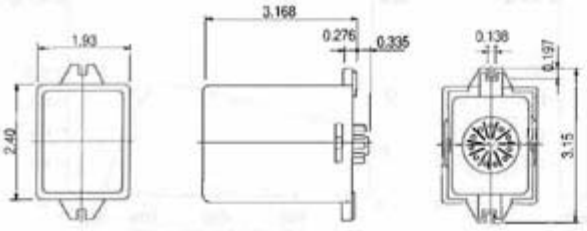
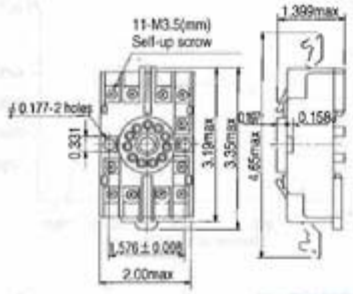
■ EXTERNAL DIMENSION OF CONTROL UNIT

■ External dimensions of control unit (in)



Attachment socket



● Common specification of units

Allowable max. current: 3.5A
Allowable braking current: 13A
Use environment
Ambient temperature: -10 to 50℃
Ambient humidity: 30 to 85% (without condensation)
Storage temperature: -20 to 60℃
Insulation:
Between case and pin at normal temperature and normal humidity
Resistance: 100 MΩ or more when measured with DC 500V megger
● Electric strength: 60 Hz 1.5KV must be endured for one minute.

● External dimension and capacity of capacitor (AC115)

Model name		Capacity (μF)			External dimension (in)					Weight
H series motor	With tachogenerator	a	b	Fig.	A	B	C	D	E	oz
■ Reversible motor										
RH6P4N-25	RHT6P4N-25	3		1	1.46	1.10	0.531	0.926	–	0.88
RH6PF6N-25		4		1	1.46	1.10	0.531	0.926	–	0.88
RH7PF10N-25		5		1	1.46	1.10	0.531	0.926	–	0.88
RH7PF15N-25	RHT7P15N-25	6		1	1.46	1.22	0.690	1.084	–	1.23
RH8P20N-25	RHT8PF20N-25	8		1	1.46	1.22	0.690	1.084	–	1.23
RH8PF25N-25	RHT8PF25N-25	10		1	1.89	1.18	0.729	1.123	–	1.59
RH9PF40N-25	RHT9PF40N-25	16		1	1.89	1.38	0.847	1.241	–	2.12
RH9PK60N-25		25		1	2.29	1.73	1.18	1.65	–	3.88
RH12PF70N-25	RHT12PF70N-25	20	5	3	2.56	2.96	1.97	4.73	0.39	10.41
■ Motor with electromagnetic brake (reversible motor)										
ON brake motor	OFF brake motor									
RHB6PF4-25	RHK6PF4-25	3		2	1.50	1.89	0.99	1.09	0.47	0.88
	RHK6PF6-25	4		2	1.50	1.89	0.99	2.56	0.47	1.23
	RHK7PF15-25	6		2	1.50	1.89	0.99	2.56	0.47	1.23
RHB8PF20-25		8		2	1.65	2.06	1.18	2.56	0.47	2.82
RHB8PF25-25	RHK8PF25-25	10		2	1.65	2.06	1.18	2.56	0.47	2.82
RHB9PF40-25	RHK9PF40-25	16		2	1.97	2.36	1.38	2.56	0.47	3.88
RHB12PF70-25	RHK12PF70-25	20	5	3	2.56	2.96	1.97	4.73	0.39	10.41
■ Induction motor										
IH6P2N-25		2		1	1.22	0.99	0.493	0.887	–	0.71
IH6P3N-25	IHT6P3N-25	1		1	1.22	0.99	0.493	0.887	–	0.71
IH6PF6N-25		1.2		1	1.22	0.99	0.493	0.887	–	0.71
IH7PF10N-25		4		1	1.46	1.10	0.531	0.926	–	0.88
IH7PF15N-25	IHT7PF15N-25	3		1	1.46	1.10	0.531	0.926	–	0.88
IH8P15N-25	IHT8P15N-25	4		1	1.46	1.10	0.531	0.926	–	0.88
IH8PF25N-25	IHT8PF25N-25	6		1	1.46	1.22	0.690	1.084	–	1.23
IHF8PF40N-25		10		1	1.89	1.18	0.729	1.123	–	1.59
IH9PF40N-25	IHT9PF40N-25	10		1	1.89	1.18	0.729	1.123	–	1.59
IHF9PF60N-25		16		1	1.89	1.38	0.847	1.241	–	2.12
IHF9PK90N-25		25		1	2.29	1.73	1.18	1.65	–	3.88
IH12PF70N-25	IHT12PF70N-25	12	4	3	2.36	2.76	1.77	4.73	0.39	7.76

