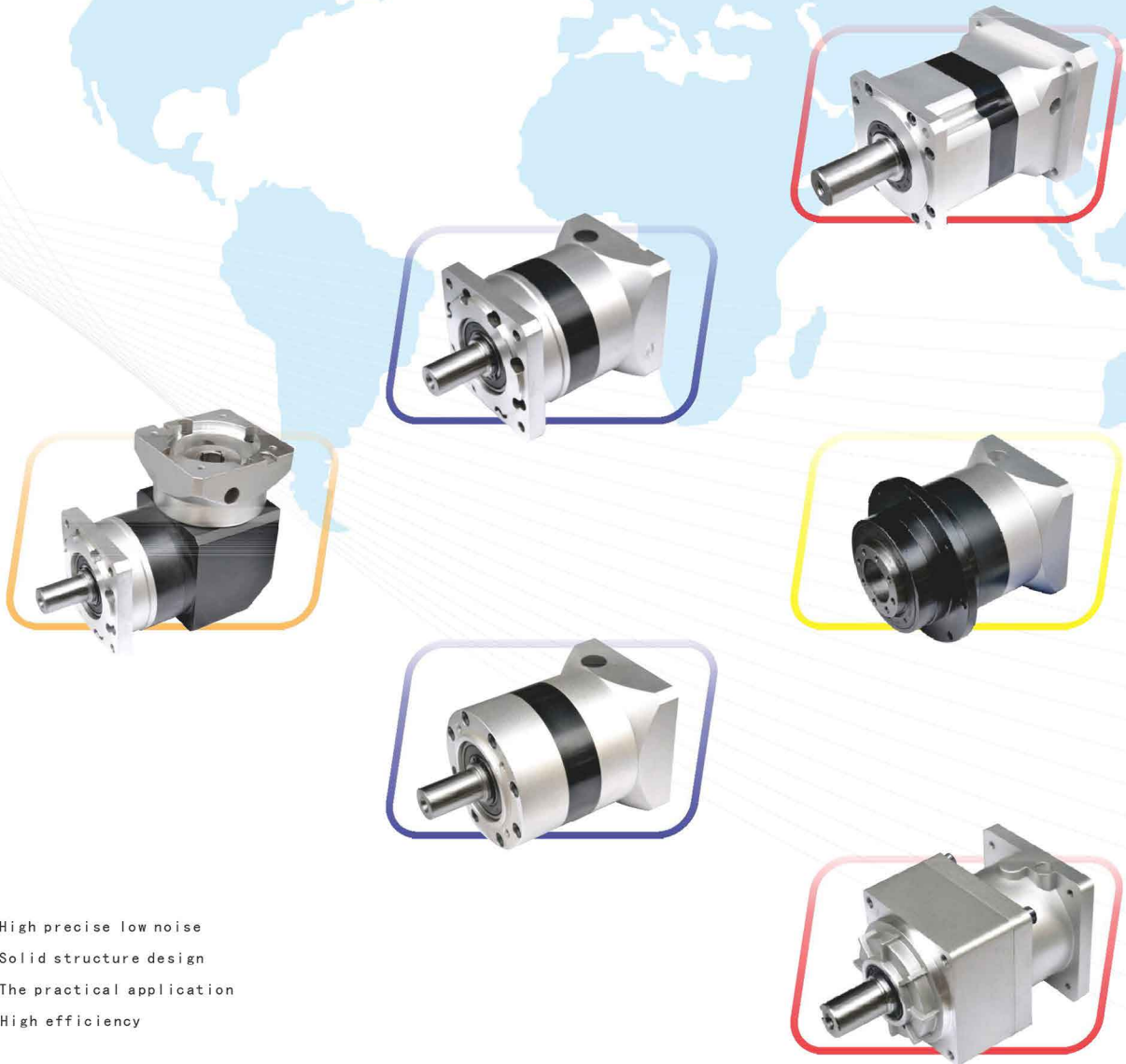


# Precision Planetary Gearbox



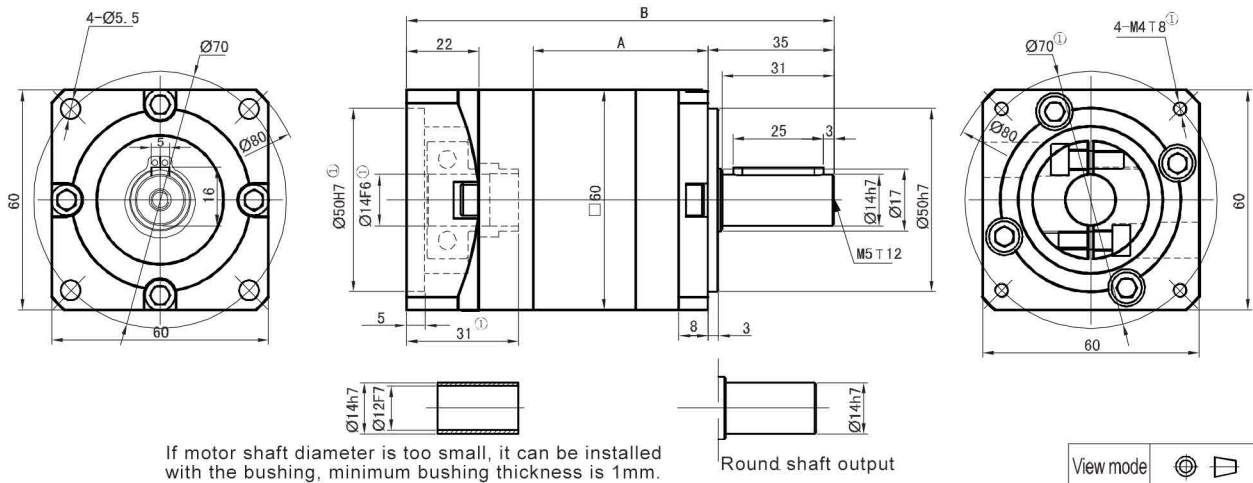
High precise low noise  
Solid structure design  
The practical application  
High efficiency

伍勒斯精密机械有限公司  
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# PLF60



If motor shaft diameter is too small, it can be installed with the bushing, minimum bushing thickness is 1mm.

Round shaft output



Stage	Stage 1 (i: 3 4 5 7 10)		Stage 2 (i: 12 16 20 25 28 35 40 50 70)				Stage 3 (i: 64 80 100 125 140 175 200 250 350 400 500 700 1000)							
	A	B	A	B	A	B	A	B	A	B	A	B		
Length(mm)	46	118	62	134	78	150								
Rated input speed(rpm)	4000		4000				4000							
Maximum input speed(rpm)	8000		8000				8000							
The maximum radial force(N) <sup>②</sup>	485		605				670							
The maximum axial force(N) <sup>②</sup>	380		490				550							
No load torque(Nm)	about 0.6		about 0.3				about 0.3							
Efficiency withfull load(%)	96		94				90							
Back lash(arcmin)	<12		<15				<18							
Noise(dB)	≤58		≤58				≤58							
Weight(Kg)	1.0		1.3				1.6							
Average lifetime(h)			>20000											
Torsional rigidity(Nm/arcmin)			2.3											
lubricant	Effective lubrication													
direction of rotation	The input and output to the same													
Protection level	IP65													
Installation	arbitrarily													

