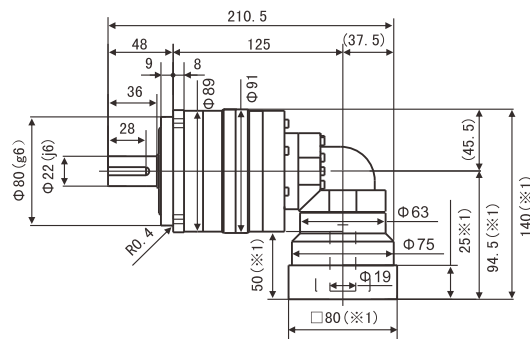
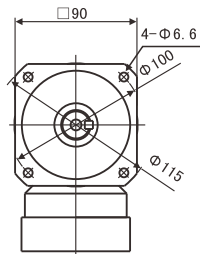
Input Shaft Diameter  $\leq \phi 8$  (in mm)



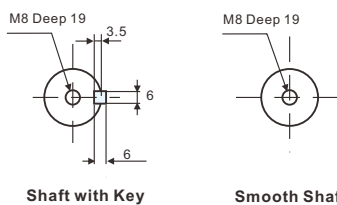
Input Shaft Diameter  $\leq \phi 14$  (in mm)



Input Shaft Diameter  $\leq \phi 19$  (in mm)



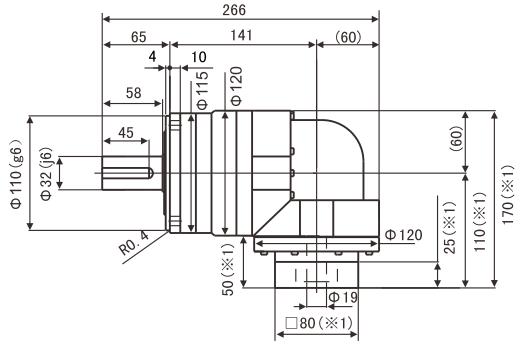
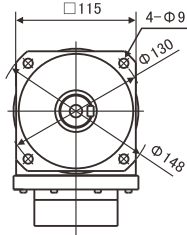
Output Shaft Type (in mm)



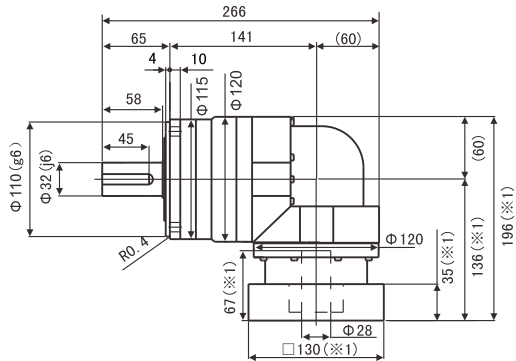
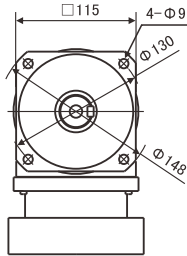
- ※1 Length may change for different motors.
- ※1 Adaptors available to match different input shaft diameters.

# ZAF-115 2-Stage Series Mechanical Dimensions

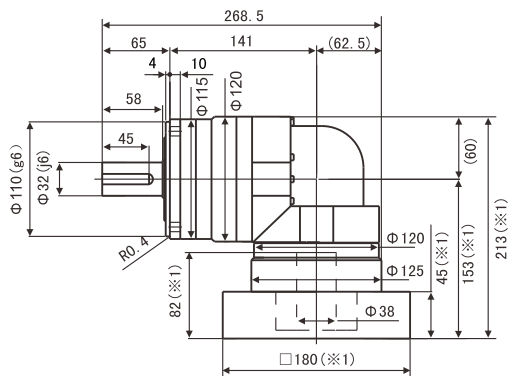
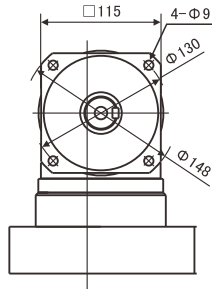
**Input Shaft Diameter  $\leq \phi 19$  (in mm)**



