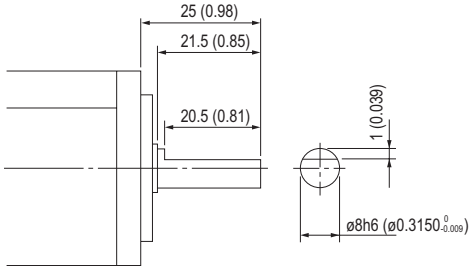
MR-JN Rotary Motor Shaft Details and Servo Motor Dimensions

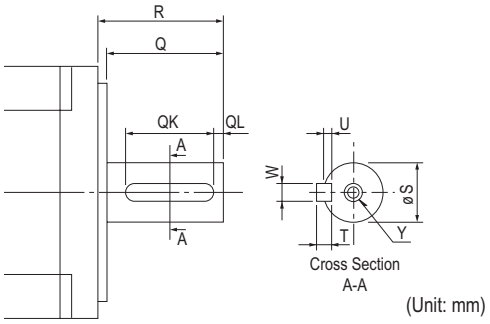
HF-KN Series
D-Cut Shaft (50W & 100W Motors Only) (*1)



Unit: mm (inch)

Note:
1. The Servo Motor with the keyway shaft or the D-cut shaft cannot be used in frequent start/stop applications.

HF-KN Series
Keyway with Key Included (200W, 400W) (*1)

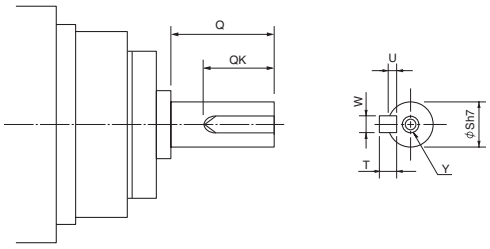


(Unit: mm)

Motor Model	Capacity (W)	Variable Dimensions								
		T	S	R	Q	W	QK	QL	U	Y
HF-KN_K	200, 400	5 (0.20)	14h6 (0.554)	30 (1.18)	27 (1.06)	5 (0.20)	20 (0.79)	3 (0.12)	3 (0.12)	M4 Depth 15 (0.59)

Note:
1. The Servo Motor with the keyway shaft or the D-cut shaft cannot be used in frequent start/stop applications.

HF-KP Series
Keyway with Key Included (200W, 400W) (*1, 2, 3)

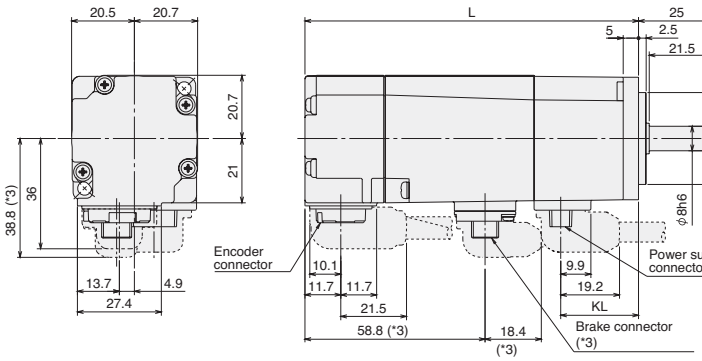


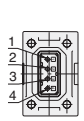
Motor Model	Reduction Ratio	Variable Dimensions						
		S	Q	W	QK	U	T	Y
HF-KP053G7K	1/5	16	28	5	25	3	5	M4 Screw Depth 8mm
	1/11							
	1/21							
	1/33							
	1/45							
HF-KP13G7K	1/5							
	1/11							
	1/21							
	1/33	25	42	8	36	4	7	M6 Screw Depth 12mm
	1/45							
HF-KP23G7K	1/5	16	28	5	25	3	5	M4 Screw Depth 8mm
	1/11							
	1/21	25	42	8	36	4	7	M6 Screw Depth 12mm
	1/33							
	1/45							
HF-KP43G7K	1/5	16	28	5	25	3	5	M4 Screw Depth 8mm
	1/11	25	42	8	36	4	7	M6 Screw Depth 12mm
	1/21							
	1/33	40	82	12	70	5	8	M10 Screw Depth 20mm
	1/45							

Notes:
1. The Servo Motor with the keyway shaft or the D-cut shaft cannot be used in frequent start/stop applications.
2. A key (single-point key) is supplied.
3. The dimensions not mentioned in the drawings are the same as those of the straight shaft of HF-KP_G7. Refer to "HF-KP Series Geared Servo Motor Dimensions • HF-KP_(B)G7" in this guide.

