



High Precision Planetary Gearheads for Servo motors

SPLFH Series

- ▶ Helical Gear
- ▶ Compact size
- ▶ High Precision, High Durability
- ▶ High Efficiency
- ▶ Easy Mount
- ▶ Protection grade IP65

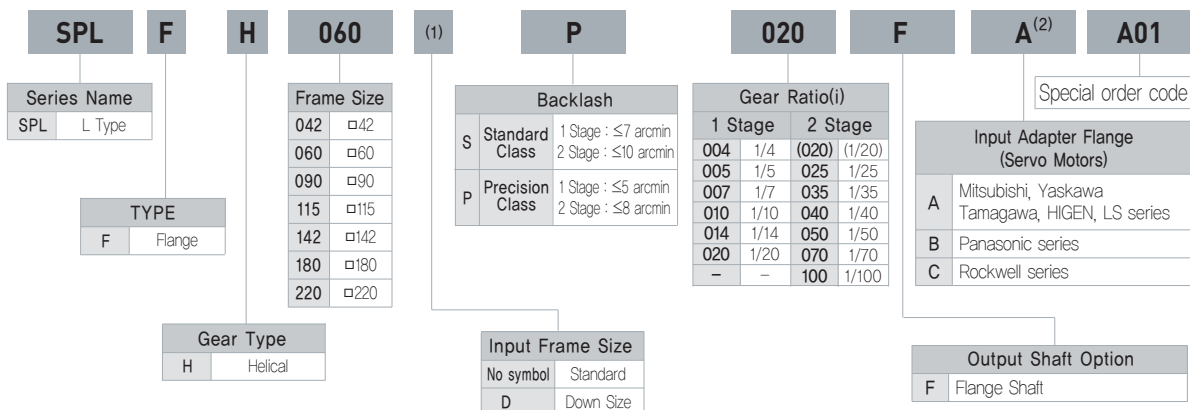
SPLFH Series

Specifications

Description	Unit	Stage	Ratio (i)	Model No.													
				SPLFH 042	SPLFH 060	SPLFH 060D	SPLFH 090	SPLFH 090D	SPLFH 115	SPLFH 115D	SPLFH 142	SPLFH 142D	SPLFH 180	SPLFH 180D	SPLFH 220	SPLFH 220D	
Nominal Output torque $T_{2N}^{(2)}$	Nm	1	4	10	18	-	76	-	205	-	489	-	720	-	1,080	-	
			5	12,5	22,5	-	95	-	235	-	580	-	900	-	1,350	-	
			7	14	31,5	-	100	-	210	-	495	-	900	-	1,872	-	
			10	11	30	-	94	-	215	-	420	-	790	-	1,395	-	
			14	-	31,5	-	100	-	210	-	505	-	980	-	1,872	-	
			20	-	30	-	94	-	215	-	370	-	790	-	1,395	-	
			20	16	-	-	-	-	-	-	-	-	-	-	-	-	-
		2	25	19	43	43	112	112	250	250	-	590	-	1,200	-	2,080	-
			35	19	43	43	112	112	250	250	-	590	-	1,200	-	2,080	-
			40	19	43	43	112	112	250	250	-	590	-	1,200	-	2,080	-
			50	19	43	43	112	112	250	250	-	590	-	1,200	-	2,080	-
			70	15	40	40	100	100	210	210	-	530	-	980	-	1,960	-
			100	11	30	30	94	94	215	215	-	420	-	790	-	1,395	-
			Max Acceleration torque T_{2B}	Nm	1,2	3 times of Nominal Output torque											
Nominal Input speed n_1	rpm	1,2	4~100														
Max. Input speed N_i	rpm	1,2	4~100														
Backlash (Standard class)	arcmin	1	4~20														
		2	25~100														
Backlash (Precision Class)	arcmin	1	4~20														
		2	25~100														
Torsional Rigidity	Nm/arcmin	1,2	4~100														
Max. Bending moment $M_{max}^{(2)}$	Nm	1,2	4~100														
Max. Axial load $F_a \max^{(2)}$	N	1,2	4~100														
Service life $(^{(2)})$	hr	1,2	4~100														
Noise level $(^{(3)})$	dB(A)	1,2	4~100														
Weight	kg	1	4~20														
		2	25~100														
Mass Moments of Inertia $(^{(4)})$	kg cm ²	1	4~20														
		2	25~100														
Operating Temp. $(^{(5)})$	°C	1,2	4~100														
Lubrication	-	1,2	4~100														
Mounting position	-	1,2	4~100														
Efficiency η	%	1	4~20														
		2	25~100														
Degree of protection	-	1,2	4~100														

(1) Ratio = N_{in} / N_{out} (2) Values were measured at the following conditions : 100 rpm at the output, Load coefficient(Ka) = 1, Continuous operation(S1=15,000hrs), (3) Noise level : A measurement 1m away from the gear head, 3000 input rpm and at no load condition, (Background noise 21dB(A)) (4) Moment of inertia : A measurement at the input shaft and representatives from each ratio.(i=1/5) (5) Operating temperature : Surface temperature of gear case in -10°C~40°C of ambient temperature.
 ※ The data in the above table are representative values, Specifications are subject to change without notice to improve product performances.