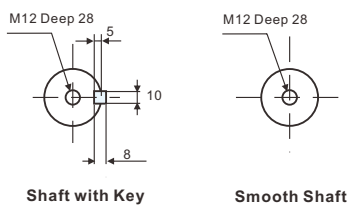
**Input Shaft Diameter  $\leq \phi 28$  (in mm)**



**Input Shaft Diameter  $\leq \phi 38$  (in mm)**



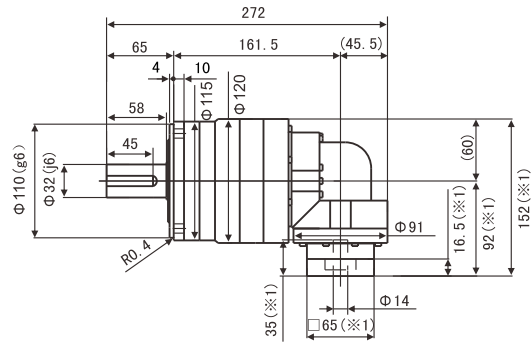
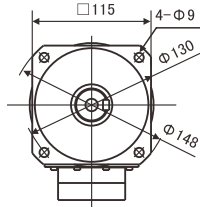
**Output Shaft Type (in mm)**



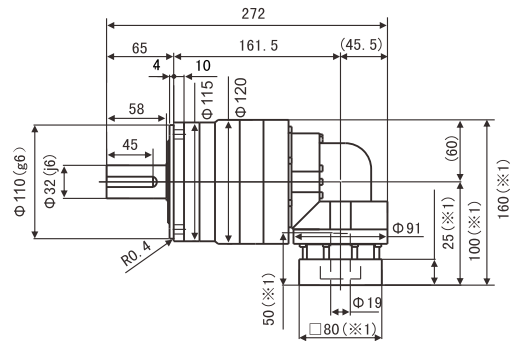
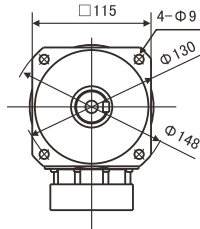
- ※1 Length may change for different motors.
- ※1 Adaptors available to match different input shaft diameters.

# ZAF-115 3-Stage Series Mechanical Dimensions

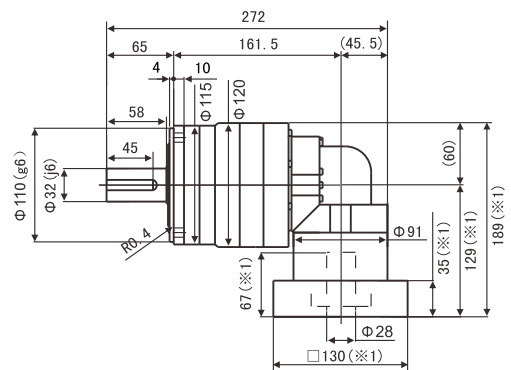
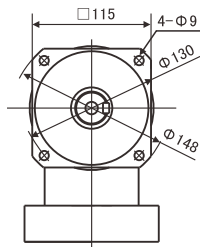
Input Shaft Diameter  $\leq \phi 14$  (in mm)



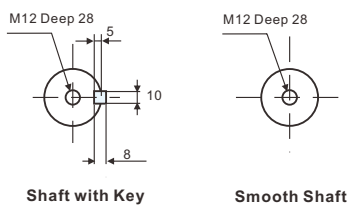
Input Shaft Diameter  $\leq \phi 19$  (in mm)



Input Shaft Diameter  $\leq \phi 28$  (in mm)



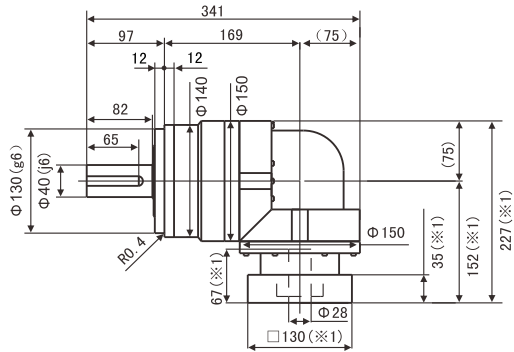
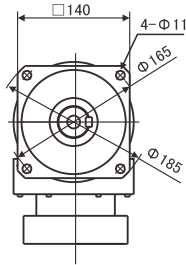
Output Shaft Type (in mm)



