

## WPL(E/F) Series Right Angle Precision Planetary Gear Head

### Key Features:

- Low noise ( 65 dB(A))
- Long life (30,000 Hours)
- High Output Torque
- High Efficiency (94%)
- Long life Lubrication
- Easy Motor Mounting (custom made mounting configurations)



### Production Number Code for WPL Series Gear Head:

$\frac{80}{\textcircled{1}}$   $\frac{WPL}{\textcircled{2}}$   $\frac{40}{\textcircled{3}}$

① Frame Size: 80 = 80mm

② Gear Head Type

WPLE: Right Angle Precision Planetary Gear Head – (Square Flange)

WPLF: Right Angle Precision Planetary Gear Head – (Round Flange)

③ Reduction Ratio: 40 = 40:1

### Applications:

- Servo Motors
- Stepping Motor
- Brushless DC Motors
- PMDC Motors

# WPL(E/F) Series Right Angle Precision Planetary Gear Head



## Technical Data

Model		40WPL(E/F)	60WPL(E/F)	80WPL(E/F)	120WPL(E/F)	Ratio	Stage
Rated Output Torque	N.m	4.5	12	40	80	3	1
		6	16	50	100	4	
		6	16	50	110	5	
		5	15	45	120	8	
		5	15	45	120	10	
		16.5	44	110	210	9	2
		18	44	120	260	12	
		18	40	110	230	15	
		20	44	120	260	16	
		20	44	120	260	20	
		18	40	110	230	25	
		20	44	120	260	32	
		18	40	110	230	40	3
		7.5	18	50	120	64	
		20	44	120	260	60	
		20	44	120	260	80	
		20	44	120	260	100	
		18	40	110	230	120	
		20	44	120	260	160	
		18	40	110	230	200	
20	44	120	260	256			
18	40	110	230	320			
7.5	18	50	120	512			
Life	Hour	30,000					
Max. Torque	N.m	2 times of the rated output torque					

Model	40WPL(E/F)	60WPL(E/F)	80WPL(E/F)	120WPL(E/F)	Unit	Stage
Permissible Radial Load	160	340	650	1500	N	
Permissible Axial Load	160	450	900	2100	N	
Full Load Efficiency	94				%	1
	92					2
	88					3
Weight	0.51	1.7	4.4	12	Kg	1
	0.61	1.9	5	14		2
	0.71	2.1	5.5	16		3
Working Temperature	-25°C ~ +90°C				°C	
Protection Class	IP54					
Lubrication	Life time					
Mounting Orientation	Any					

Note: Permissible radial and axial load point at middle of the shaft (L/2) and speed at 100RPM

