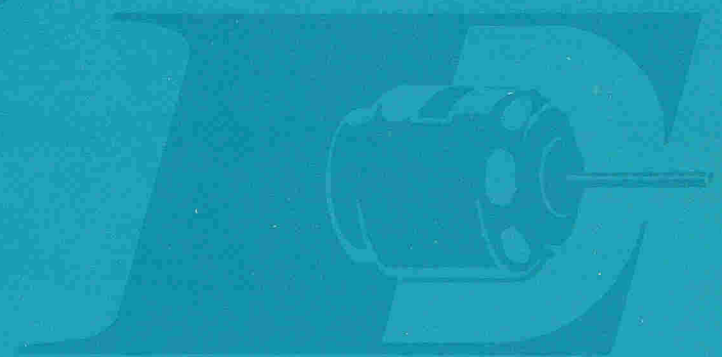


COMMUTATOR MOTORS

F R A C T I O N A L



H O R S E P O W E R

ELINCO

This catalog provides complete electrical characteristics and physical specifications on approximately 285 representative COMMUTATOR MOTORS.

ELINCO's large Engineering Staff has worked for many years with leading engineers on difficult problems of heat, humidity, shock, vibration, torque, acceleration, weight, mounting, and special design. This engineering is available to assist you with your problems.

NOTE: A large stock of standard parts is maintained, but the great variety of units offered precludes carrying an inventory of completed motors. Standard catalog items require reasonable time for assembly and testing, units of special design proportionately longer.



Electric Indicator Company, Inc., 272 Main Ave., Norwalk, Conn. 06851, Phone (203) 847-5861

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ELINCO COMMUTATOR MOTORS

"ELINCO" Commutator Motors are precision built to the highest standards. Every unit is custom tailored and tested to meet individual customer specifications. Component parts of the motor are accurately sized and fitted, bearing bores are held to .0001. The concentricity between bearing bores and the bore of the laminations give uniform air gap, high efficiency and quiet operation. Every unit is dynamically balanced, every commutator diamond turned and brushes adjusted to give long brush life. Motor parts are given rigid inspection through every stage of manufacture and final 100% tests assure uniformity of the finished product.

Commutator Motors are available as D.C. Permanent Magnet, D.C. Shunt, Governor Motors or Series A.C.-D.C. Universal Motors.

GENERAL ELECTRICAL CHARACTERISTICS

HORSEPOWER RATINGS FOR FULL LOAD

"CB" Frame	1/1000 to 1/35 HP
"B", "F", "BG" and "FG" Frames	1/1000 to 1/35 HP
"FB" and "FBG" Frames	1/500 to 1/20 HP
"ASC" and "ASCG" Frames	1/80 to 1/10 HP
"ALC" and "ALCG" Frames	1/50 to 1/6 HP

SPEED RATINGS FOR FULL LOAD

Standard speed ranges are from 1200 RPM to 10,000 RPM. For special application, motors can be designed for speeds up to 15,000 RPM.

NOTE: For each frame size, lower horsepower ratings would correspond to the lower speeds.

VOLTAGE RANGES

For the "CB", "B", "F" and "FB" Frames, ranges are from 6 volts to 115 volts. Range for the "A" Frame is from 6 volts to 230 volts. Any "ELINCO" D.C. Commutator Motor can be built for governor control.

BRUSHES

"CB", "B", "F" and "FB" Frames use 3/16 in. square type brushes, silver graphite with heat treated beryllium copper springs. The "A" Frame uses 3/16 in. x 1/4 in. brushes, silver graphite with heat treated beryllium copper springs.

WINDINGS

Units can be wound to meet a wide variety of other specifications. If none of the standard units meet your requirements, send us your specifications.

TYPICAL PERFORMANCE CURVES

PERMANENT MAGNET MOTORS

"CB", "B" and "F" Frames	—	Curve No. 203	page 17
"CB", "B" and "F" Frames	—	Curve No. 202	page 17
"CB", "B" and "F" Frames	—	Curve No. 218	page 18
"FB" Frame	—	Curve No. 219	page 18

SHUNT MOTORS

"B" and "F" Frames	—	Curve No. 307	page 18
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SERIES MOTORS

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UNIVERSAL MOTORS

"B" and "F" Frame	—	Curve No. 310	page 20
"FB" Frame	—	Curve No. 224	page 19
"ASC" Frame	—	Curve No. 236	page 19

SEPARATELY EXCITED SHUNT MOTORS

"ASC" Frame	—	Curve No. 308	page 20
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D.C. SHUNT MOTORS

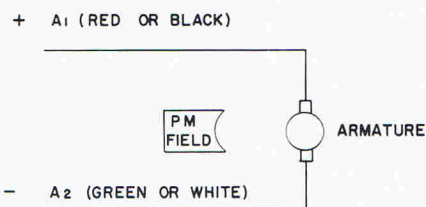
"ASC" Frame	—	Curve No. 309	page 20
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SPLIT FIELD SERIES WOUND MOTORS

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D.C. PERMANENT MAGNET MOTOR

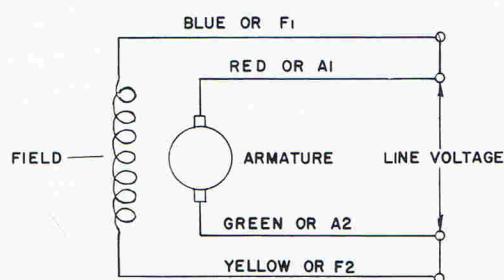
1



CLOCKWISE ROTATION FACING SHAFT END WITH POLARITY INDICATED. TO REVERSE ROTATION REVERSE POLARITY.