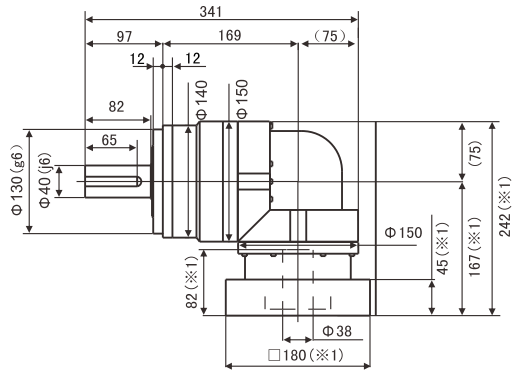
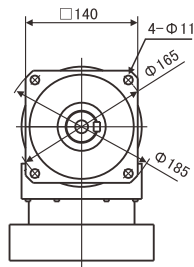
- ※1 Length may change for different motors.
- ※1 Adaptors available to match different input shaft diameters.

# ZAF-140 2-Stage Series Mechanical Dimensions

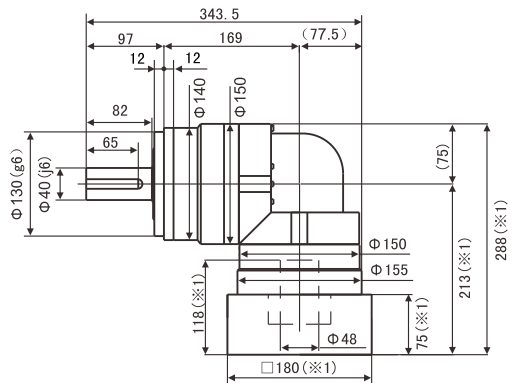
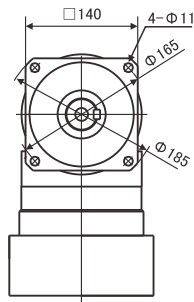
Input Shaft Diameter  $\leq \phi 28$  (in mm)



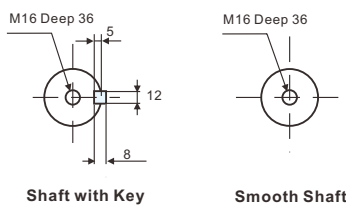
Input Shaft Diameter  $\leq \phi 38$  (in mm)



Input Shaft Diameter  $\leq \phi 48$  (in mm)



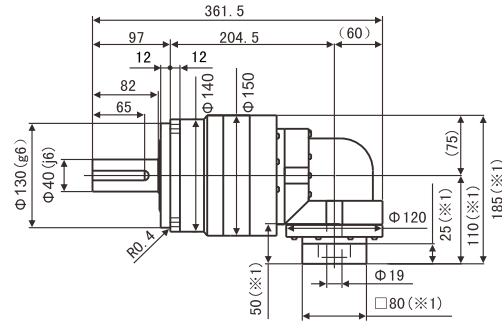
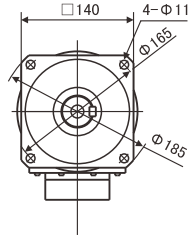
Output Shaft Type (in mm)



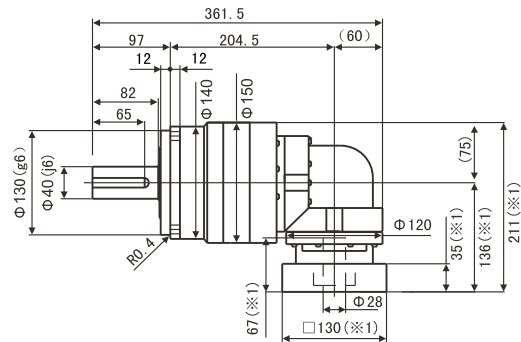
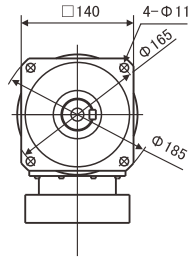
- ※1 Length may change for different motors.
- ※1 Adaptors available to match different input shaft diameters.