HF-KN Series

HF-KN053(B), HF-KN13(B)



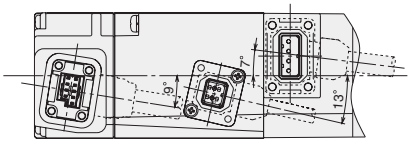


Power supply connector pin assignment

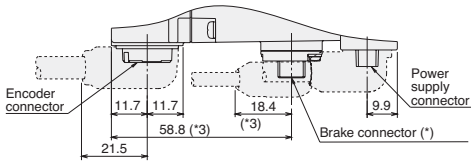
Pin No.	Signal name
1	Earth
2	U
3	V
4	W

Brake connector pin assignment (*3)

Pin No.	Signal name
1	B1
2	B2

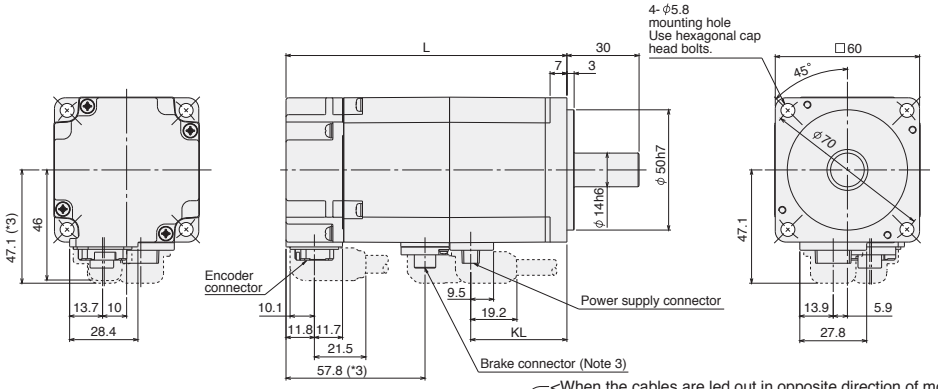


<When the cables are led out in opposite direction of motor shaft>



Model	Variable dimensions	
	L	KL
HF-KN053 (B)	72 (108.9)	25.4
HF-KN13 (B)	87 (123.9)	40.4

HF-KN23(B), HF-KN43(B)

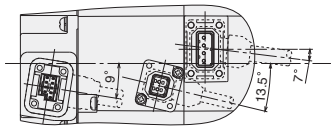


Power supply connector pin assignment

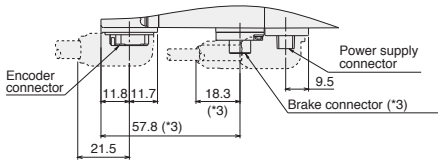
Pin No.	Signal name
1	Earth
2	U
3	V
4	W

Brake connector pin assignment (*3)