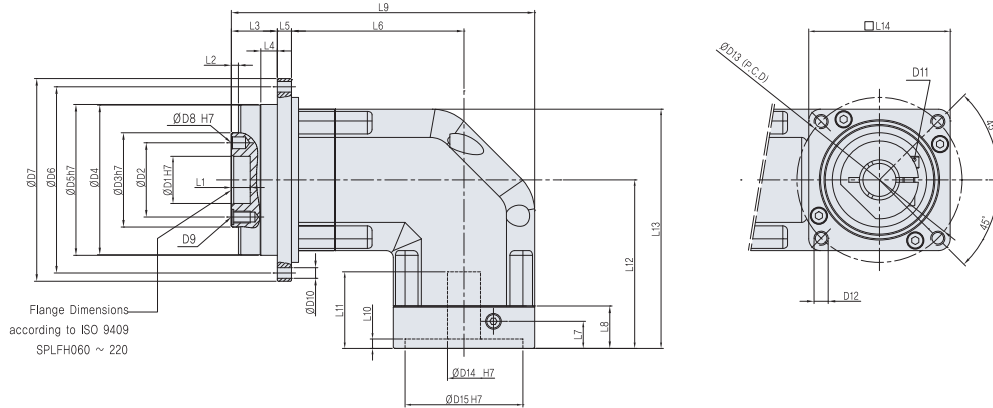
Coding System



- The input frame of down size depends on customer's request.
- Ratio 1/14 and 1/20 of 1 stage are custom-made specification.
- It is important for customers to verify mounting dimensions of a servo motor along with dimensions of gear head prior to placing purchase order.

Planetary Gearheads

■ Dimensions (1 Stage, Ratio(i) = 1/4 ~ 1/20)



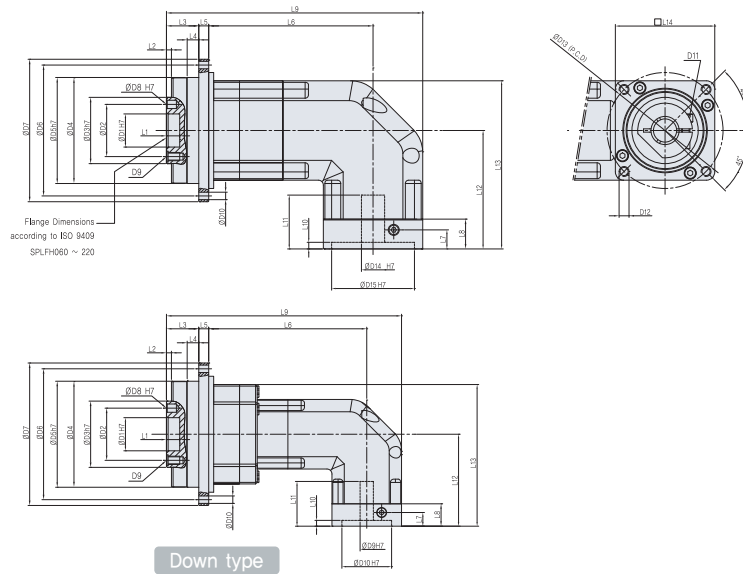
(Unit : mm)

Dimension \ Model	SPLFH 042	SPLFH 060	SPLFH 090	SPLFH 115	SPLFH 142	SPLFH 180	SPLFH 220
D1 H7	12	20	31,5	40	50	80	100
D2	20	31,5	50	63	80	125	140
D3 h7	28	40	63	80	100	160	180
D4	46,5	63,5	89,4	109,4	138	198	253
D5 h7	47	64	90	110	140	200	255
D6	67	79	109	135	168	233	280
D7	72	86	118	145	179	247	300
D8 H7	3 DP 4	5 DP 6	6 DP 7	6 DP 7	8 DP 7	10 DP 10	12 DP 10
D9	4-M3 DP 6,5	7-M5 DP 8	7-M6 DP 13,5	11-M6 DP 13,5	11-M8 DP 17	11-M10 DP 22,5	12-M16 DP 30,5
D10	8 - 3,4	8 - 4,5	8 - 5,5	8 - 5,5	12 - 6,6	12 - 9	16 - 13,5
D11	M3	M5	M5	M8	M8	M10	M12
D12	A	M4 DP 8	M5 DP 12	M6 DP 12	M8 DP 20	M12 DP 21	M12 DP 21
	B	M3 DP 6	M4 DP 12	M5 DP 12	-	-	-
	C	M4 DP 8	M5 DP 12	M6 DP 12	-	-	-
D13 H7	A	46	70	90	145	200	235
	B	45	70	90	-	-	-
	C	46	70	90	-	-	-
D14 H7	≤ 8	≤ 14	≤ 19	≤ 32	≤ 38	≤ 48	≤ 55
D15 H7	30	50	70	110	114,3	114,3	200
L1	4	8	12	12	12	16	20
L2	3	3	6	6	6	8	12
L3	19,5	19,5	30	29	38	50	66
L4	7	7	15	15	15	16	20
L5	4	6	7	8	9	12	18
L6	61	73,2	107,9	137	178	237	285
L7	A, B	8,3	11,5	11,5	27,5	33,5	47
	C	11,8	16	16,5	-	-	-
L8	A, B	13,5	18	18	42	46	68,5
	C	17	22,5	23	-	-	-
L9	A, B, C	105,5	128,7	189,9	231,5	315	389
L10		3,5	4	4	7	7	7
L11	A, B	27	35,5	42,5	73	84	109
	C	30,5	40	47,5	-	-	-
L12	A, B	55,5	71,5	88,1	131,3	156	196
	C	59	76	93,1	-	-	-
L13	A, B	76,5	101,5	113,1	188,8	227	286
	C	80	106	118,1	-	-	-
L14		42	60	90	130	180	220