# ZAF-140 3-Stage Series Mechanical Dimensions

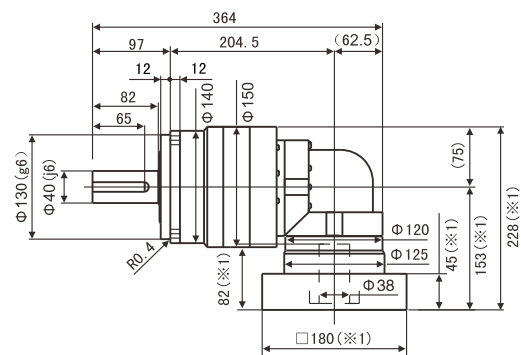
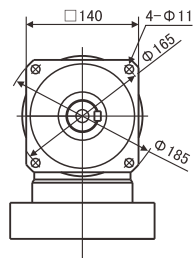
Input Shaft Diameter  $\leq \phi 19$  (in mm)



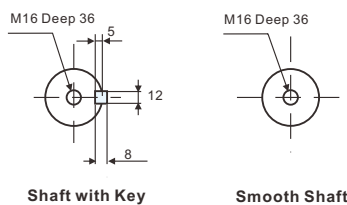
Input Shaft Diameter  $\leq \phi 28$  (in mm)



Input Shaft Diameter  $\leq \phi 38$  (in mm)

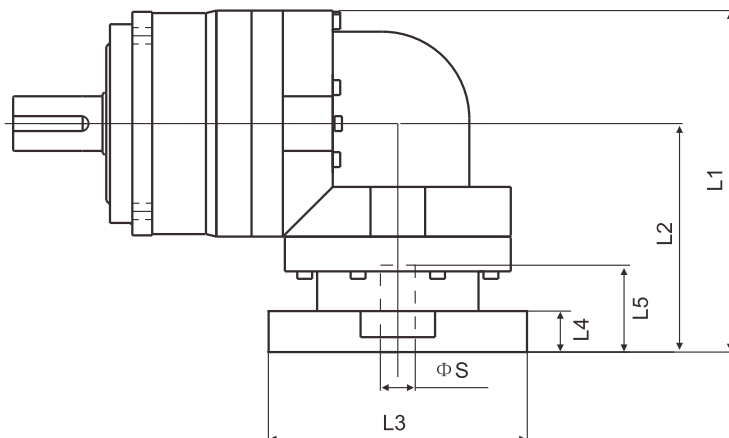


Output Shaft Type (in mm)



- ※1 Length may change for different motors.
- ※1 Adaptors available to match different input shaft diameters.