D.C. SHUNT MOTOR

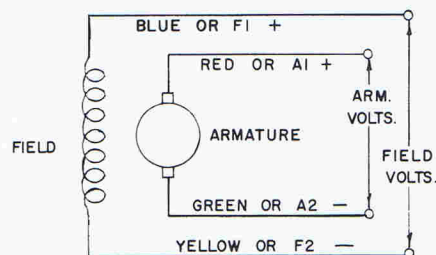
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CLOCKWISE ROTATION FACING SHAFT END. TO REVERSE ROTATION INTERCHANGE BLUE & YELLOW LEADS.

SEPARATELY EXCITED D.C. SHUNT MOTOR

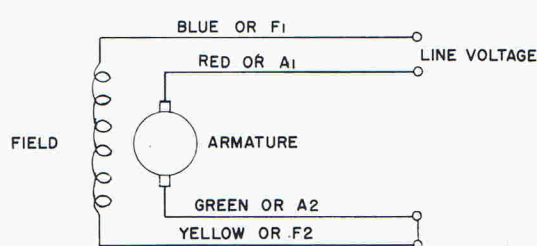
3



CLOCKWISE ROTATION FACING SHAFT END WITH POLARITY INDICATED. TO REVERSE ROTATION, REVERSE POLARITY ON EITHER FIELD OR ARMATURE.

D.C. SERIES OR UNIVERSAL MOTOR

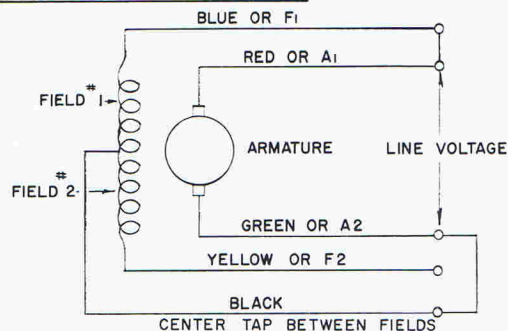
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CLOCKWISE ROTATION FACING SHAFT END. TO REVERSE ROTATION INTERCHANGE BLUE & YELLOW LEADS.

D.C. SPLIT FIELD SHUNT MOTOR

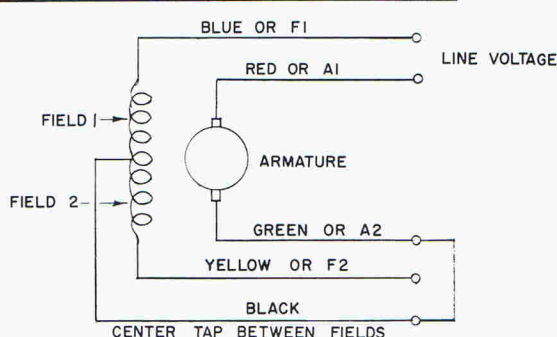
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CLOCKWISE ROTATION FACING SHAFT END. TO REVERSE ROTATION INTERCHANGE BLUE & YELLOW LEADS

D.C. SPLIT FIELD OR SPLIT FIELD UNIVERSAL MOTOR

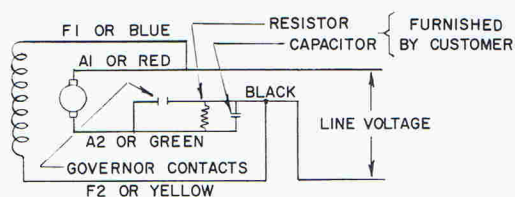
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CLOCKWISE ROTATION FACING SHAFT END. TO REVERSE ROTATION INTERCHANGE BLUE & YELLOW LEADS

SHUNT GOVERNOR MOTOR

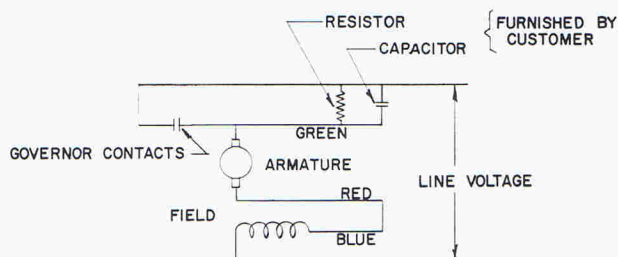
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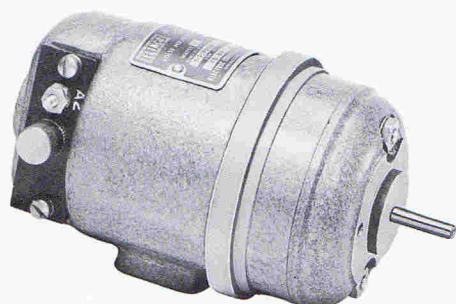
CLOCKWISE ROTATION FACING SHAFT END. TO REVERSE ROTATION INTERCHANGE BLUE & YELLOW LEADS.
CAUTION: GOVERNORS OPERATE IN ONE DIRECTION ONLY. DIRECTION REQUIRED MUST BE SPECIFIED ON PURCHASE ORDER.
ALL "ASC" & "ALC" FRAME MOTORS HAVE COLOR CODED LEADS.
'B', 'F', 'FB' & 'CB' CAN HAVE COLOR CODED LEADS OR TERMINAL SCREWS MARKED A1, A2, F1, F2, ETC.