Fig. 1

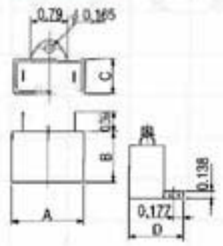


Fig. 2

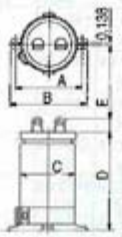
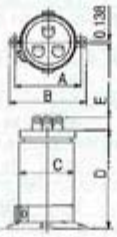


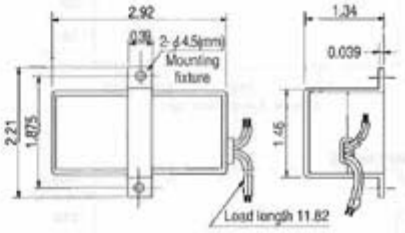
Fig. 3



■ Option

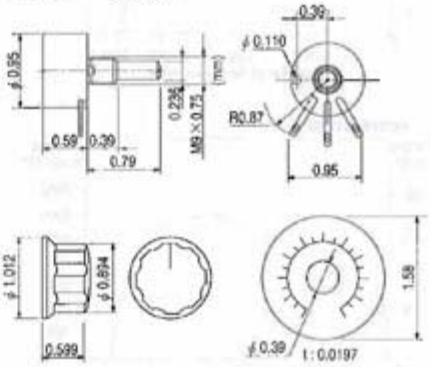
● DC power unit external dimension

Model name: Q-P1D5
To be installed directly on the DIN rail with the mounting plate (No.AQP803) made by Matsushita Electronics.



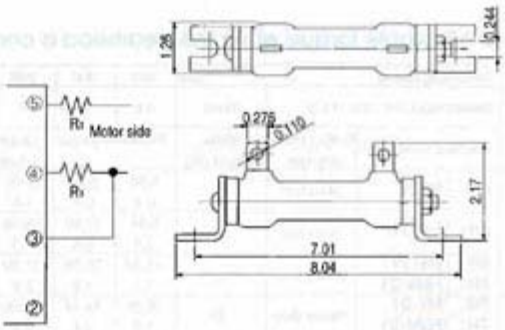
● VR (external setting variable resistor) external dimension (in)

Model name: Q-R10KB
Price: 500 yen

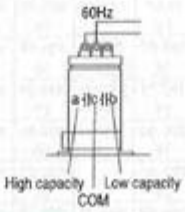


● External resistor

Model name: Q-100R20 Price: 800 yen
HS-60ZA + 1H
To be used for motor having an output 60W or more
Install the resistor (R1: 200 Ω, 100W) between ④ and motor, between ⑤ and motor.

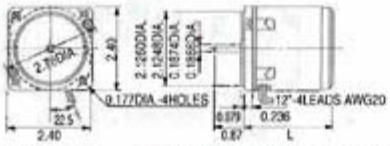


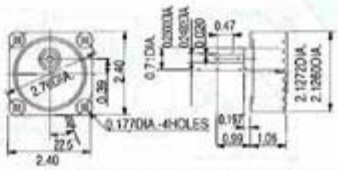
Connect method of three terminals.