- Note) 1. Specifications are subject to change without notice to improve product performances.
 2. The values of D12 through D15 and L7 through L14 on the above table may vary by servo motor.
 3. CAD files are available to download from website(www.spg.co.kr).

SPLFH Series

■ Dimensions (2 Stage, Ratio(i) = 1/25 ~ 1/100)



(Unit : mm)

Dimension \ Model	SPLFH 042	SPLFH 060	SPLFH 060D	SPLFH 090	SPLFH 090D	SPLFH 115	SPLFH 115D	SPLFH 142D	SPLFH 180D	SPLFH 220D
D1 H7	12	20	20	31,5	31,5	40	40	50	80	100
D2	20	31,5	31,5	50	50	63	63	80	125	140
D3 h7	28	40	40	63	63	80	80	100	160	180
D4	46,5	63,5	63,5	89,4	89,4	109,4	109,4	138	198	253
D5 h7	47	64	64	90	90	110	110	140	200	255
D6	67	79	79	109	109	135	135	168	233	280
D7	72	86	86	118	118	145	145	179	247	300
D8 H7	3 DP 4	5 DP 6	5 DP 6	6 DP 7	6 DP 7	6 DP 7	6 DP 7	8 DP 7	10 DP 10	12 DP 10
D9	4-M3 DP 6,5	7-M5 DP 8	7-M5 DP 8	7-M6 DP 13,5	7-M6 DP 13,5	11-M6 DP 13,5	11-M6 DP 13,5	11-M8 DP 17	11-M10 DP 22,5	12-M16 DP 30,5
D10	8 - 3,4	8 - 4,5	8 - 4,5	8 - 5,5	8 - 5,5	8 - 5,5	8 - 5,5	12 - 6,6	12 - 9	16 - 13,5
D11	M3	M5	M3	M5	M5	M8	M5	M8	M8	M10
D12	A	M4 DP 8	M5 DP 12	M4 DP 8	M6 DP 12	M5 DP 12	M8 DP 20	M6 DP 12	M8 DP 20	M12 DP 21
	B	M3 DP 6	M4 DP 12	M3 DP 6	M5 DP 12	M4 DP 12	-	M5 DP 12	-	-
	C	M4 DP 8	M5 DP 12	M4 DP 8	M6 DP 12	M5 DP 12	-	M6 DP 12	-	-
D13 H7	A	46	70	46	90	70	145	90	145	200
	B	45	70	45	90	70	-	90	-	-
	C	46	70	46	90	70	-	90	-	-
D14 H7	≤ 8	≤ 14	≤ 8	≤ 19	≤ 14	≤ 32	≤ 19	≤ 32	≤ 38	≤ 48
D15 H7	30	50	30	70	50	110	70	110	114,3	114,3
L1	4	8	8	12	12	12	12	12	16	20
L2	3	3	3	6	6	6	6	6	8	12
L3	19,5	19,5	19,5	30	30	29	29	38	50	66
L4	7	7	7	15	15	15	15	15	16	20
L5	4	6	6	7	7	8	8	9	12	18
L6	86	99,2	95,4	145,9	123,8	187	171,1	209,7	269,3	339,3
L7	A, B	8,3	11,5	8,3	11,5	11,5	27,5	11,5	27,5	33,5
	C	11,8	16	11,8	16,5	16	-	16,5	-	-
L8	A, B	13,5	18	13,5	18	18	42	18	42	46
	C	17	22,5	17	23	22,5	-	23	-	-
L9	A, B, C	130,5	154,7	141,9	227,9	190,8	281,5	253,1	321,7	421,3
L10		3,5	4	3,5	4	4	7	4	7	7
L11	A, B	27	35,5	27	42,5	35,5	73	42,5	73	84
	C	30,5	40	30,5	47,5	40	-	47,5	-	-
L12	A, B	55,5	71,5	55,5	88,1	71,5	131,3	88,1	131,3	156
	C	59	76	59	93,1	76	-	93,1	-	-
L13	A, B	76,5	101,5	85,5	113,1	116,5	188,8	145,6	202,3	231
	C	80	106	89	118,1	121	-	150,6	-	-
L14		42	60	42	90	60	130	90	130	180

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