Pin No.	Signal name
1	B1
2	B2



<When the cables are led out in opposite direction of motor shaft>

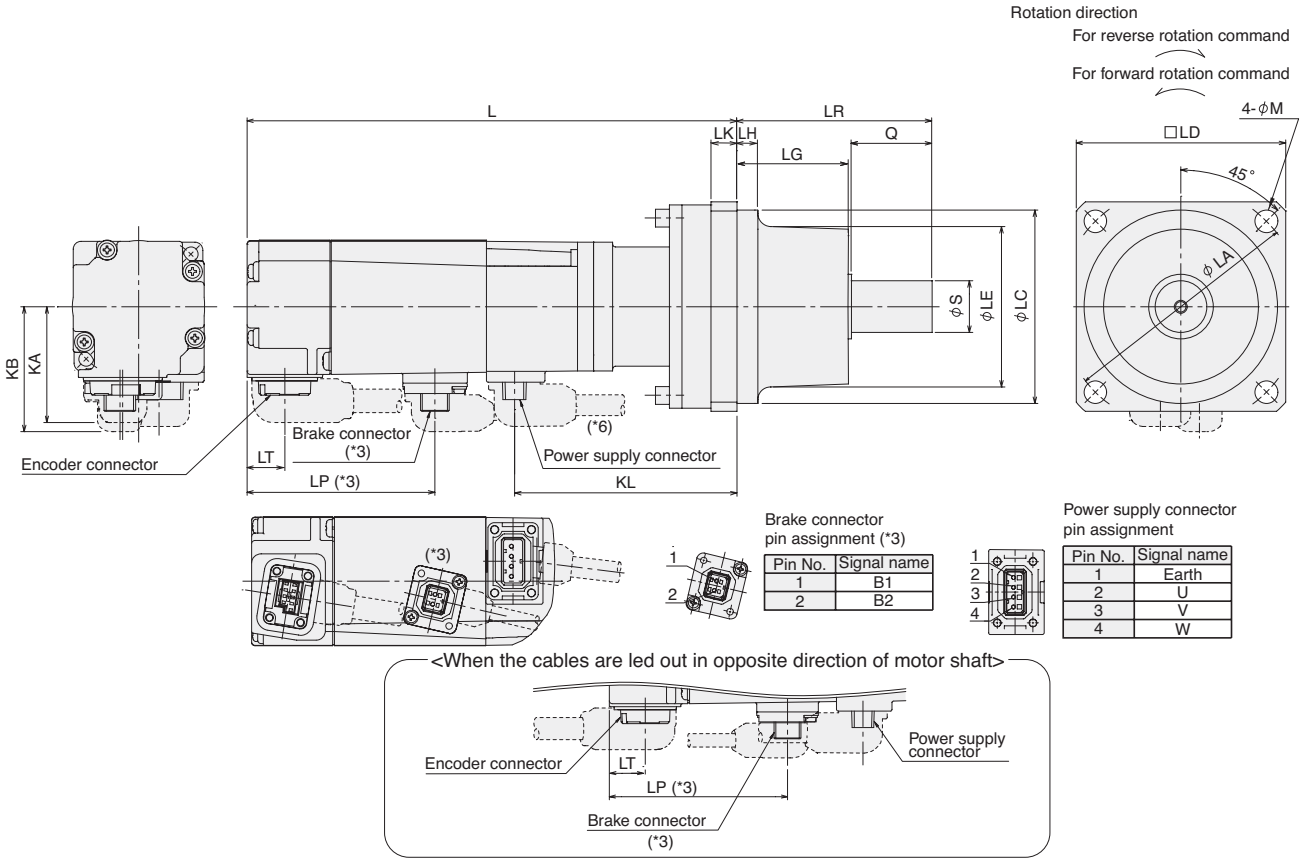


Model	Variable dimensions	
	L	KL
HF-KN23 (B)	88.2 (116.8)	40
HF-KN43 (B)	110.2 (138.8)	62

MR-JN Rotary HF-KP Series Geared Servo Motor Dimensions

HF-KP_(B)G1

The actual shapes of the mounting screws may differ.