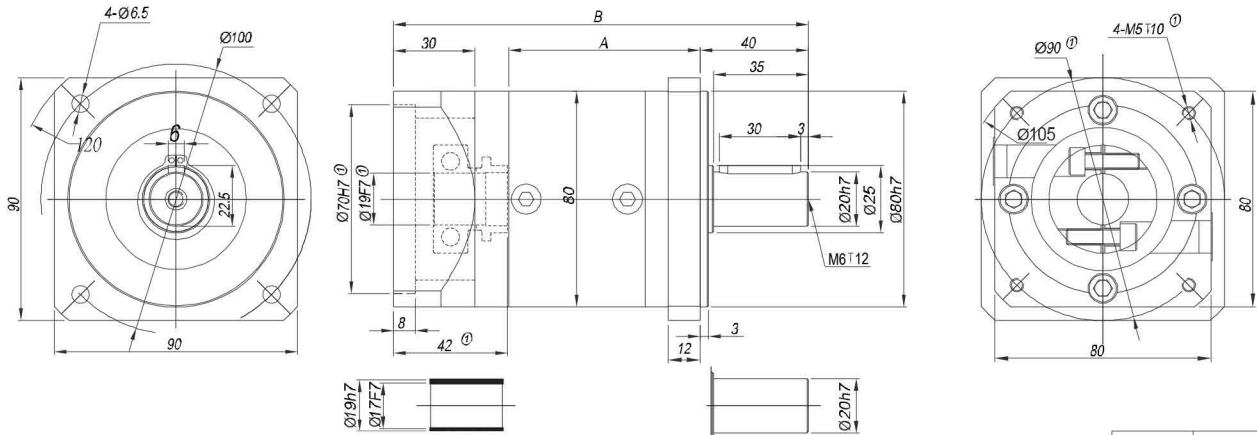
Ratio (i)	3 <sup>(max torque)</sup>	4	5	7	10	12 <sup>(max torque)</sup>	16	20	25	28	35	40	50	70
Rated output torque(Nm)	16.5	27.0	29.5	19.5	8.5	30.0	30.0	30.0	33.0	30.0	33.0	30.0	33.0	21.5
maximum output torque(Nm)	33.0	54.0	59.0	39.0	17.0	60.0	60.0	60.0	66.0	60.0	66.0	60.0	66.0	43.0
Moment of inertia(Kgcm <sup>2</sup> )	0.107	0.094	0.092	0.091	0.091	0.107	0.094	0.092	0.092	0.091	0.091	0.091	0.091	0.091

Ratio (i)	64	80	100	125	140	175	200	250	280	350	400	500	700	1000
Rated output torque(Nm)	37.5	37.5	37.5	41.0	37.5	41.0	37.5	41.0	37.5	41.0	37.5	41.0	27.0	11.5
maximum output torque(Nm)	75.0	75.0	75.0	82.0	75.0	82.0	75.0	82.0	75.0	82.0	75.0	82.0	54.0	23.0
Moment of inertia(Kgcm <sup>2</sup> )	0.092	0.092	0.092	0.092	0.091	0.091	0.091	0.091	0.091	0.091	0.091	0.091	0.091	0.091

Subscript 1. Motor is different, matching size will vary, the adapter will be different. Our reducer can be matched to fix with any motor.

Subscript 2. Acting on the output shaft center (1/2 axis strengths), permitted radial force and axial force (be forced at the same time), when the output speed of 1-Stage reducer is 100rpm, or 2-stage's output speed is 50rpm, or 3-stage's output speed is 10rpm.

# PLF80



If motor shaft diameter is too small, it can be installed with the bushing, minimum bushing thickness is 1mm.

Round shaft output

View mode

Stage	Stage 1 (i: 3 4 5 7 10)		Stage 2 (i: 12 16 20 25 28 35 40 50 70)				Stage 3 (i: 64 80 100 125 140 175 200 250 350 400 500 700 1000)						
	A	B	A	B	A	B	A	B	A	B			
Length(mm)	71.5	154	94.5	177	117.5	201.5							
Rated input speed(rpm)	3500		3500				3500						
Maximum input speed(rpm)	6000		6000				6000						
The maximum radial force(N) <sup>②</sup>	1020		1270				1420						
The maximum axial force(N) <sup>②</sup>	850		1100				1250						
No load torque(Nm)	about 0.8		about 0.4				about 0.4						
Efficiency withfull load(%)	96		94				90						
Back lash(arcmin)	<12		<15				<18						
Noise(dB)	≤62		≤62				≤62						
Weight(Kg)	2.5		3.1				3.7						
Average lifetime(h)			>20000										
Torsional rigidity(Nm/arcmin)			7.5										
lubricant	Effective lubrication												
direction of rotation	The input and output to the same												
Protection level	IP65												
Installation	arbitrarily												