SERIES GOVERNOR MOTOR

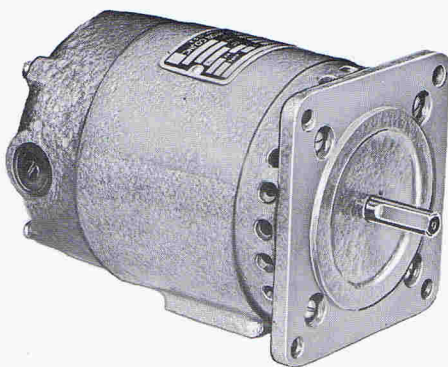
8



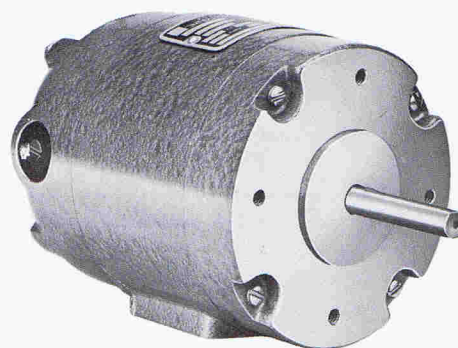
ELINCO COMMUTATOR MOTORS



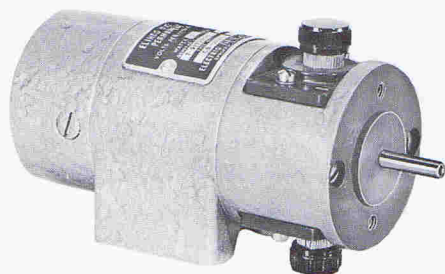
"FB" FRAME
SEE PRINT **A-2539** PAGE **21**



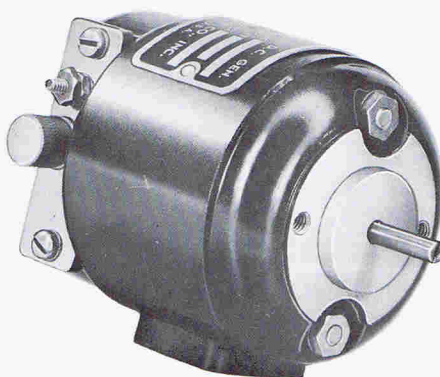
"ASCJR" & "ALCJR" FRAMES
SEE PRINT **A-3722** PAGE **22**



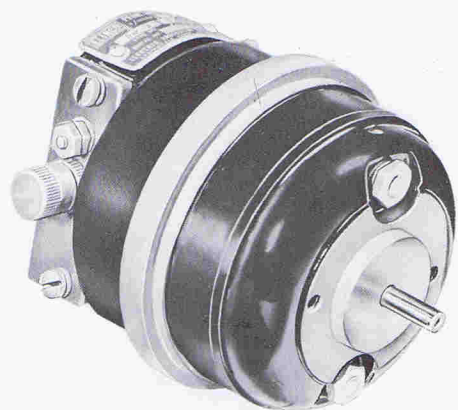
"ASCFE" & "ALCFE" FRAMES
SEE PRINT **A-3722** PAGE **22**



"CB" FRAME
SEE PRINT **A-2539** PAGE **21**



"B" FRAME
SEE PRINT **A-2539** PAGE **21**



"F" FRAME
SEE PRINT **A-2539** PAGE **21**

SHAFTS

Stainless steel shafts as dimensioned are standard, but may be furnished to other dimensions, preferably in 1/8" increments, or with special features (spline, slot, flat or double end shafts, etc.). Special features or dimensions can be supplied.

NOTE: "CB" units can not be furnished with double end shafts.

SPECIAL TREATMENTS

Humidity	High Temperature	Special shafts
Stainless steel bearings	Fungus	Special mountings
Altitude	Shock requirements	

FRAME OUTLINE AND MOUNTING DATA

Print A-2539, Page 21

- Figure 1 — "CB" frame, horizontal brushes, base or face mounting
- Figure 2 — "CB" frame, vertical brushes, base or face mounting
- Figure 3 — "B" frame, base mounting
- Figure 4 — "F" frame, flange mounting
- Figure 5 — "FB" frame, base or flange mounting

Print A-3722, Page 22

- Figure 1 — "ASC" and "ALC" frames, base mounting
- Figure 2 — "ASCJR" and "ALCJR" frames, base or flange mounting
- Figure 3 — "ASCNR" and "ALCNR" frames, base or face mounting
- Figure 4 — "ASCFR" and "ALCFR" frames, face or base mounting

Print A-3730, Governor Motors, Page 23

- Figure 1 — "BG" frame, base mounting
- Figure 2 — "FG" frame, flange mounting
- Figure 3 — "FBG" frame, flange or base mounting

Print A-3729, Governor Motors, Page 24 (Split Ring Governors)