# ZAF-060 Input Shaft Adaptors

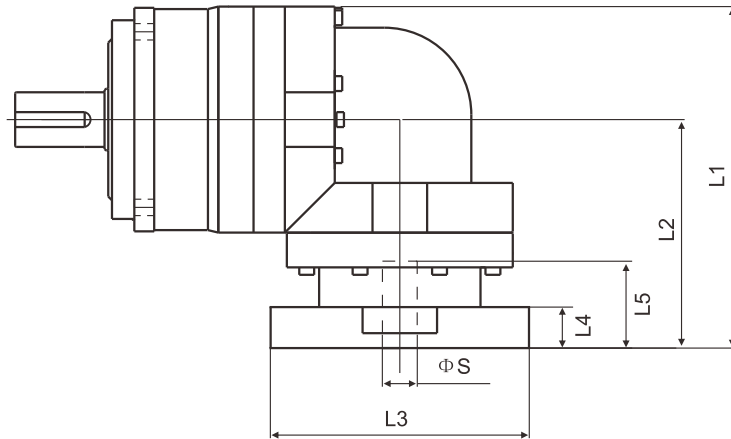


Model number	**: Adapter code	2 Stage					3 Stage				
		L1	L2	L3	L4	L5	L1	L2	L3	L4	L5
ZAF-060-[-][-]-8** Input Shaft Dia. $\leq \phi 8$	AA • AC • AD • AF • AG	103	71.5	$\square 52$	15.5	32	96	64.5	$\square 52$	15.5	32
	AB • AE • AH • AJ • AK	108	76.5	$\square 52$	20.5	37	101	69.5	$\square 52$	20.5	37
	BA • BB • BD • BE	103	71.5	$\square 60$	15.5	32	96	64.5	$\square 60$	15.5	32
	BC • BF	108	76.5	$\square 60$	20.5	37	101	69.5	$\square 60$	20.5	37
	CA	108	76.5	$\square 70$	20.5	37	101	69.5	$\square 70$	20.5	37
ZAF-060-[-][-]-14** Input Shaft Dia. $\leq \phi 14$	BA • BB • BD • BE • BF • BG • BJ • BK	109	77.5	$\square 65$	16.5	35	100	68.5	$\square 65$	16.5	35
	BC • BH	114	82.5	$\square 65$	21.5	40	105	73.5	$\square 65$	21.5	40
	BL	119	87.5	$\square 65$	26.5	45	110	78.5	$\square 65$	26.5	45
	CA	109	77.5	$\square 70$	16.5	35	100	68.5	$\square 70$	16.5	35
	CB	114	82.5	$\square 70$	21.5	40	105	73.5	$\square 70$	21.5	40
	DA • DB • DC • DD • DF • DH	109	77.5	$\square 80$	16.5	35	100	68.5	$\square 80$	16.5	35
	DE	114	82.5	$\square 80$	21.5	40	105	73.5	$\square 80$	21.5	40
	DG	119	87.5	$\square 80$	26.5	45	110	78.5	$\square 80$	26.5	45
	EA • EB • EC	109	77.5	$\square 90$	16.5	35	100	68.5	$\square 90$	16.5	35
	ED	119	87.5	$\square 90$	26.5	45	110	78.5	$\square 90$	26.5	45
	FA	109	77.5	$\square 100$	16.5	35	100	68.5	$\square 100$	16.5	35
	GA	109	77.5	$\square 115$	16.5	35	100	68.5	$\square 115$	16.5	35
	ZAF-060-[-][-]-19** Input Shaft Dia. $\leq \phi 19$	DA • DB • DC	126	94.5	$\square 80$	25	50	-	-	-	-
DD		136	104.5	$\square 80$	35	60	-	-	-	-	-
DE		131	99.5	$\square 80$	30	55	-	-	-	-	-
EA		131	99.5	$\square 90$	30	55	-	-	-	-	-
EB		126	94.5	$\square 90$	25	50	-	-	-	-	-
EC		136	104.5	$\square 90$	35	60	-	-	-	-	-
FA		126	94.5	$\square 100$	25	50	-	-	-	-	-
FB		136	104.5	$\square 100$	35	60	-	-	-	-	-
GA • GC		131	99.5	$\square 115$	30	55	-	-	-	-	-
GB • GD		126	94.5	$\square 115$	25	50	-	-	-	-	-
HA		126	94.5	$\square 130$	25	50	-	-	-	-	-
HB		141	109.5	$\square 130$	40	65	-	-	-	-	-
HC • HD • HE		131	99.5	$\square 130$	30	55	-	-	-	-	-

※1 1-stage reduction ratios 3 to 10, 2-stages reduction ratios 15 to 100

※2 Adaptors available to match different input shaft diameters.

