PLS: High Rigidity Square Output Flange Type

Key Features:

- High Radial and Axial Permissible load rating
- Low Backlash (as low as 3 arcmin.)
- Low noise (<= 65 dB(A))
- Long life (30,000 Hours)
- High Output Torque
- High Efficiency (96%)
- Low Backlash (as low as 3 arcmin.)
- Easy Motor mounting (custom made mounting configurations)

Production Number Code for PLS Series Gear Head:

80	PLS	40
①	②	③

① Frame Size: 80 = 80mm

② Gear Head Type
PLS: High Rigidity Square Output Flange Type

③ Reduction Ratio: 40 = 40:1

Applications:

- Servo Motors with External Gear
- Stepping Motor with External Gear
- Brushless DC Motors with External Gear
- PMDC Motors with External Gear

PLS Series High Rigidity Planetary Gear Head

Technical Data

Model		70PLS	90PLS	115PLS	142PLS	190PLS	Ratio	Stage
Rated Output Torque	N.m	30	75	150	400	1000	3	1
		40	100	200	560	1200	4	
		50	110	210	700	1600	5	
		37	62	148	450	1000	8	
		27	45	125	305	630	10	
		77	120	260	910	1800	12	2
		68	110	210	780	1800	15	
		77	120	260	910	1800	16	
		77	110	260	910	1800	20	
		68	110	210	780	1800	25	
		77	120	260	910	1800	32	
		68	110	210	780	1800	40	
		37	62	148	450	1000	64	
		27	45	125	305	630	100	
Life	Hour	30,000						
Max. Torque	N.m	2 times of the rated output torque						

Model	70PLS	90PLS	115PLS	142PLS	190PLS	Unit	Stage
Permissible Radial Load	3000	3900	4300	8200	12000	N	
Permissible Axial Load	6000	9000	12000	19000	28000	N	
Full Load Efficiency	98					%	1
	95						2
Weight	3	4.3	9	15.4	33.5	Kg	1
	3.8	5.7	11.6	18.5	45		2
Working Temperature	-25℃ ~ +90℃					℃	
Protection Class	IP54						
Lubrication	Life time						
Mounting Orientation	Any						

Note: Permissible radial and axial load point at middle of the shaft (L4/2) and speed at 100RPM

PLS Series High Rigidity Planetary Gear Head

Technical Data

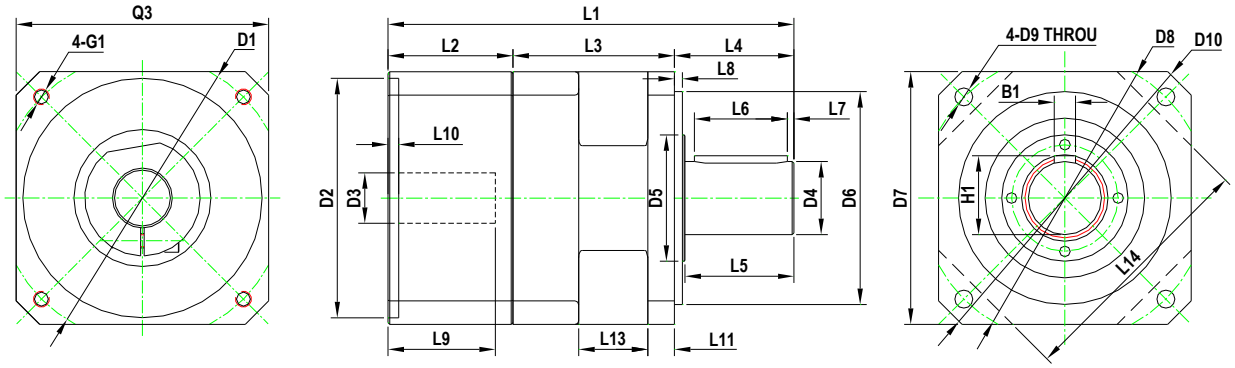
Model			70PLS	90PLS	115PLS	142PLS	190PLS	Ratio
Load Inertia	Kgcm ^{2}		0.32	0.81	2.1	12.14	47.52	3
			0.2	0.6	1.51	7.78	29.69	4
			0.16	0.52	1.22	6.07	23.18	5
			0.12	0.46	1.05	4.63	16.83	8
			0.1	0.44	1	4.25	15.32	10
			0.22	0.75	2	12.37	30.25	12
			0.21	0.74	2	12.35	23.53	15
			0.2	0.56	1.48	7.47	28.95	16
			0.17	0.5	1.41	6.65	22.71	20
			0.16	0.48	1.21	5.81	22.46	25
			0.13	0.45	1.46	6.36	16.65	32
			0.13	0.45	1.05	5.28	16.54	40
			0.13	0.45	1.05	4.5	16.45	64
			0.12	0.44	1	4.17	15.07	100
Backlash	arcmin	High	＜3	＜3	＜3	＜3	＜3	1 Stage
		Standard	＜8	＜8	＜8	＜8	＜8	
		High	＜5	＜5	＜5	＜5	＜5	2 Statge
		Standard	＜10	＜10	＜10	＜10	＜10	
Torsion Stiffness	N.m/arcmin		6	9	20	44	130	
Noise	dB(A)		58	60	65	68	70	
Max. Input Speed	RPM		14000	10000	8500	6500	6000	
Rated Input speed	RPM		5000	4500	4000	3000	2500	