- Figure 1 — "ASCG" and "ALCG" frames, base mounting
- Figure 2 — "ASCGJR" and "ALCGJR" frames, base or flange mounting
- Figure 3 — "ASCGNR" and "ALCGNR" frames, base or face mounting
- Figure 4 — "ASCGFR" and "ALCGFR" frames, face or base mounting

Print A-3728, Governor Motors, Page 25 (Concentric Ring Governors)

- Figure 1 — "ASCG" and "ALCG" frames, base mounting
- Figure 2 — "ASCGJR" and "ALCGJR" frames, base or flange mounting
- Figure 3 — "ASCGNR" and "ALCGNR" frames, base or face mounting
- Figure 4 — "ASCGFR" and "ALCGFR" frames, face or base mounting

AMBIENT TEMPERATURE

Standard units designed to operate from -40° to $+55^{\circ}\text{C}$. Many units specially designed for higher ambients with Class A insulation. For high operating temperatures special units can be wound with Class F or Class H insulation and silicon grease in bearings.

FINISH

All units are finished with instrument dull black unless otherwise ordered. Military finishes and other colors are available on request.

FRAME MATERIAL

Cast Aluminum

STATOR

Wound with double-formex and impregnated per Army-Navy specifications.

BEARINGS

Double Shielded ball bearings, factory greased per MIL specifications.

WEIGHT

"B" Frame 18.5 oz.
"F" Frame 18.5 oz.
"CB" Frame 20 oz.

"FB" Frame 32 oz.
"BG" Frame 21.5 oz.
"FG" Frame 21.5 oz.

"FBG" Frame 34 oz.
"ASC" Frame 3.25 lbs.
"ASCG" Frame 3.5 lbs.

"ALC" Frame 4.5 lbs.
"ALCG" Frame 4.75 lbs.

VENTILATION

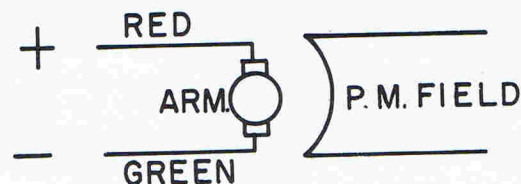
All standard "ASC" and "ALC" frames are provided with internal cooling fans. Totally enclosed "ASC" and "ALC" units can be supplied at reduced horsepower rating. "CB", "B", "F" and "FB" frames are all supplied in enclosed frames.

ARMATURE MOMENT OF INERTIA

"CB", "B" or "F" Frame — .521 oz. in.² or 95 gram CM²
"FB" Frame — 1.01 oz. in.² or 185 gram CM²
"ASC" Frame — 3.0 oz. in.² or 545 gram CM²
"ALC" Frame — 4.2 oz. in.² or 770 gram CM²

PERMANENT MAGNET D.C. MOTORS

Permanent magnet motors have shunt characteristics. They are often used where armature speed control is desired and it is preferable not to have another constant D.C. source to supply D.C. excitation. For a constant torque load on these motors, the motor speed will vary proportionally to the armature voltage. These motors should not be used in reversing applications where the plugging operations might tend to weaken the field and finally demagnetize the magnet. All "ELINCO" motors are supplied to be reversible except where noted.



"CB" FRAME SEE PRINT **A-2539** PAGE **21**

Motor Type No.	HP	RPM Full Load	Volts	Full Load Amps.	No Load Speed	Locked Torque Oz. In.	Frame Figure Numbers Page 21
42	1/1000	1400	115	.02	1800	3.0	1 & 2
233	1/200	2000	75	.1	3000	6.0	1 & 2
549	1/200	2000	32	.25	3400	6.0	1 & 2
134	1/150	2000	27.5	.36	3100	5.0	1 & 2
214	1/150	3200	115	.08	4300	10	1 & 2
619	1/100	3200	115	.08	4300	10	1 & 2
77	1/100	2800	115	.12	4250	12	1 & 2
29	1/100	2800	115	.12	4250	9	1 & 2
27	1/100	2800	115	.12	4250	9	1 & 2
326	1/100	2800	115	.12	4250	10	1 & 2
219	1/100	3200	24	1.0	6000	6	1 & 2
75	1/100	2800	14	1.5	5000	8	1 & 2
218	1/100	2800	12	2.0	6000	7	1 & 2
514	1/100	6000	4.5	7.00	10000	6.5	1 & 2
521	1/50	8000	28	.9	9600	16	1 & 2
105	1/50	5000	25	1.15	6700	14	1 & 2
597	1/35	7000	24	1.25	8000	20	1 & 2