■ MOTOR GEARHEAD EXTERNAL DIMENSIONS

□60

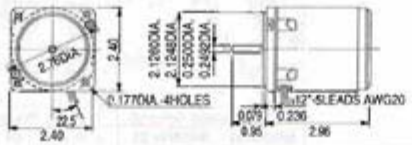


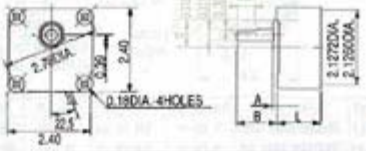


Straight shaft	Pinion shaft	L	Total length	Weight	Price ¥	Applicable gearhead
RH6S3N-21	RH6P3N-25	1.85 in	1.85 in	15.87 oz	4,450	6H□N-21
IH6S2N-21	IH6P2N-25	1.85 in	1.85 in	15.87 oz	4,100	6H□N-21
RH6S4N-21	RH6P4N-25	2.52 in	2.52 in	28.22 oz	4,800	6H□N-21
RHT6S4N-21	RHT6P4N-25	2.52 in	2.92 in	28.22 oz	6,100	6H□N-21
RHB6S4-21	RHB6PF4-25	2.52 in	3.94 in	42.33 oz	18,150	6H□F-21·6H□FB-21※
RHK6S4-21	RHK6PF4-25	2.52 in	4.06 in	42.33 oz	11,650	6H□F-21·6H□FB-21※
IH6S3N-21	IH6P3N-25	2.52 in	2.52 in	28.22 oz	4,450	6H□N-21
IHT6S3N-21	IHT6P3N-25	2.52 in	2.92 in	28.22 oz	5,700	6H□N-21

※ Note: N is not postfixed to the model names of gearheads applicable to electromagnetic brake motors (RHB, RHK).

6H□N (oilless bearing)	Weight	Bolt	Price¥
6H3N-21 ~ 6H18N-21	10.58 oz	M4 × 45	1,500
6H25N-21 ~ 6H120N-21	10.58 oz	M4 × 45	1,500
6H150N-21 ~ 6H450N-21	10.58 oz	M4 × 45	1,500
6H500N-21 ~ 6H1800N-21	10.58 oz	M4 × 45	1,500



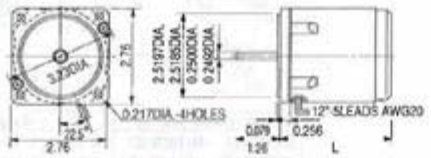


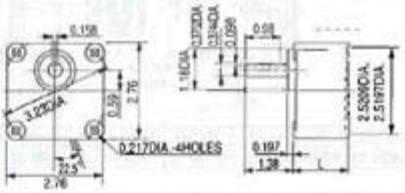
Straight shaft	Pinion shaft	Total length	Weight	Price¥	Applicable gearhead
RH6S6N-21	RH6PF6N-25	2.96 in	35.27 oz	4,450	6H□FN-21·6H□FBN-21
RHK6S6-21	RHK6PF6-25	4.57 in	42.33 oz	12,250	6H□F-21·6H□FB-21※
IH6S6N-21	IH6PF6N-25	2.96 in	35.27 oz	5,100	6H□FN-21·6H□FBN-21

※ Note: N is not postfixed to the model names of gearheads applicable to electromagnetic brake motors (RHB, RHK).

6H□N (oilless bearing)	L	A	B	C	d	Weight	Bolt	Price¥
6H3FN-21 ~ 6H18FN-21	1.65	0.197	1.26	2.40	0.71	14.11 oz	M4 × 45	2,850
6H25FN-21 ~ 6H36FN-21	1.65	0.197	1.26	2.40	0.71	14.11 oz	M4 × 45	2,950
6H50FN-21 ~ 6H180FN-21	1.65	0.197	1.26	2.40	0.71	14.11 oz	M4 × 45	3,250
6H□FBN (ball bearing)								
6H3FBN-21 ~ 6H18FBN-21	1.26	0.118	1.18	2.40	0.79	14.11 oz	M4 × 50	4,750
6H25FBN-21 ~ 6H36FBN-21	1.65	0.118	1.18	2.40	0.79	14.11 oz	M4 × 60	5,250
6H50FBN-21 ~ 6H180FBN-21	1.65	0.118	1.18	2.40	0.79	14.11 oz	M4 × 60	5,700

□70





Straight shaft	Pinion shaft	L	Total length	Weight	Price¥	Applicable gearhead
RH7S10N-21	RH7P10N-25	2.76 in	2.76 in	38.80 oz	5,150	7H□FN-21·7H□FBN-21
IH7S10N-21	IH7P10N-25	2.70 in	2.76 in	38.80 oz	4,750	7H□FN-21·7H□FBN-21
RH7S15N-21	RH7P15N-25	3.15 in	3.15 in	42.33 oz	5,950	7H□FN-21·7H□FBN-21
RHT7S15N-21	RHT7PF15N-25	3.15 in	3.55 in	45.86 oz	7,600	7H□FN-21·7H□FBN-21
RHK7S15-21	RHK7PF15-25	3.15 in	4.69 in	81.13 oz	13,750	7H□F-21·7H□FB-21※
IH7S15N-21	IH7PF15N-25	3.15 in	3.15 in	42.33 oz	5,550	7H□FN-21·7H□FBN-21
IHT7S15N-21	IHT7PF15N-25	3.15 in	3.55 in	45.86 oz	7,200	7H□FN-21·7H□FBN-21

※ Note: N is not postfixed to the model names of gearheads applicable to electromagnetic brake motors (RHB, RHK).