Ratio(i)	3 <sup>(max)</sup>	4	5	7	10	12 <sup>(max)</sup>	16	20	25	28 <sup>(max)</sup>	35	40	50	70
Rated output torque(Nm)	60.0	86.0	94.5	64.0	39.5	96.0	96.0	96.0	105.5	96.0	105.5	96.0	105.5	71.5
maximum output torque(Nm)	120.0	172.0	189.0	128.0	79.0	192.0	192.0	192.0	211.0	192.0	211.0	192.0	211.0	143.0
Moment of inertia(Kgcm <sup>2</sup> )	0.4	0.309	0.291	0.285	0.283	0.4	0.309	0.291	0.291	0.285	0.285	0.283	0.283	0.283

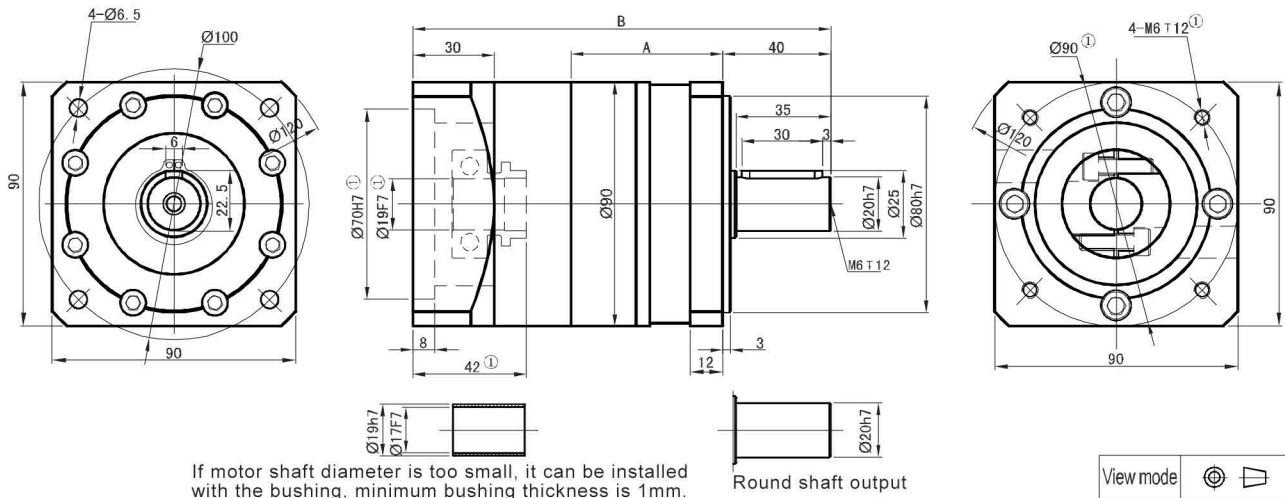
Ratio(i)	64	80	100	125	140	175	200	250	280 <sup>(max)</sup>	350	400	500	700	1000
Rated output torque(Nm)	120.0	120.0	120.0	132.0	120.0	132.0	120.0	132.0	120.0	132.0	120.0	132.0	89.5	55.0
maximum output torque(Nm)	240.0	240.0	240.0	264.0	240.0	264.0	240.0	264.0	240.0	264.0	240.0	264.0	179.0	110.0
Moment of inertia(Kgcm <sup>2</sup> )	0.291	0.291	0.291	0.291	0.285	0.285	0.283	0.283	0.283	0.283	0.283	0.283	0.283	0.283

Subscript ①: We offer different adapter for different size of motors. Our speed reducer can be matched to any motor.

Subscript ②: The allowable radial force and axial force are measured at the center of the output shaft (at the 1/2 axis length, stressed at same time), when the output speed is 1 stage 100rpm, 2 stage 50rpm, 3 stage 10rpm.