# ZAF-090 Input Shaft Adaptors



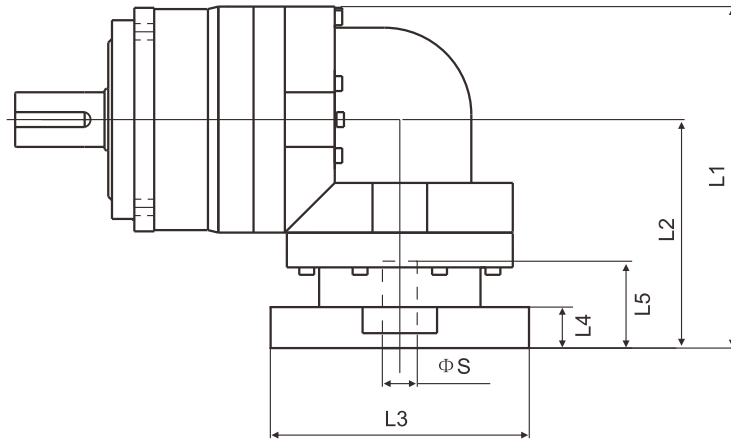
Model number	** : Adapter code	2 Stage					3 Stage				
		L1	L2	L3	L4	L5	L1	L2	L3	L4	L5
ZAF-090-[-][-]-8** Input Shaft Dia. $\leq \phi 8$	AA • AC • AD • AF • AG	-	-	-	-	-	117	71.5	□52	15.5	32
	AB • AE • AH • AJ • AK	-	-	-	-	-	122	76.5	□52	20.5	37
	BA • BB • BD • BE	-	-	-	-	-	117	71.5	□60	15.5	32
	BC • BF	-	-	-	-	-	122	76.5	□60	20.5	37
	CA	-	-	-	-	-	122	76.5	□70	20.5	37
ZAF-090-[-][-]-14** Input Shaft Dia. $\leq \phi 14$	BA • BB • BD • BE • BF • BG • BJ • BK	137.5	92	□65	16.5	35	123	77.5	□65	16.5	35
	BC • BH	142.5	97	□65	21.5	40	128	82.5	□65	21.5	40
	BL	147.5	102	□65	26.5	45	133	87.5	□65	26.5	45
	CA	137.5	92	□70	16.5	35	123	77.5	□70	16.5	35
	CB	142.5	97	□70	21.5	40	128	82.5	□70	21.5	40
	DA • DB • DC • DD • DF • DH	137.5	92	□80	16.5	35	123	77.5	□80	16.5	35
	DE	142.5	97	□80	21.5	40	128	82.5	□80	21.5	40
	DG	147.5	102	□80	26.5	45	133	87.5	□80	26.5	45
	EA • EB • EC	137.5	92	□90	16.5	35	123	77.5	□90	16.5	35
	ED	147.5	102	□90	26.5	45	133	87.5	□90	26.5	45
	FA	137.5	92	□100	16.5	35	123	77.5	□100	16.5	35
	GA	137.5	92	□115	16.5	35	123	77.5	□115	16.5	35
	ZAF-090-[-][-]-19** Input Shaft Dia. $\leq \phi 19$	DA • DB • DC	145.5	100	□80	25	50	140	94.5	□80	25
DD		155.5	110	□80	35	60	150	104.5	□80	35	60
DE		150.5	105	□80	30	55	145	99.5	□80	30	55
EA		150.5	105	□90	30	55	145	99.5	□90	30	55
EB		145.5	100	□90	25	50	140	94.5	□90	25	50
EC		155.5	110	□90	35	60	150	104.5	□90	35	60
FA		145.5	100	□100	25	50	140	94.5	□100	25	50
FB		155.5	110	□100	35	60	150	104.5	□100	35	60
GA • GC		150.5	105	□115	30	55	145	99.5	□115	30	55
GB • GD		145.5	100	□115	25	50	140	94.5	□115	25	50
HA		145.5	100	□130	25	50	140	94.5	□130	25	50
HB		160.5	115	□130	40	65	155	109.5	□130	40	65
HC • HD • HE		150.5	105	□130	30	55	145	99.5	□130	30	55
ZAF-090-[-][-]-28** Input Shaft Dia. $\leq \phi 28$ 8]	FA • FB • FC	174.5	129	□100	35	67	-	-	-	-	-
	GA • GB • GC • GD • GE • GF • GG	174.5	129	□115	35	67	-	-	-	-	-
	HA • HC • HD	174.5	129	□130	35	67	-	-	-	-	-
	HB	184.5	139	□130	45	77	-	-	-	-	-
	JA • JB • JC	174.5	129	□150	35	67	-	-	-	-	-
	KA • KB	174.5	129	□180	35	67	-	-	-	-	-
	LA	174.5	129	□200	35	67	-	-	-	-	-
MA	174.5	129	□220	35	67	-	-	-	-	-	

※1 1-stage reduction ratios 3 to 10, 2-stages reduction ratios 15 to 100

※2 Adaptors available to match different input shaft diameters.