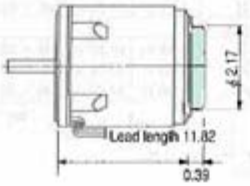
7H□N (oilless bearing)	L	Weight	Bolt	Price¥
7H3FN-21 ~ 7H18FN-21	1.18 in	17.64 oz	M5 × 50	2,800
7H25FN-21 ~ 7H36FN-21	1.58 in	21.16 oz	M5 × 60	3,000
7H50FN-21 ~ 7H180FN-21	1.58 in	21.16 oz	M5 × 60	3,250
7H□FBN (ball bearing)				
7H3FBN-21 ~ 7H18FBN-21	1.18 in	17.64 oz	M5 × 50	4,050
7H25FBN-21 ~ 7H36FBN-21	1.58 in	21.16 oz	M5 × 60	4,450
7H50FBN-21 ~ 7H180FBN-21	1.58 in	21.16 oz	M5 × 60	4,900

● key size

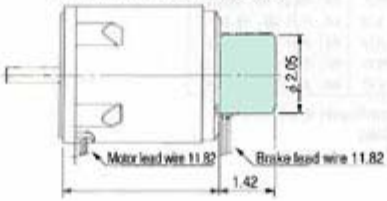
7H□FN·7H□FBN

■ External dimension of tachogenerator and electromagnetic brakes

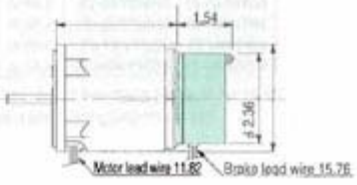
Tachogenerator
Common to all models



Electromagnetic brake
ON brake: RHB
(Excitation operating type)
Common to all models

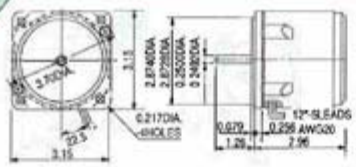


Electromagnetic brake
OFF brake: RHK
(Nonexcitation operating type)
Common to all models



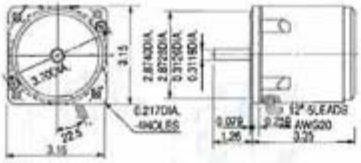
■ EXTERNAL DIMENSIONS OF MOTOR GEARHEADS

□80



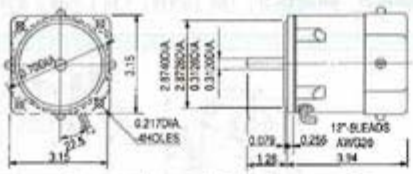
Straight shaft	Pinion shaft	Total length	Weight	Price ¥	Applicable gearhead
RH8S20N-21	RH8P20N-25	2.96 in	52.91 oz	5,550	8H□N-21
RHT8S20N-21	RHT8P20N-25	3.35 in	56.44 oz	6,500	8H□N-21
RHB8S20-21	RHB8PF20-25	4.37 in	63.49 oz	16,900	8H□F-21·8H□FB-21 ※
IH8S15N-21	IH8P15N-25	2.96 in	52.91 oz	5,100	8H□N-21
IHT8S15-21	IHT8P15N-25	3.35 in	56.44 oz	6,500	8H□N-21

※ Note: N is not postfixed to the model names of gearheads applicable to the electromagnetic brake motors (RHB, RHK).

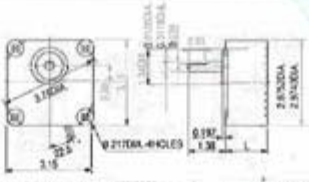


Straight shaft	Pinion shaft	Total length	Weight	Price ¥	Applicable gearhead
RH8S25N-21	RH8PF25N-25	3.35 in	56.44 oz	6,650	8H□FN-21·8H□FBN-21
RHT8S25N-21	RHT8PF25N-25	3.74 in	59.96 oz	8,350	8H□FN-21·8H□FBN-21
RHB8S25-21	RHB8PF25-25	4.77 in	67.02 oz	20,800	8H□F-21·8H□FB-21 ※
RHK8S25-21	RHK8PF6N-25	4.89 in	112.87 oz	15,450	8H□F-21·8H□FB-21 ※
IH8S25N-21	IH8PF25N-25	3.35 in	56.44 oz	6,200	8H□FN-21·8H□FBN-21
IHT8S25N-21	IHT8PF25N-25	3.74 in	59.96 oz	7,900	8H□FN-21·8H□FBN-21