# PLF90



Stage	Stage 1 (i: 3 4 5 7 10)		Stage 2 (i: 12 16 20 25 28 35 40 50 70)				Stage 3 (i: 64 80 100 125 140 175 200 250 350 400 500 700 1000)							
	A	B	A	B	A	B	A	B	A	B				
Length(mm)	55	153	78.5	176.5	101.5	199.5								
Rated input speed(rpm)	3500		3500				3500							
Maximum input speed(rpm)	6000		6000				6000							
The maximum radial force(N) <sup>②</sup>	1020		1270				1420							
The maximum axial force(N) <sup>②</sup>	850		1100				1250							
No load torque(Nm)	about 0.8		about 0.4				about 0.4							
Efficiency with full load(%)	96		94				90							
Back lash(arcmin)	< 12		< 15				< 18							
Noise(dB)	≤ 62		≤ 62				≤ 62							
Weight(Kg)	2.8		3.4				4.0							
Average lifetime(h)			>20000											
Torsional rigidity(Nm/arcmin)			7.5											
lubricant	Effective lubrication													
direction of rotation	The input and output to the same													
Protection level	IP65													
Installation	arbitrarily													

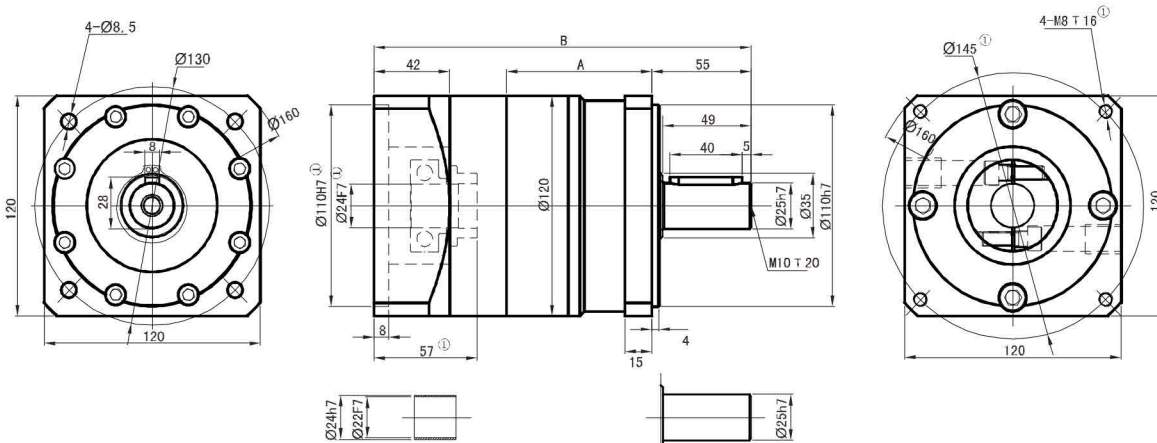
Ratio(i)	3	4	5	7	10	12	16	20	25	28	35	40	50	70
Rated output torque(Nm)	60.0	86.0	94.5	64.0	39.5	96.0	96.0	96.0	105.5	96.0	105.5	96.0	105.5	71.5
maximum output torque(Nm)	120.0	172.0	189.0	128.0	79.0	192.0	192.0	192.0	211.0	192.0	211.0	192.0	211.0	143.0
Moment of inertia(Kgcm <sup>2</sup> )	0.4	0.309	0.291	0.285	0.283	0.4	0.309	0.291	0.291	0.285	0.285	0.283	0.283	0.283

Ratio(i)	64	80	100	125	140	175	200	250	280	350	400	500	700	1000
Rated output torque(Nm)	120.0	120.0	120.0	132.0	120.0	132.0	120.0	132.0	120.0	132.0	120.0	132.0	89.5	55.0
maximum output torque(Nm)	240.0	240.0	240.0	264.0	240.0	264.0	240.0	264.0	240.0	264.0	240.0	264.0	179.0	110.0
Moment of inertia(Kgcm <sup>2</sup> )	0.291	0.291	0.291	0.291	0.285	0.285	0.283	0.283	0.283	0.283	0.283	0.283	0.283	0.283

Subscript ①: We offer different adapter for different size of motors. Our speed reducer can be matched to any motor.