# ZAF-115 Input Shaft Adaptors

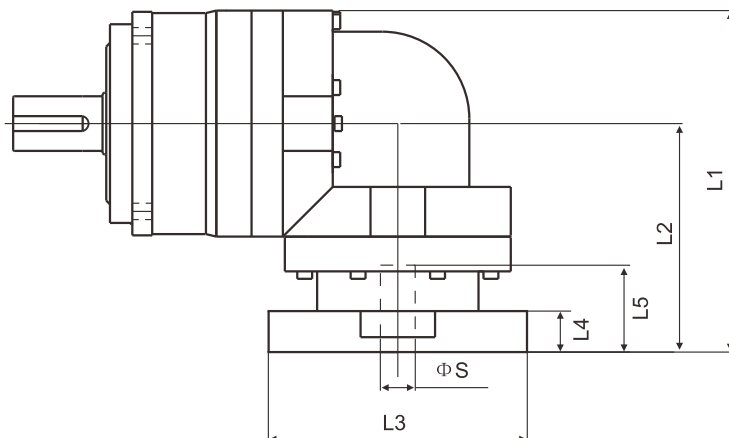


Model number	**: Adapter code	2 Stage					3 Stage				
		L1	L2	L3	L4	L5	L1	L2	L3	L4	L5
ZAF-115-[-][-]-14** Input Shaft Dia. $\leq \phi 14$	BA • BB • BD • BE • BF • BG • BJ • BK	-	-	-	-	-	152	92	□65	16.5	35
	BC • BH	-	-	-	-	-	157	97	□65	21.5	40
	BL	-	-	-	-	-	162	102	□65	26.5	45
	CA	-	-	-	-	-	152	92	□70	16.5	35
	CB	-	-	-	-	-	157	97	□70	21.5	40
	DA • DB • DC • DD • DF • DH	-	-	-	-	-	152	92	□80	16.5	35
	DE	-	-	-	-	-	157	97	□80	21.5	40
	DG	-	-	-	-	-	162	102	□80	26.5	45
	EA • EB • EC	-	-	-	-	-	152	92	□90	16.5	35
	ED	-	-	-	-	-	162	102	□90	26.5	45
	FA	-	-	-	-	-	152	92	□100	16.5	35
	GA	-	-	-	-	-	152	92	□115	16.5	35
	ZAF-115-[-][-]-19** Input Shaft Dia. $\leq \phi 19$	DA • DB • DC	170	110	□80	25	50	160	100	□80	25
DD		180	120	□80	35	60	170	110	□80	35	60
DE		175	115	□80	30	55	165	105	□80	30	55
EA		175	115	□90	30	55	165	105	□90	30	55
EB		170	110	□90	25	50	160	100	□90	25	50
EC		180	120	□90	35	60	170	110	□90	35	60
FA		170	110	□100	25	50	160	100	□100	25	50
FB		180	120	□100	35	60	170	110	□100	35	60
GA • GC		175	115	□115	30	55	165	105	□115	30	55
GB • GD		170	110	□115	25	50	160	100	□115	25	50
HA		170	110	□130	25	50	160	100	□130	25	50
HB		185	125	□130	40	65	175	115	□130	40	65
HC • HD • HE		175	115	□130	30	55	165	105	□130	30	55
ZAF-115-[-][-]-28** Input Shaft Dia. $\leq \phi 28$	FA • FB • FC	196	136	□100	35	67	189	129	□100	35	67
	GA • GB • GC • GD • GE • GF • GG	196	136	□115	35	67	189	129	□115	35	67
	HA • HC • HD	196	136	□130	35	67	189	129	□130	35	67
	HB	206	146	□130	45	77	199	139	□130	45	77
	JA • JB • JC	196	136	□150	35	67	189	129	□150	35	67
	KA • KB	196	136	□180	35	67	189	129	□180	35	67
	LA	196	136	□200	35	67	189	129	□200	35	67
	MA	196	136	□220	35	67	189	129	□220	35	67
ZAF-115-[-][-]-38** Input Shaft Dia. $\leq \phi 38$	HA	213	153	□130	45	82	-	-	-	-	-
	HB	208	148	□130	40	77	-	-	-	-	-
	JA	213	153	□150	45	82	-	-	-	-	-
	KA • KB • KC	213	153	□180	45	82	-	-	-	-	-
	LA	213	153	□200	45	82	-	-	-	-	-
	LB	213	163	□200	55	92	-	-	-	-	-
	MA • MB	213	153	□220	45	82	-	-	-	-	-
	NA	213	153	□250	45	82	-	-	-	-	-