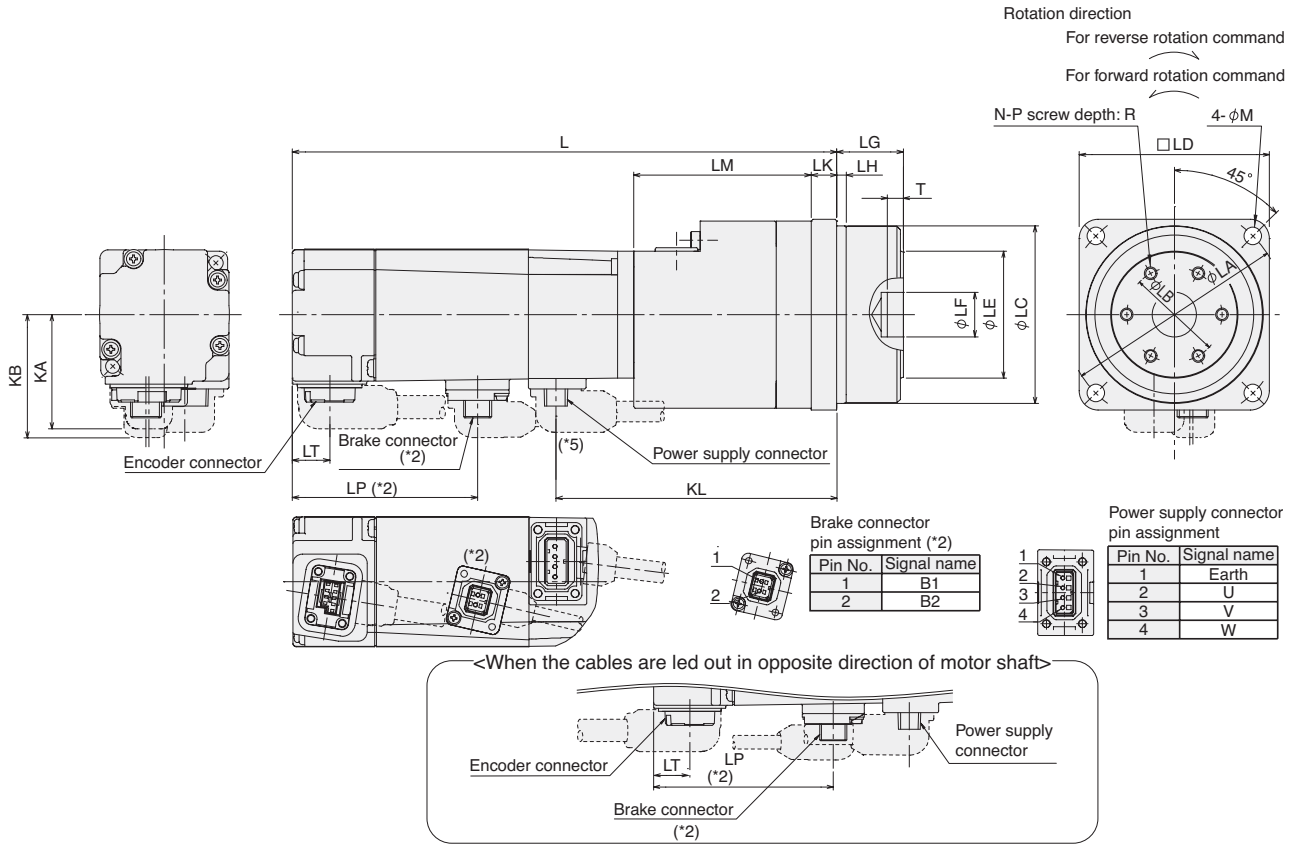
Model	Reduction Ratio (Actual Reduction Ratio)	Moment of Inertia		Variable Dimensions																	Weight	
		J(x10^{-4}kg•m^2)	J(oz•in^2)	L	LA	LC	LD	LE	S	LH	LK	KL	LG	Q	LR	M	KA	KB	LT	LP	kg	lb
HF-KP053(B)G1	1/5 (9/44)	0.089 (0.091)	0.487 (0.498)	110.9 (152)	75	60h7	65	50	16h6	6.5	8	69	34.5	25	60.5	7	36	37.1 (38.8)	11.7	- (58.3)	1.4 (1.7)	3.1 (3.8)
	1/12 (49/576)	0.111 (0.113)	0.607 (0.618)	128 (170)								87									1.8 (2.1)	4.0 (4.7)
	1/20 (25/484)	0.093 (0.095)	0.508 (0.519)																			
HF-KP13(B)G1	1/5 (9/44)	0.125 (0.127)	0.683 (0.694)	126.9 (168)								85									1.6 (1.9)	3.6 (4.2)
	1/12 (49/576)	0.147 (0.149)	0.804 (0.815)	144.9 (186)								103									2.0 (2.3)	4.4 (5.1)
	1/20 (25/484)	0.129 (0.131)	0.705 (0.716)																			
HF-KP23(B)G1	1/5 (19/96)	0.400 (0.470)	2.19 (2.57)	130.1 (169.6)	100	82h7	90	73	25h6	8	10	92.8	38	35	74	9	46	47.1 (47.1)	11.8	- (57.8)	3.3 (3.9)	7.3 (8.6)
	1/12 (25/288)	0.450 (0.520)	2.46 (2.84)	150.1 (189.6)								112.8									3.9 (4.5)	8.6 (10)
	1/20 (253/5000)	0.420 (0.490)	2.3 (2.68)																			
HF-KP43(B)G1	1/5 (19/96)	0.570 (0.650)	3.12 (3.55)	152 (191.5)								114.7									3.9 (4.4)	8.6 (9.7)
	1/12 (25/288)	0.620 (0.700)	3.39 (3.83)	172 (211.5)								134.7									4.5 (5.0)	10 (11)
	1/20 (253/5000)	0.930 (1.01)	5.08 (5.52)	175.5 (215)	115	95h7	100	86	32h6	10		138.2	39	50	90						5.6 (6.1)	13 (14)