"B" or "F" FRAMES SEE PRINT A-2593 PAGE 21

Motor Type No.	HP	RPM Full Load	Volts	Full Load Amps.	No Load Speed	Locked Torque Oz. In.	Frame Figure Numbers Page 21
499	1/6000	1080	12	.05	1200	2.5	3 & 4
107	1/1500	800	18	.05	1200	2.5	3 & 4
171	1/1000	1600	24	.13	3000	4.5	3 & 4
41	1/800	1200	115	.06	1800	3.5	3 & 4
395	1/750	700	6	.27	1000	3.5	3 & 4
130	1/500	2200	26.5	.15	2600	4.0	3 & 4
246	1/400	1600	48	.14	3000	6.0	3 & 4
126	1/350	1000	115	.4	1700	4.5	3 & 4
178	1/350	1600	6	1.2	3800	5.5	3 & 4
98	1/350	2000	6	1.05	2680	6.5	3 & 4
113	1/300	1800	6	1.0	2500	7.0	3 & 4
12	1/300	1600	6	2.0	4200	4.0	3 & 4
573	1/250	2000	115	.04	2600	14.0	3 & 4
806	1/250	1800	24	.2	2600	7.0	3 & 4
145	1/250	1500	6	1.5	2500	7.0	3 & 4
120	1/200	2100	24	.4	4200	3.8	3 & 4
235	1/150	4000	24	.75	6500	5.5	3 & 4
14	1/150	1700	24	.75	3800	7.0	3 & 4
348	1/125	2700	6	2.4	4200	9.5	3 & 4
*35	1/100	3200	115	.13	4850	8.0	3 & 4
245	1/100	3200	24	1.0	6000	9.0	3 & 4
39	1/75	4800	110	.18	6200	12.0	3 & 4
38	1/75	3400	110	.18	5300	10.0	3 & 4
390	1/75	3350	6	8.0	7000	11.0	3 & 4
70	1/1800	600	6	.22	950	2.5	3 & 4
70	1/400	1250	12	.4	2100	6.0	3 & 4
70	1/60	6000	36	.5	7000	18	3 & 4
13	1/60	4200	12	2.2	6300	13.0	3 & 4
982	1/60	4200	6	4.4	6100	10.0	3 & 4
116	1/75	3800	6	3.2	5200	15	3 & 4
501	1/40	6500	80	.45	9600	12.0	3 & 4
631	1/35	9000	80	15	11500	16.0	3 & 4

*For Performance Curves Nos. 202, 203 & 218, See Pages 17 & 18

"FB" FRAME SEE PRINT A-2539 PAGE 21

Motor Type No.	HP	RPM Full Load	Volts	Full Load Amps.	No Load Speed	Locked Torque Oz. In.	Frame Figure Number Page 21
55	1/200	1800	115	.06	2100	20.0	5
570	1/200	3000	200	.02	3700	34	5
565	1/150	3000	12	1.0	5100	14	5
236	1/100	3300	6	2.5	4000	16.0	5
271	1/90	1800	24	1.0	4200	16.0	5
462 A	1/90	600	24	1.35	1500	16.0	5
95	1/75	3000	115	.16	3800	30.0	5
182	1/50	2600	12	2.1	3600	32.0	5
183	1/50	3500	90	.25	4300	20.0	5
186	1/50	3600	24	1.0	4800	20.0	5
362	1/50	3600	12	3.0	5000	32.0	5
†139	1/35	2500	115	.4	4400	20.0	5

†For Performance Curve No. 219, See Page 18

ELINCO

"ASC" FRAME SEE PRINT **A-3722** PAGE **22**

Motor Type No.	HP	RPM Full Load	Volts	Full Load Amps	No Load Speed	Locked Torque Oz. In.	Frame Figure Number Page 22
429	1/150	1200	75	.36	1800	28.0	1, 2, 3 & 4
560	1/100	1900	115	.15	2700	20.0	1, 2, 3 & 4
588	1/75	2500	115	.2	3500	24.0	1, 2, 3 & 4
282	1/25	5500	6	13.5	7000	25.0	1, 2, 3 & 4
520	1/18	10000	115	.85	14000	38.0	1, 2, 3 & 4
635	1/18	10000	80	1.2	14000	38.0	1, 2, 3 & 4
605	1/18	10000	80	1.2	12000	37.0	1, 2, 3 & 4
589	1/17	5000	85	1.0	6000	37.0	1, 2, 3 & 4

"ALC" FRAME SEE PRINT **A-3722** PAGE **22**

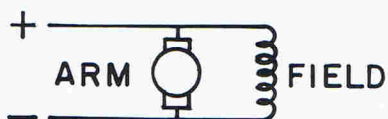
Motor Type No.	HP	RPM Full Load	Volts	Full Load Amps	No Load Speed	Locked Torque Oz. In.	Frame Figure Number Page 22
1272	1/20	3500	150	.45	4600	45.0	1, 2, 3 & 4

"ALLC" FRAME

Motor Type No.	HP	RPM Full Load	Volts	Full Load Amps	No Load Speed	Locked Torque Oz. In.
1380	1/12	3500	150	.75	4800	65.0

D.C. TORQUE MOTORS

Frame	Type	Locked Torque Oz. In.	Volts	Amps	No Load RPM	Duty	Winding
B or F	1077	4.8	28	.36	1770	Cont.	P.M. field
B or F	879	16.0	28	1.5	2640	Inter.	Series
B or F	923	16.0	115	.425	2640	Inter.	Shunt
FB	648	36	100	.90	8000	Inter.	Split field Series
ASC	665	21	28	.65	3000	Cont.	Series
ALC	1296	32.0	28	1.4	675	Cont.	Shunt
ALC	1215	30	28	1.25	575	Cont.	Split field Shunt



D.C. Shunt Motors maintain a speed that is quite constant over a wide range of load variations. They have high starting torque, lend themselves to speed control either through use of a rheostat for field or armature control; or, if desired, by separately exciting the field and using variations in armature voltage for speed control. In addition, they can be wound as split field motors to reverse rotation by field control. D.C. Shunt Motors are normally supplied with four (4) leads unless rotation is specified. Therefore, any of the listed Shunt Motors can be used as separately excited Shunt Motors in servo and control circuits.