# WPL(E/F) Series Right Angle Precision Planetary Gear Head



## Technical Data

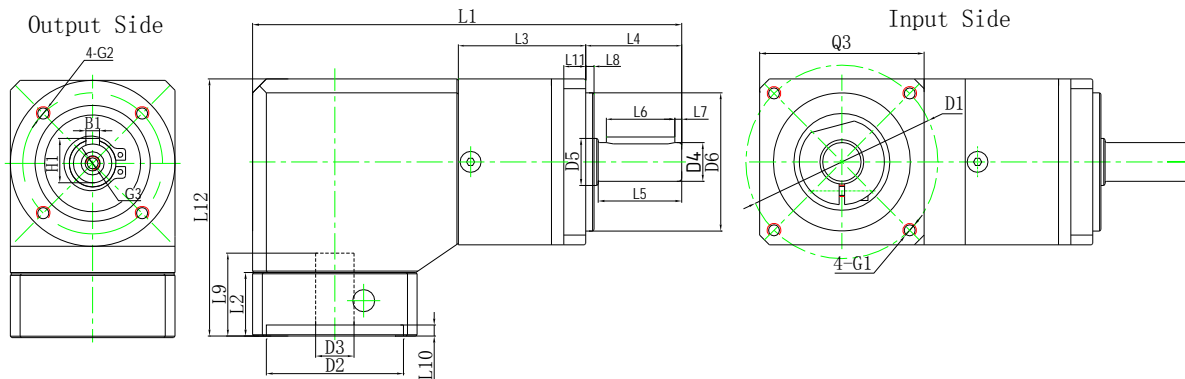
Model		40WPL(E/F)	60WPL(E/F)	80WPL(E/F)	120WPL(E/F)	Ratio
Moment of Inertia	Kgcm <sup>2</sup>	0.044	0.246	1.189	5.75	3
		0.035	0.204	0.939	3.91	4
		0.032	0.189	0.869	3.35	5
		0.030	0.176	0.809	2.89	8
		0.026	0.152	0.73	2.54	10
		0.043	0.242	1.159	5.73	9
		0.042	0.238	1.139	5.60	12
		0.036	0.188	1.129	5.53	15
		0.035	0.199	0.919	3.83	16
		0.032	0.186	0.859	3.28	20
		0.032	0.186	0.859	3.26	25
		0.030	0.175	0.809	2.84	32
		0.029	0.175	0.809	2.84	40
		0.029	0.175	0.809	2.84	64
		0.042	0.187	0.929	5.62	60
		0.032	0.186	0.919	3.28	80
		0.032	0.186	0.859	3.26	100
		0.042	0.175	1/119	5.47	120
		0.029	0.175	0.809	2.84	160
		0.029	0.175	0.809	2.84	200
0.029	0.175	0.809	2.84	256		
0.029	0.175	0.809	2.84	320		
0.029	0.175	0.809	2.84	512		
Model		40WPL(E/F)	60WPL(E/F)	80WPL(E/F)	120WPL(E/F)	stages
Backlash	Arcmin	<40	<30	<25	<15	1
		<45	<35	<30	<20	2
		<50	<40	<35	<25	3
Torsion stiffness	N.m/arcmin	0.7	1.8	4.5	12	1
		1.1	2.5	6.5	13	2
		1.0	2.5	6.3	12	3
Noise	65	65	68	70		
Max. Input Speed	RPM	18000	13000	7000	6500	
Rated Input speed	RPM	4500	3000	3000	3000	