Notes:

1. Use a friction coupling to fasten a load.
2. Dimensions inside ( ) are for the models with electromagnetic brake.
3. Only for the models with electromagnetic brake. The electromagnetic brake terminals (B1, B2) do not have polarity.
4. The moments of inertia in the table are the values that are converted into motor shaft for the motor with reducer (and with electromagnetic brake).
5. For dimensions where there is no tolerance listed, use general tolerance. The actual dimensions may be 1mm to 3mm larger than the dimensions listed since the outer frame of the reducer is made by casting. Design a machine in order to make allowances.
6. Lead out the power supply cable in opposite direction of the motor shaft for the following Servo Motors: All gear ratios for HF-KP053(B)G1 and HF-KP13(B)G1

HF-KP_(B)G5

The actual shapes of the mountig screws may differ.

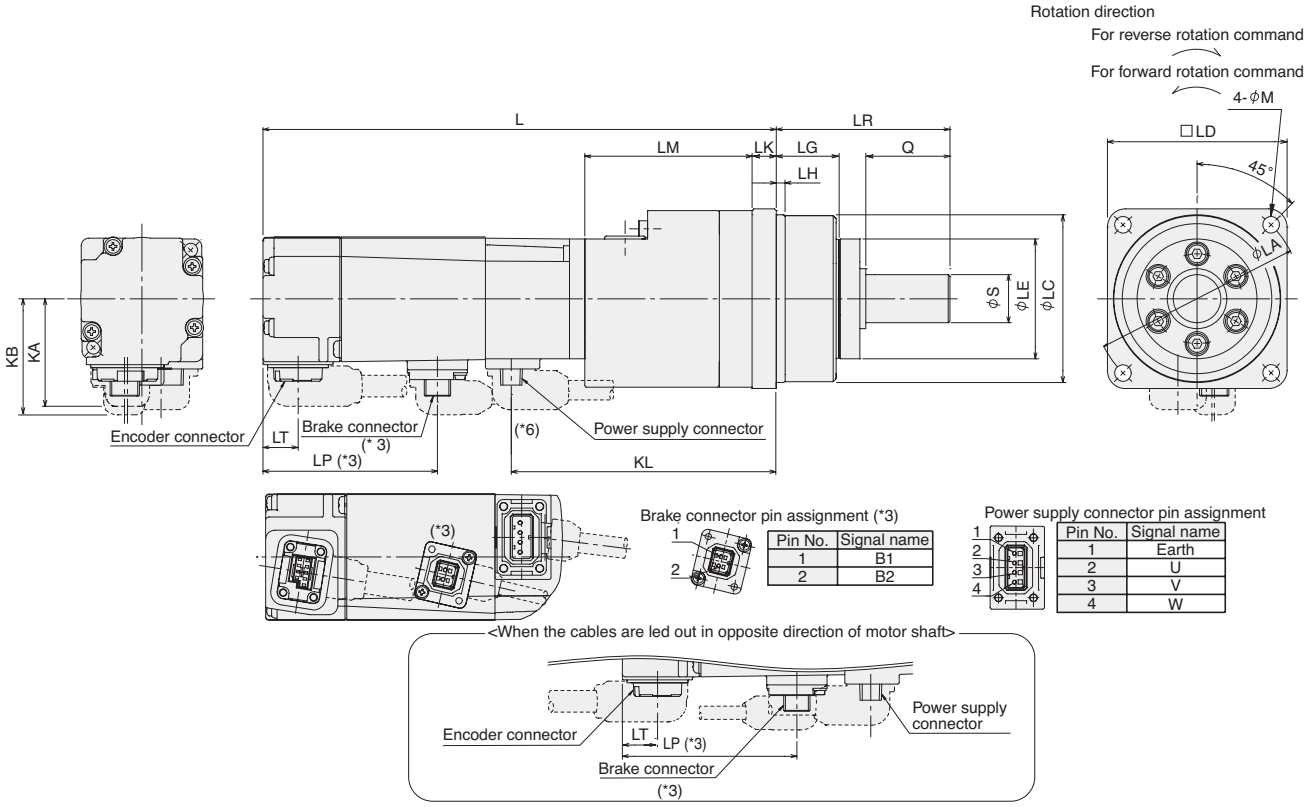


Model	Reduction Ratio (Actual Reduction Ratio)	Moment of Inertia		Variable Dimensions																				Weight	
		J(x10^{-4}kg•m^2)	J(oz•in^2)	L	LA	LB	LC	LD	LE	LF	LG	LH	LK	LM	KL	T	N	P	R	M	KA	KB	LT	LP	kg	lb
HF-KP053(B)G5 (*5)	1/5	0.120 (0.122)	0.656 (0.667)	130.4 (171.5)	70	30	56h7	60	40	14H7	21$^{+0.4}_{-0.5}$	3	8	56	88.5	5	6	M4	7	5.5	36	37.1 (38.8)	11.7	- (58.3)	1.1 (1.4)	2.5 (3.1)
	1/11	0.112 (0.114)	0.612 (0.623)																						
	1/21	0.103 (0.105)	0.563 (0.574)																						1.2 (1.5)	2.7 (3.3)
	1/33	0.097 (0.099)	0.53 (0.514)																						