"B" or "F" FRAMES SEE PRINT A-2539 PAGE 21

Motor Type No.	Rated Torque Oz. In.	HP	Volts	RPM No Load	RPM Full Load	Full Load Amps	Field Resis. Ohms	Arm. Resis. Ohms	Frame Figure Number Page 21
63	1.0	1/2500	24	800	400	.3	86	286	3 & 4
140	1.0	1/600	115	2300	1700	.03	1635	1450	3 & 4
97	1.5	1/200	6	6000	3300	3.5	9.8	.6	3 & 4
26	1.5	1/200	24	4200	3500	.60	185	22	3 & 4
177	.64	1/200	115	3850	3200	.11	1670	400	3 & 4
88	.96	1/175	115	6800	6000	.15	2540	163	3 & 4
92	1.3	1/150	220	6000	5000	.12	5120	610	3 & 4
78	2.3	1/125	6	5400	3500	3.0	6.5	1	3 & 4
163	2.0	1/125	115	5200	4000	.13	2350	290	3 & 4
1250	2.0	1/90	28	6450	5600	.65	118	7.9	3 & 4
584	3.3	1/85	115	4500	3600	.2	1044	199	3 & 4
167	2.3	1/75	115	8400	6000	.225	2000	150	3 & 4
*613	3.9	1/50	27.5	7500	5200	1.15	117	12	3 & 4
774	4.6	1/40	12	7000	5500	2.15	18	1.3	3 & 4

*For Performance Curve No. 307 See Page 18

"FB" FRAME SEE PRINT A-2539 PAGE 21

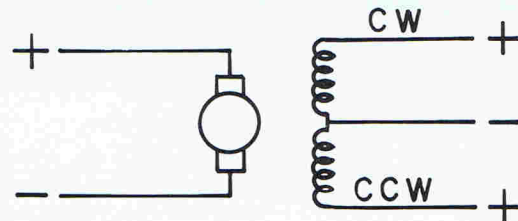
Motor Type No.	Rated Torque Oz. In.	HP	Volts	RPM No Load	RPM Full Load	Full Load Amps	Field Resis. Ohms	Arm. Resis. Ohms	Frame Figure Number Page 21
112	2.8	1/150	115	2990	2400	.16	1440	300	5
*127	2.2	1/125	115	4200	3700	.13	2160	185	5
150	2.9	1/100	6	4000	3500	3.1	7	4	5
110	4.5	1/75	90	3600	3000	.25	613	120	5
123	4.0	1/70	115	5000	3600	.20	1800	162	5
264	1.9	1/60	115	9600	9000	.20	1230	29	5
90	3.4	1/50	12	7600	6000	4.0	26	1.6	5

*For Performance Curve No. 217, See Page 18

"FB" FRAME INTERMITTENT DUTY

Motor Type No.	Rated Torque Oz. In.	HP	Volts	RPM No Load	RPM Full Load	Full Load Amps	Field Resis. Ohms	Arm. Resis. Ohms	Frame Figure Number Page 21
695	18.0	1/8	27	9000	7000	6	30	1.5	5

SPLIT FIELD SHUNT MOTORS



"B" or "F" FRAMES SEE PRINT **A-2539** PAGE **21**

Motor Type No.	Rated Torque Oz. In.	HP	Field Volts	Arm. Volts	RPM	Full Load Field Amps	Full Load Arm. Amps	Locked Torque Oz. In.	Frame Figure Number Page 21
36	0	No Load	100	100	6000	.09	.11	4.5	3 & 4
168	.72	1/500	115	115	2800	.08	.095	3.5	3 & 4
372	1.6	1/350	80	80	1800	.08	.155	5	3 & 4
1187	1.3	1/250	12	12	3000	.25	.63	5	3 & 4
901	2.2	1/250	28	28	1800	.25	.25	5	3 & 4
471	2.0	1/170	40	27.5	3000	.06	.45	4	3 & 4
859	1.7	1/100	110	220	6000	.07	.05	9	3 & 4

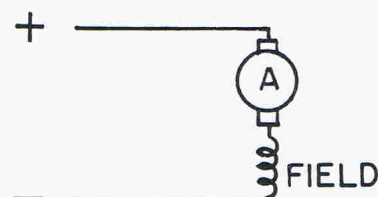
"FB" FRAME SEE PRINT **A-2539** PAGE **21**

Motor Type No.	Rated Torque Oz. In.	HP	Field Volts	Arm. Volts	RPM	Full Load Field Amps	Full Load Arm. Amps	Locked Torque Oz. In.	Frame Figure Number Page 21
202	1.9	1/300	110	6	1800	.05	3.5	3	5

"ALC" FRAME SEE PRINT **A-3722** PAGE **22**

Motor Type No.	Rated Torque Oz. In.	HP	Field Volts	Arm. Volts	RPM	Full Load Field Amps	Full Load Arm. Amps	Locked Torque Oz. In.	Frame Figure Number Page 22
713	16.8	1/25	32	115	2400	.14	.44	24	1, 2, 3 & 4
1178	15.7	1/10	28	28	6400	.7	4.5	35	1, 2, 3 & 4
415	18.3	1/10	135	104	5500	.02	1.5	48	1, 2, 3 & 4

SERIES MOTORS



Series Motors can be used on both A.C. and D.C. The speed of a series motor varies inversely with load. Motors classified as Universal will operate successfully on both A.C. and D.C. up to the frequency at which they are rated, but they will be universal only over a limited speed and torque range. Some D.C. split field series are used as servo and torque motors where simple switching for reversible motor is desired. On 60 cycles it is possible to get speeds over 3600 RPM by use of a commutator motor, and it is possible to get considerable power from a small frame size in this type of motor.