Subscript ②: The allowable radial force and axial force are measured at the center of the output shaft (at the 1/2 axis length, stressed at same time), when the output speed is 1 stage 100rpm, 2 stage 50rpm, 3 stage 10rpm.

# PLF120



If motor shaft diameter is too small, it can be installed with the bushing, minimum bushing thickness is 1mm.

Round shaft output

View mode

Stage	Stage 1 (i: 3 4 5 7 10)		Stage 2 (i: 12 16 20 25 28 35 40 50 70)						Stage 3 (i: 64 80 100 125 140 175 200 250 350 400 500 700 1000)					
	A	B	A		B		A		B					
Length(mm)	80	210	110	240	140	270								
Rated input speed(rpm)	3000		3000						3000					
Maximum input speed(rpm)	4800		4800						4800					
The maximum radial force(N) <sup>②</sup>	2230		2840						3020					
The maximum axial force(N) <sup>②</sup>	1550		2100						2600					
No load torque(Nm)	about 1.3		about 0.6						about 0.6					
Efficiency withfull load(%)	96		94						90					
Back lash(arcmin)	<12		<15						<18					
Noise(dB)	≤65		≤65						≤65					
Weight(Kg)	6.9		8.9						11.2					
Average lifetime(h)			>20000											
Torsional rigidity(Nm/arcmin)			15.0											
lubricant	Effective lubrication													
direction of rotation	The input and output to the same													
Protection level	IP65													
Installation	arbitrarily													

Ratio(i)	3 <sup>(max)</sup>	4	5	7	10	12 <sup>(max)</sup>	16	20	25	28	35	40	50	70
Rated output torque(Nm)	148.0	222.0	235.0	158.0	93.0	250.0	250.0	250.0	264.0	250.0	264.0	250.0	264.0	177.0
maximum output torque(Nm)	296.0	444.0	470.0	316.0	186.0	500.0	500.0	500.0	528.0	500.0	528.0	500.0	528.0	354.0
Moment of inertia(Kgcm <sup>2</sup> )	1.65	1.22	1.15	1.13	1.11	1.65	1.22	1.15	1.15	1.13	1.13	1.11	1.11	1.11

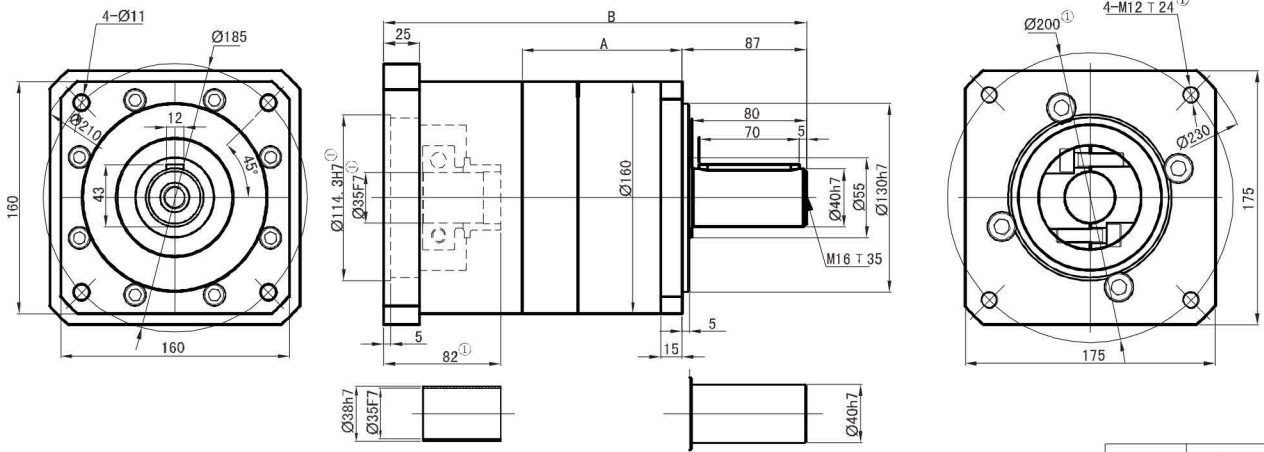
Ratio(i)	64	80	100	125	140	175	200	250	280	350	400	500	700	1000
Rated output torque(Nm)	310.0	310.0	310.0	329.0	310.0	329.0	310.0	329.0	310.0	329.0	310.0	329.0	220.0	130.0
maximum output torque(Nm)	620.0	620.0	620.0	658.0	620.0	658.0	620.0	658.0	620.0	658.0	620.0	658.0	440.0	260.0
Moment of inertia(Kgcm <sup>2</sup> )	1.15	1.15	1.15	1.15	1.13	1.13	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11