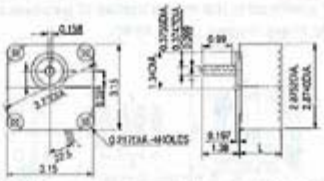
※ Note: N is not postfixed to the model names of gearheads applicable to the electromagnetic brake motors (RHB, RHK).



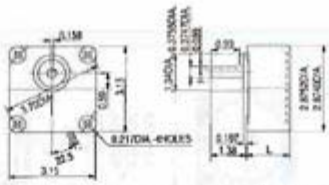
Straight shaft	Pinion shaft	Weight	Price ¥	Applicable gearhead
IHF8S40N-21	IHF8PF40N-25	59.96 oz	7,600	8H□FN·8H□FBN



8H□N (oilless bearing)	L	Weight	Bolt	Price ¥
8H3N-21 ~ 8H30N-21	1.18 in	17.64 oz	M5 × 50	2,450
8H36N-21 ~ 8H120N-21	1.18 in	17.64 oz	M5 × 50	2,800
8H150N-21 ~ 8H180N-21	1.18 in	17.64 oz	M5 × 50	3,150
8H187.5N-21 ~ 8H450N-21	1.58 in	21.16 oz	M5 × 60	3,150
8H500N-21 ~ 8H1800N-21	1.58 in	21.16 oz	M5 × 60	3,350

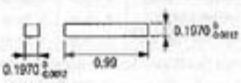


8H□FN (oilless bearing)	L	Weight	Bolt	Price ¥
8H3FN-21 ~ 8H18FN-21	1.18 in	17.64 oz	M5 × 50	3,500
8H25FN-21 ~ 8H36FN-21	1.58 in	21.16 oz	M6 × 60	3,850
8H50FN-21 ~ 8H180FN-21	1.58 in	21.16 oz	M6 × 60	4,050
8H□FBN (ball bearing)				
8H3FBN-21 ~ 8H18FBN-21	1.18 in	17.64 oz	M5 × 50	5,300
8H25FBN-21 ~ 8H36FBN-21	1.58 in	21.16 oz	M5 × 60	5,800
8H50FBN-21 ~ 8H180FBN-21	1.58 in	21.16 oz	M5 × 60	6,400



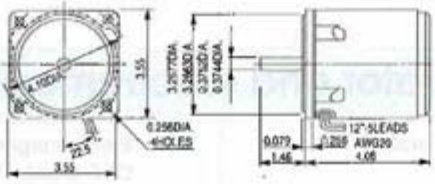
8H□N (oilless bearing)	L	Weight	Bolt	Price ¥
8H3FN-21 ~ 8H18FN-21	1.18 in	17.64 oz	M5 × 50	3,500
8H25FN-21 ~ 8H36FN-21	1.58 in	21.16 oz	M6 × 60	3,850
8H50FN-21 ~ 8H180FN-21	1.58 in	21.16 oz	M6 × 60	4,050
8H□FBN (ball bearing)				
8H3FBN-21 ~ 8H18FBN-21	1.18 in	17.64 oz	M5 × 50	5,300
8H25FBN-21 ~ 8H36FBNN-21	1.58 in	21.16 oz	M5 × 60	5,800
8H50FBN-21 ~ 8H180FBNN-21	1.58 in	21.16 oz	M5 × 60	6,400