"B" or "F" FRAMES SEE PRINT **A-2539** PAGE **21**

Motor Type No.	Rated Torque Oz. In.	HP	Volts	RPM No Load	RPM Full Load	Full Load Amps	Locked Torque Oz. In.	Frame Figure Number Page 21
45	0	—	115	2700	—	1.5	3.5 Int. Duty	3 & 4
*129	1.3	1/475	24	6500	1600	.036	2.0	3 & 4

*For Performance Curve No. 310, See Page 20

"FB" FRAME SEE PRINT A-2539 PAGE 21

Motor Type No.	Rated Torque Oz. In.	HP	Volts	RPM No Load	RPM Full Load	Full Load Amps	Locked Torque Oz. In.	Frame Figure Number Page 21
517	3.1	1/100	6	9600	3300	4.0	10.0	5
*57	1.2	1/100	115	13600	8500	.15	14.0	5
**152	3.1	1/40	6	13100	8000	4.0	11.0	5

*For Performance Curve No. 224, See Page 19

**For Performance Curve for Motor Type No. 152, See Curve 228, Page 20

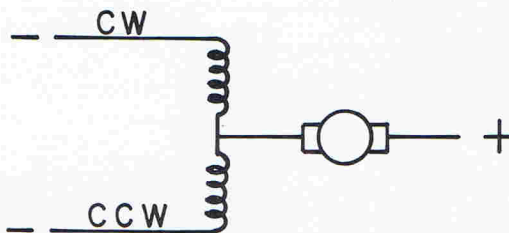
"ASC" FRAME SEE PRINT A-3722 PAGE 22

Motor Type No.	Rated Torque Oz. In.	HP	Volts	RPM No Load	RPM Full Load	Full Load Amps	Locked Torque Oz. In.	Frame Figure Number Page 22
242	3.4	1/100	6	4500	3000	4.0	14.0	1, 2, 3 & 4

"ALC" FRAME SEE PRINT A-3722 PAGE 22

Motor Type No.	Rated Torque Oz. In.	HP	Volts	RPM No Load	RPM Full Load	Full Load Amps	Locked Torque Oz. In.	Frame Figure Number Page 22
379	5.3	1/50	28	7500	3800	1.2	21.0	1, 2, 3 & 4
435	14.0	1/12	28	11500	6000	3.8	28.0	1, 2, 3 & 4
*494	16.8	1/10	115	13500	6000	1.1	56.0	1, 2, 3 & 4

*For Performance Curve for Motor Type No. 494, See Curve 311, Page 19



SPLIT FIELD SERIES MOTORS

"B" or "F" FRAMES SEE PRINT A-2539 PAGE 21

Motor Type No.	Rated Torque Oz. In.	HP	Volts	RPM No Load	RPM Full Load	Full Load Amps	Locked Torque Oz. In.	Frame Figure Number Page 21
228	.34	1/1000	65	5800	3000	.1	1.5	3 & 4
874	.95	1/400	40	6700	2600	.21	3	3 & 4
50	.95	1/400	115	6700	2600	.08	3	3 & 4
566	1.3	1/250	24	7000	3000	.70	3.5	3 & 4
391	1.7	1/200	24	8300	3000	.6	4.0	3 & 4
40	2.0	1/200	110	6400	2500	.125	6	3 & 4
83	1.9	1/175	6	11800	3000	2.9	5	3 & 4
354	1.5	1/100	150	14000	6800	.12	8	3 & 4
37	3.7	1/75	115	13000	3600	.25	7	3 & 4

SPLIT FIELD SERIES MOTORS

"FB" FRAME SEE PRINT A-2539 PAGE 21

Motor Type No.	Rated Torque Oz. In.	HP	Volts	RPM No Load	RPM Full Load	Full Load Amps	Locked Torque Oz. In.	Frame Figure Number Page 21
125	.48	1/3000	115	2600	700	.025	1	5
133	1.0	1/450	24	7200	2200	.27	3	5
30	1.0	1/250	150	8000	4000	.06	4.5	5
46	1.9	1/75	115	8200	7000	.17	15	5
709	3.7	1/75	115	11000	3600	.15		5
56	4.0	1/70	24	12500	3600	1.15	14	5
622	4.0	1/70	6	12500	3600	4.6	14	5
66	4.0	1/70	60	11000	3600	.58	14	5

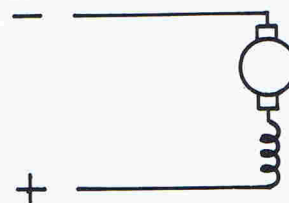
"ASC" FRAME SEE PRINT A-3722 PAGE 22

Motor Type No.	Rated Torque Oz. In.	HP	Volts	RPM No Load	RPM Full Load	Full Load Amps	Locked Torque Oz. In.	Frame Figure Number Page 22
223	6.9	1/25	115	10500	6200	.63	21	1, 2, 3 & 4