Note: Load Inertia varies with different shaft length and diameter

Note: Noise tested @ 1.0 m, no load Input speed of 3000RPM

# WPLE Series Right Angle Planetary Gear Head - (Round Flange)

## Mechanical Dimensions:



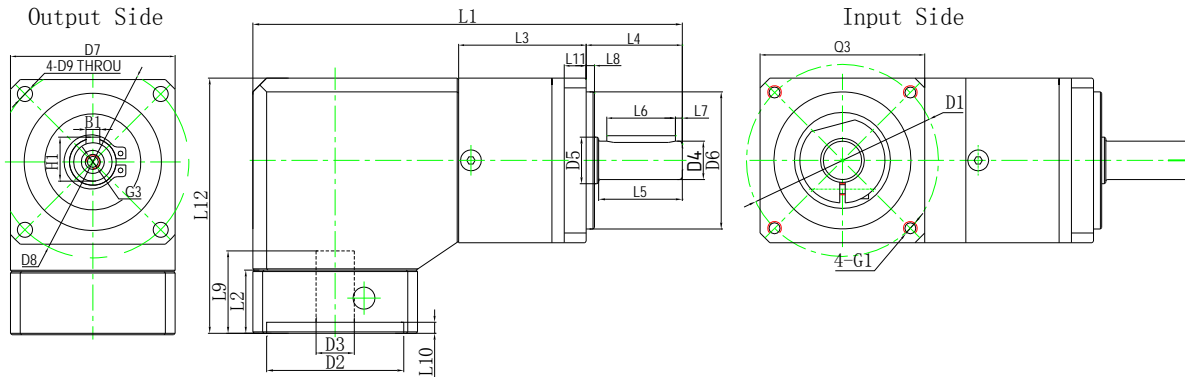
Unit (单位): mm

Model	40WPLE			60WPLE			80WPLE			120WPLE		
Stage	1	2	3	1	2	3	1	2	3	1	2	3
L1=Total Length	119.5	132.5	144.5	156.5	169.5	182	194	212	229.5	258.5	286.5	314
L3=Head Length	39	52	64	46.5	59.5	72	60	78	95.5	73.7	101.5	129
L12=Overall Height	68			93			109.5			145.5		
Output side												
L4=Shaft Length	26			35			40			55		
L5=Usable Length	24			30.5			36			50		
L6=Keyway Length.	16			25			28			40		
L7=Key to Shaft end	2.5			2.5			4			5		
L8=Pilot Height	2			3			3			4		
D4=Shaft Diameter	Φ10 h7			Φ14h7			Φ20h7			Φ25h7		
D5=Base Diameter	Φ12			Φ17			Φ25			Φ35		
D6=Pilot Diameter	Φ26			Φ40			Φ60			Φ80		
D7=Head Diameter	Φ40			Φ60			Φ80			Φ115		
D8=Mounting Circle Dia.	Φ34			Φ52			Φ70			Φ100		
B1=Key Width	3			5			6			8		
H1=Key Height	11.2			16			22.5			28		
G2=Mounting Screw	M4x6			M5x8			M6x10			M10x16		
G3=Center Screw	M3x9			M5x12			M6x16			M10x22		
Input Side												
L2=Flange Length	19			23			26.5			27		
L9=Motor shaft Length	25			30			35			45		
L10=Pilot Depth	3			2.5			3.5			3.5		
D1=Mounting Circle Dia.	Φ46			Φ70			Φ100			Φ115		
D2=Pilot Diameter	Φ30 H7			Φ50H7			Φ70H7			Φ95H7		
D3=Shaft Diameter	Φ8			Φ14			Φ16			Φ19		
G1=Mounting Screw	M4x10			M5x15			M6x15			M8x20		
Q3=Flange Size	□40			□60			□80			□120		

Note: Input dimensions can be changed to match front end-bell & shaft of the desired motor

# WPLF Series Right Angle Planetary Gear Head - (Square Flange)

## Mechanical Dimensions:



Unit (单位): mm

Model	40WPLF			60WPLF			80WPLF			120WPLF		
Stage	1	2	3	1	2	3	1	2	3	1	2	3
L1=Total Length	119.5	132.5	144.5	156.5	169.5	182	194	212	229.5	258.5	286.5	314
L3=Head Length	39	52	64	46.5	59.5	72	60	78	95.5	73.7	101.5	129
L12=Overall Height	68			93			109.5			145.5		
Output side												
L4=Shaft Length	26			35			40			55		
L5=Usable Length	24			30.5			36			50		
L6=Keyway Length.	16			25			28			40		
L7=Key to Shaft end	2.5			2.5			4			5		
L8=Pilot Height	2			3			3			4		
D4=Shaft Diameter	Φ10 h7			Φ14h7			Φ20h7			Φ25h7		
D5=Base Diameter	Φ12			Φ17			Φ25			Φ35		
D6=Pilot Diameter	Φ26			Φ40			Φ60			Φ80		
D7=Head Diameter	Φ40			Φ60			Φ80			Φ115		
D8=Mounting Circle Dia.	Φ34			Φ52			Φ70			Φ100		
B1=Key Width	3			5			6			8		
H1=Key Height	11.2			16			22.5			28		
G2=Mounting Screw	M4x6			M5x8			M6x10			M10x16		
G3=Center Screw	M3x9			M5x12			M6x16			M10x22		
Input Side												
L2=Flange Length	19			23			26.5			27		
L9=Motor shaft Length	25			30			35			45		
L10=Pilot Depth	3			2.5			3.5			3.5		
D1=Mounting Circle Dia.	Φ46			Φ70			Φ100			Φ115		
D2=Pilot Diameter	Φ30 H7			Φ50H7			Φ70H7			Φ95H7		
D3=Shaft Diameter	Φ8			Φ14			Φ16			Φ19		
G1=Mounting Screw	M4x10			M5x15			M6x15			M8x20		
Q3=Flange Size	□40			□60			□80			□120		

Note: Input dimensions can be changed to match front end-bell & shaft of the desired motor