● key size



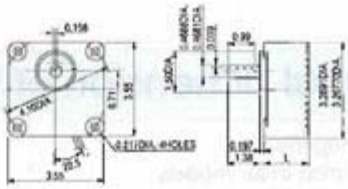
8H□FN·8H□FBN

□90



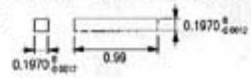
Straight shaft	Pinion shaft	Total length	Weight	Price ¥	Applicable gearhead
RH9S40N-21	RH9PF40N-25	4.06 in	88.18 oz	8,100	9H□FN-21·9H□FBN-21
RHT9S40N-21	RHT9PF40N-25	4.45 in	91.71 oz	9,850	9H□FN-21·9H□FBN-21
RHB9S40-21	RHB9PF40-25	5.48 in	95.24 oz	23,950	9H□F-21·9H□FB-21 ※
RHK9S40-21	RHK9PF40-25	5.59 in	102.29 oz	19,450	9H□F-21·9H□FB-21 ※
IH9S40N-21	IH9PF40N-25	4.06 in	88.18 oz	7,900	9H□FN-21·9H□FBN-21
IHT9S40N-21	IHT9PF40N-25	4.45 in	91.71 oz	9,350	9H□FN-21·9H□FBN-21

※ Note: N is not postfixed to the model names of gearheads applicable to the electromagnetic brake motors (RHB, RHK).



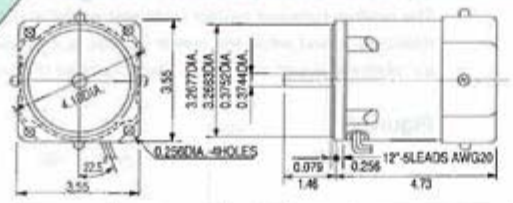
9H□N (oilless bearing)	L	Weight	Bolt	Price ¥
9H3FN-21 ~ 9H18FN-21	1.65 in	28.22 oz	M6 × 60	4,500
9H25FN-21 ~ 9H36FN-21	2.36 in	31.75 oz	M6 × 80	4,700
9H50FN-21 ~ 9H180FN-21	2.36 in	31.75 oz	M6 × 80	4,950
9H□FBN (ball bearing)				
9H3FBN-21 ~ 9H18FBN-21	1.65 in	28.22 oz	M5 × 60	6,250
9H25FBN-21 ~ 9H36FBN-21	2.36 in	31.75 oz	M5 × 80	6,850
9H50FBN-21 ~ 9H180FBN-21	2.36 in	31.75 oz	M5 × 80	7,300

● key size

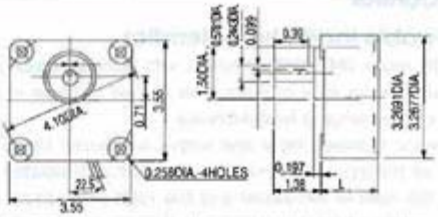


9H□FN·9H□FBN

□90

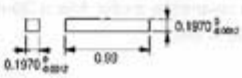


Straight shaft	Pinion shaft	Weight	Price ¥	Applicable gearhead
IHF9S60N-21	IHF9PF60N-25	91.71 oz	9,100	9H□FN-21·9H□FBN-21

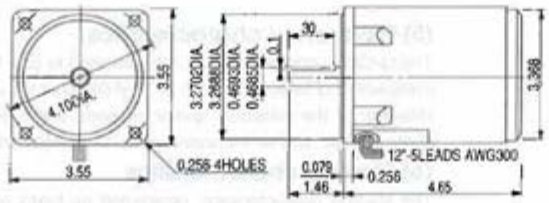


9H□FN (oilless bearing)	L	Weight	Bolt	Price ¥
9H3FN-21 ~ 9H18FN-21	1.65 in	28.22 oz	M6 × 60	4,500
9H25FN-21 ~ 9H36FN-21	2.36 in	31.75 oz	M6 × 80	4,700
9H50FN-21 ~ 9H180FN-21	2.36 in	31.75 oz	M6 × 80	4,950
9H□FBN (ball bearing)				
9H3FBN-21 ~ 9H18FBN-21	1.65 in	28.22 oz	M6 × 60	6,250
9H25FBN-21 ~ 9H36FBN-21	2.36 in	31.75 oz	M6 × 80	6,850
9H50FBN-21 ~ 9H180FBN-21	2.36 in	31.75 oz	M6 × 80	7,300