※1 1-stage reduction ratios 3 to 10, 2-stages reduction ratios 15 to 100

※2 Adaptors available to match different input shaft diameters.

# ZAF-140 Input Shaft Adaptors



Model number	**: Adapter code	2 Stage					3 Stage				
		L1	L2	L3	L4	L5	L1	L2	L3	L4	L5
ZAF-140-[-][-]-19** Input Shaft Dia. $\leq \phi 19$	DA • DB • DC	-	-	-	-	-	185	110	□80	25	50
	DD	-	-	-	-	-	195	120	□80	35	60
	DE	-	-	-	-	-	190	115	□80	30	55
	EA	-	-	-	-	-	190	115	□90	30	55
	EB	-	-	-	-	-	185	110	□90	25	50
	EC	-	-	-	-	-	195	120	□90	35	60
	FA	-	-	-	-	-	185	110	□100	25	50
	FB	-	-	-	-	-	195	120	□100	35	60
	GA • GC	-	-	-	-	-	190	115	□115	30	55
	GB • GD	-	-	-	-	-	185	110	□115	25	50
	HA	-	-	-	-	-	185	110	□130	25	50
	HB	-	-	-	-	-	200	125	□130	40	65
HC • HD • HE	-	-	-	-	-	190	115	□130	30	55	
ZAF-140-[-][-]-28** Input Shaft Dia. $\leq \phi 28$	FA • FB • FC	227	152	□100	35	67	211	136	□100	35	67
	GA • GB • GC • GD • GE • GF • GG	227	152	□115	35	67	211	136	□115	35	67
	HA • HC • HD	227	152	□130	35	67	211	136	□130	35	67
	HB	227	162	□130	45	77	221	146	□130	45	77
	JA • JB • JC	227	152	□150	35	67	211	136	□150	35	67
	KA • KB	227	152	□180	35	67	211	136	□180	35	67
	LA	227	152	□200	35	67	211	136	□200	35	67
ZAF-140-[-][-]-38** Input Shaft Dia. $\leq \phi 38$	MA	227	152	□220	35	67	211	136	□220	35	67
	HA	242	167	□130	45	82	228	153	□130	45	82
	HB	237	162	□130	40	77	223	148	□130	40	77
	JA	242	167	□150	45	82	228	153	□150	45	82
	KA • KB • KC	242	167	□180	45	82	228	153	□180	45	82
	LA	242	167	□200	45	82	228	153	□200	45	82
	LB	252	177	□200	55	92	238	163	□200	55	92
	MA • MB	242	167	□220	45	82	228	153	□220	45	82
NA	242	167	□250	45	82	228	153	□250	45	82	
ZAF-140-[-][-]-48** Input Shaft Dia. $\leq \phi 48$	KB • KC	268	193	□180	55	98	-	-	-	-	-
	KA	268	213	□180	75	118	-	-	-	-	-
	LA	268	193	□200	55	98	-	-	-	-	-
	MA	268	193	□220	55	98	-	-	-	-	-
	MB	288	213	□220	75	118	-	-	-	-	-
	NA	268	213	□250	75	118	-	-	-	-	-
PA	268	213	□280	75	118	-	-	-	-	-	

※1 1-stage reduction ratios 3 to 10, 2-stages reduction ratios 15 to 100

※2 Adaptors available to match different input shaft diameters.