Subscript ①: We offer different adapter for different size of motors. Our speed reducer can be matched to any motor.

Subscript ②: The allowable radial force and axial force are measured at the center of the output shaft (at the 1/2 axis length, stressed at same time), when the output speed is 1 sate 100rpm, 2 stage 50rpm, 3 stage 10rpm.



# PLF160



If motor shaft diameter is too small, it can be installed with the bushing, minimum bushing thickness is 1mm.

Round shaft output



Stage	Stage 1 (i: 3 4 5 8)		Stage 2 (i: 12 16 20 25 32 40 64)		Stage 3 (i: 60 64 80 100 120 160 200 256 320 512)					
	A	B	A	B	A		B			
Length(mm)	111	296.0	149	333	187		374.0			
Rated input speed(rpm)	3000		3000		3000					
Maximum input speed(rpm)	4500		4500		4500					
The maximum radial force(N) <sup>②</sup>	2200		2700		4650					
The maximum axial force(N) <sup>②</sup>	2300		3000		6000					
No load torque(Nm)	about 3.2		about 2.1		about 2.1					
Efficiency with full load(%)	96		94		90					
Back lash(arcmin)	<12		<15		<18					
Noise(dB)	≤68		≤68		≤68					
Weight(Kg)	19.5		25.5		31.5					
Average lifetime(h)			>20000							
Torsional rigidity(Nm/arcmin)			27.0							
lubricant	Effective lubrication									
direction of rotation	The input and output to the same									
Protection level	IP65									
Installation	arbitrarily									

Ratio(i)	3	4	5	8	12	16	20	25	32	40	60	64 <sup>Stage 2</sup>	64 <sup>Stage 3</sup>	80
Rated output torque(Nm)	310.0	605.0	420.0	270.0	680.0	680.0	680.0	460.0	680.0	460.0	900.0	310.0	900.0	900.0
maximum output torque(Nm)	620.0	1210.0	840.0	540.0	1360.0	1360.0	1360.0	920.0	1360.0	920.0	1800.0	620.0	1800.0	1800.0
Moment of inertia(Kgcm <sup>2</sup> )	6.31	5.15	4.93	4.84	6.31	5.15	4.93	4.93	4.84	4.84	6.31	4.84	4.93	4.93

Ratio(i)	100	120	160	200	256	320	512							
Rated output torque(Nm)	900.0	580.0	900.0	580.0	900.0	580.0	400.0							
maximum output torque(Nm)	1800.0	1160.0	1800.0	1160.0	1800.0	1160.0	800.0							
Moment of inertia(Kgcm <sup>2</sup> )	4.93	4.84	4.84	4.84	4.84	4.84	4.84							

Subscript ①: We offer different adapter for different size of motors. Our speed reducer can be matched to any motor.

Subscript ②: The allowable radial force and axial force are measured at the center of the output shaft (at the 1/2 axis length, stressed at same time), when the output speed is 1 stage 100rpm, 2 stage 50rpm, 3 stage 10rpm.