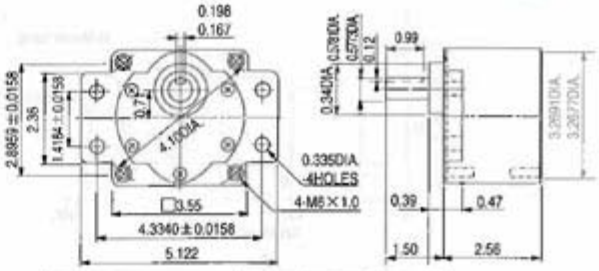
● key size



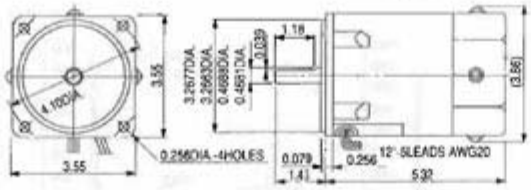
9H□FN·9H□FBN



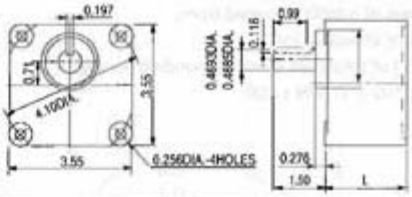
Straight shaft	Pinion shaft	Weight	Price ¥	Applicable gearhead
RH9S60N-21	RH9PK60N-25	91.71 oz	9,000	9H□KBN-21·9H□EBN-21



9H□KBN (oilless bearing)	Weight	Bolt	Price ¥
9H3KBN-21 ~ 9H9KBN-21	49.38 oz	M6 × 60	9,600
9H12.5KBN-21 ~ 9H18KBN-21	49.38 oz	M6 × 60	10,800
9H25KBN-21 ~ 9H60KBN-21	49.38 oz	M6 × 60	11,450
9H75KBN-21 ~ 9H180KBN-21	49.38 oz	M6 × 60	12,250

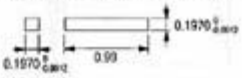


Straight shaft	Pinion shaft	Weight	Price ¥	Applicable gearhead
IHF9S90N-21	IHF9PK90N-25	112.87 oz	10,600	9H□KBN-21·9H□EBN-21



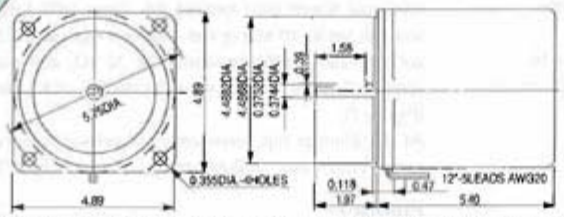
9H□FBN (oilless bearing)	L	Weight	Bolt	Price ¥
9H3EBN-21 ~ 9H9EBN-21	2.56 in	52.91 oz	M6 × 90	10,400
9H12.5EBN-21 ~ 9H18EBN-21	2.56in	52.91 oz	M6 × 90	11,450
9H25EBN-21 ~ 9H60EBN-21	2.56 in	52.91 oz	M6 × 90	12,500
9H75EBN-21 ~ 9H180EBN-21	3.35 in	67.02 oz	M6 × 110	13,000

● key size



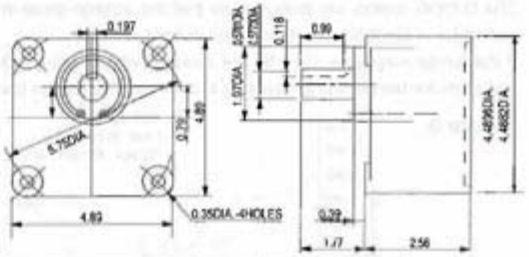
9H□KBN·9H□EBN

□120



Straight shaft	Pinion shaft	Total length	Weight	Price ¥	Applicable gearhead
RH12S70N-21	RH12PF70N-25	5.40 in	211.64 oz	12,600	12H□FBN-21
RHT12S70N-21	RHT12PF70N-25	5.79 in	215.17 oz	15,350	12H□FBN-21
RHB12S70-21	RHB12PF70-25	6.97 in	229.28 oz	30,550	12H□FB-21 ※
RHK12S70-21	RHK12PF70-25	6.93 in	236.33 oz	24,500	12H□FB-21 ※
IH12S70N-21	IH12PF70N-25	5.40 in	211.64 oz	12,600	12H□FBN-21
IHT12S70N-21	IHT12PF70F-25	5.79 in	211.64 oz	15,350	12H□FBN-21

※ Note: N is not postfixed to the model names of gearheads applicable to the electromagnetic brake motors (RHB, RHK).



12H□FBN (oilless bearing)	Weight	Bolt	Price ¥
12H5FBN-21 ~ 12H36FBN-21	70.55 oz	M8 × 100	7,900
12H50FBN-21 ~ 12H180FBN-21	70.55 oz	M8 × 100	8,950

● key size

12H□FBN