Note: Load Inertia varies with different shaft length and diameter

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

PLS Series High Rigidity Planetary Gear Head - (Square Flange Only)

Mechanical Dimensions：



Unit (单位)： mm

Model	70PLS		90PLS		115PLS		142PLS		190PLS	
Stage	1	2	1	2	1	2	1	2	1	2
L1=Total Length	124	147.5	155.5	184	193	226.5	269	318.5	305.5	353
L3=Head Length	62.5	86	69	97.5	77.5	111	102	151.5	121.5	169
Output side										
L4=Shaft Length	32		41.5		64.5		87		90	
L5=Usable Length	28		36		58		80		82	
L6=Key Length	25		28		40		70		70	
L7=Key to end of shaft	3		4		5		5		5	
L8=Pilot Height	3		3		4		5		6	
D4=Shaft Diameter	Φ19 h7		Φ22 h7		Φ32 h7		Φ40 h7		Φ55 h7	
D5=Base Diameter	Φ35		Φ40		Φ45		Φ65		Φ95	
D6=Pilot Diameter	Φ60 h7		Φ80 h7		Φ110 h7		Φ130 h7		Φ160 h7	
D7= Output flange	□ 70		□ 90		□ 115		□ 142		□ 190	
D8=Mounting Cir Dia.	Φ75		Φ100		Φ130		Φ165		Φ215	
D9=Mounting Hole Dia.	Φ5.5		Φ6.5		Φ8.5		Φ11		Φ13.5	
H1=Key Height	21.5		24.5		35		43		59	
B1=Key Width	5		6		8		12		16	
L13=Cutoff width	23		30		34		52		52	
L14=Cutoff Body size	□ 64		□ 87		□ 115		□ 140		□ 190	
Input Side										
L2=Endbell Length	29.5		45		51		80		94	
L9=Motor shaft L	23		35		45		67		81	
L10=Pilot Depth	3		3.5		3.5		6		6	
D1=Mounting Cir Dia.	Φ75		Φ100		Φ115		Φ165		Φ215	
D2=Pilot Diameter	Φ50 H7		Φ80 H7		Φ95 H7		Φ130 H7		Φ180 H7	
D3=Shaft Hole Dia.	Φ11 H7		Φ16 H7		Φ19 H7		Φ35 H7		Φ38 H7	
G1=Mounting Screw	M5x12		M6x15		M8x22		M10x25		M12x25	
Q3=Endbell Size	□70		□90		□115		□142		□190	

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