	1/45	0.097 (0.099)	0.53 (0.514)																						
HF-KP13(B)G5 (*5)	1/5	0.156 (0.158)	0.853 (0.864)	146.4 (187.5)											104.5										1.3 (1.6)	2.9 (3.6)
	1/11	0.148 (0.150)	0.809 (0.82)																						1.4 (1.7)	3.1 (3.8)
	1/21	0.139 (0.141)	0.76 (0.771)																						
	1/33	0.150 (0.152)	0.82 (0.831)	148.9 (190)	105	45	85h7	90	59	24H7	27$^{+0.4}_{-0.5}$	8	10	56.5	107			M6	10	9					2.6 (2.9)	5.8 (6.4)
	1/45	0.149 (0.151)	0.815 (0.826)																						
HF-KP23(B)G5 (*5)	1/5	0.411 (0.511)	2.41 (2.79)	140.6 (180.1)	70	30	56h7	60	40	14H7	21$^{+0.4}_{-0.5}$	3	8	56	103.3			M4	7	5.5					1.8 (2.4)	4.0 (5.3)
	1/11	0.443 (0.513)	2.42 (2.80)																						1.9 (2.5)	4.2 (5.6)
	1/21	0.738 (0.808)	4.03 (4.42)	147.6 (187.1)	105	45	85h7	90	59	24H7	27$^{+0.4}_{-0.5}$	8	10	61	110.3			M6	10	9					3.4 (4.1)	7.5 (9.1)
	1/33	0.692 (0.762)	3.78 (4.17)																		46	47.1 (47.1)	11.8	- (57.8)		
	1/45	0.691 (0.761)	3.78 (4.16)																							
HF-KP43(B)G5	1/5	0.621 (0.701)	3.4 (3.83)	162.5 (202)	70	30	56h7	60	40	14H7	21$^{+0.4}_{-0.5}$	3	8	56	125.2			M4	7	5.5					2.3 (2.9)	5.1 (6.4)
	1/11	0.996 (1.08)	5.45 (5.90)	169.5 (209)	105	45	85h7	90	59	24H7	27$^{+0.4}_{-0.5}$	8	10	61	132.2			M6	10	9					4.0 (4.6)	8.9 (11)
	1/21	0.918 (0.998)	5.02 (5.46)																							
	1/33	0.970 (1.05)	5.3 (5.74)	181.5 (221)	135	60	115h7	120	84	32H7	35$^{+0.4}_{-0.5}$	13	13	70	144.2			M8	12	11					6.1 (6.7)	14 (15)
	1/45	0.964 (1.04)	5.27 (5.69)																							

Notes:

1. Dimensions inside ( ) are for the models with electromagnetic brake.
2. Only for the models with electromagnetic brake. The electromagnetic brake terminals (B1, B2) do not have polarity.
3. The moments of inertia in the table are the values that are converted into motor shaft for the motor with reducer (and with electromagnetic brake).
4. For dimensions where there is no tolerance listed, use general tolerance. The actual dimensions may be 1mm to 3mm larger than the dimensions listed since the outer frame of the reducer is made by casting. Design a machine in order to make allowances.
5. Lead out the power supply cable in opposite direction of the motor shaft for the following Servo Motors: All gear ratios for HF-KP053(B)G5 and HF-KP13(B)G5; Gear ratios of 1/21, 1/33 and 1/45 for HF-KP23(B)G5

HF-KP_(B)G7
The actual shapes of the mounting screws may differ.



Model	Reduction Ratio (Actual Reduction Ratio)	Moment of Inertia		Variable Dimensions																		Weight	
		J(x10^{-4}kg•m^2)	J(oz•in^2)	L	LA	LC	LD	LE	S	LG	LH	Q	LR	LK	LM	KL	M	KA	KB	LT	LP	kg	lb
HF-KP053(B)G7 (*6)	1/5	0.126 (0.128)	0.689 (0.70)	130.4 (171.5)	70	56h7	60	40	16h7	21	3	28	58	8	56	88.5	5.5	36	37.1 (38.8)	11.7	- (58.3)	1.2 (1.5)	2.7 (3.3)
	1/11	0.113 (0.115)	0.618 (0.629)																			1.3 (1.6)	2.9 (3.6)
	1/21	0.103 (0.105)	0.563 (0.574)																				
	1/33	0.097 (0.099)	0.53 (0.514)																				
	1/45	0.097 (0.099)	0.53 (0.514)																				
HF-KP13(B)G7 (*6)	1/5	0.162 (0.164)	0.886 (0.897)	146.4 (187.5)												104.5						1.4 (1.7)	3.1 (3.8)
	1/11	0.149 (0.151)	0.815 (0.826)																			1.5 (1.8)	3.3 (4.0)
	1/21	0.139 (0.141)	0.76 (0.771)																				
	1/33	0.151 (0.153)	0.826 (0.837)	148.9 (190)	105	85h7	90	59	25h7	27	8	42	80	10	56.5	107	9					3.0 (3.3)	6.7 (7.3)
	1/45	0.149 (0.151)	0.815 (0.826)																				
HF-KP23(B)G7 (*6)	1/5	0.447 (0.517)	2.44 (2.83)	140.6 (180.1)	70	56h7	60	40	16h7	21	3	28	58	8	56	103.3	5.5	46	47.1 (47.1)	11.8	- (57.8)	1.9 (2.5)	4.2 (5.6)
	1/11	0.443 (0.513)	2.42 (2.80)																			2.0 (2.6)	4.4 (5.8)
	1/21	0.740 (0.810)	4.05 (4.43)	147.6 (187.1)	105	85h7	90	59	25h7	27	8	42	80	10	61	110.3	9					3.8 (4.5)	8.4 (10)
	1/33	0.693 (0.763)	3.79 (4.17)																				
	1/45	0.691 (0.761)	3.78 (4.16)																				
HF-KP43(B)G7	1/5	0.627 (0.707)	3.43 (3.87)	162.5 (202)	70	56h7	60	40	16h7	21	3	28	58	8	56	125.2	5.5					2.4 (3.0)	5.3 (6.7)
	1/11	1.00 (1.08)	5.47 (5.90)	169.5 (209)	105	85h7	90	59	25h7	27	8	42	80	10	61	132.2	9					4.4 (5.0)	9.7 (11)
	1/21	0.920 (1.00)	5.03 (5.47)																				
	1/33	0.976 (1.06)	5.3 (5.80)	181.5 (221)	135	115h7	120	84	40h7	35	13	82	133	13	70	144.2	11					7.5 (8.1)	17 (18)
	1/45	0.967 (1.05)	5.29 (5.74)																				

Notes:
1. Use a friction coupling to fasten a load.
2. Dimensions inside ( ) are for the models with electromagnetic brake.
3. Only for the models with electromagnetic brake. The electromagnetic brake terminals (B1, B2) do not have polarity.
4. The moments of inertia in the table are the values that are converted into motor shaft for the motor with reducer (and with electromagnetic brake).
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