"ALC" FRAME SEE PRINT A-3722 PAGE 22

Motor Type No.	Rated Torque Oz. In.	HP	Volts	RPM No Load	RPM Full Load	Full Load Amps	Locked Torque Oz. In.	Frame Figure Number Page 22
718	10	1/20	24	9600	5000	2.8	40	1, 2, 3 & 4
278	10.5	1/12	220	12000	8000	.5	30	1, 2, 3 & 4

**UNIVERSAL
COMMUTATOR
MOTORS
D.C. TO 60 CYCLES**



"B" or "F" FRAMES SEE PRINT A-2539 PAGE 21

Motor Type No.	Rated Torque Oz. In.	HP	Volts	RPM Full Load	Full Load Amps	Frame Figure Numbers Page 21
737	1.25	1/200	115	4000	.15	3 & 4
240	2.5	1/50	115	8000	.4	3 & 4

"FB" FRAME SEE PRINT A-2539 PAGE 21

Motor Type No.	Rated Torque Oz. In.	HP	Volts	RPM Full Load	Full Load Amps	Frame Figure Numbers Page 21
57	1.2	1/100	115	8500	.17	5
517	3.1	1/100	6	3300	4.0	5
153	.9	1/130	115	10000	.45 Intermittent	5

"ASC" FRAME SEE PRINT A-3722 PAGE 22

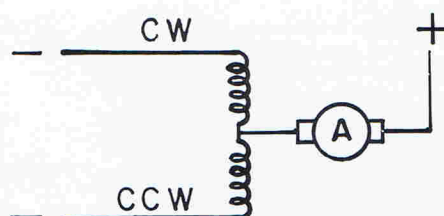
Motor Type No.	Rated Torque Oz. In.	HP	Volts	RPM Full Load	Full Load Amps	Frame Figure Numbers Page 22
301	8.4	1/20	115	6000	.7	1, 2, 3 & 4
221	7.2	1/20	115	7000	.9	1, 2, 3 & 4
192	8.4	1/15	115	8000	.95	1, 2, 3 & 4
913	8.4	1/10	115	12000	1.2	1, 2, 3 & 4

"ALC" FRAME SEE PRINT A-3722 PAGE 22

Motor Type No.	Rated Torque Oz. In.	HP	Volts	RPM Full Load	Full Load Amps	Frame Figure Numbers Page 22
443	12.5	1/15	115	5400	1.1	1, 2, 3 & 4
370	14.4	1/10	115	7000	1.30	1, 2, 3 & 4
**173	18.0	1/8	115	7000	2.2	1, 2, 3 & 4
531	21.0	1/8	115	6000	2.0	1, 2, 3 & 4
200	13.4	1/6	115	12500	3.0	1, 2, 3 & 4
1129	25.0	1/4	115	10000	2.5	1, 2, 3 & 4
1063	29.6	1/4	115	8500	3.0	1, 2, 3 & 4

*Rotation — Clockwise from shaft end.

**For Performance Curve No. 236, See Page 19



**SPLIT
FIELD
UNIVERSAL
MOTORS**

"B" or "F" FRAMES SEE PRINT A-2539 PAGE 21

Motor Type No.	Rated Torque Oz. In.	HP	Volts	RPM Full Load	Full Load Amps	Frame Figure Numbers Page 21
220	.7	1/400	115	3600	.070	3 & 4
284	1.1	1/250	115	3600	.11	3 & 4
*239	1.0	1/100	115	10000	.170	3 & 4

*For Performance Curve No. 268, See Page 19

ELINCO

"ASC" FRAME SEE PRINT A-3722 PAGE 22

Motor Type No.	Rated Torque Oz. In.	HP	Volts	RPM Full Load	Full Load Amps	Frame Figure Numbers Page 22
223	6.4	1/25	115	6000	.63	1, 2, 3 & 4

"ALC" FRAME SEE PRINT A-3722 PAGE 22

Motor Type No.	Rated Torque Oz. In.	HP	Volts	RPM Full Load	Full Load Amps	Frame Figure Numbers Page 22
238	20.6	1/7	115	7000	1.8	1, 2, 3 & 4

EXAMPLE OF SPECIAL MOTORS – TWO SPEED BY FIELD SELECTION

Motor Type No.	Rated Torque Oz. In.	HP	Volts	RPM Full Load	Full Load Amps	Frame Figure Numbers Page 22
212	6.3	1/20	115	8000	.65 Full Field	1, 2, 3 & 4
	7.3	1/12	115	11500	.70 Half Field	1, 2, 3 & 4
679	6.7	1/50	115	3000	1.0 Full Field	1, 2, 3 & 4
	6.7	1/10		15000	.70 Half Field	1, 2, 3 & 4

GOVERNOR MOTORS

Governor motors are made as D.C. shunt motors or as series A.C.-D.C. motors. In the case of D.C. shunt motors the governor enables the motor to maintain constant speed over a wide range of load & voltage variations. In the case of AC/DC series universal motors, the governor limits the no load speed and enables the motor to operate at the same speed on both AC & DC. The governor also permits maintaining constant speed over a wide range of load & voltage variations.

GOVERNORS: All D.C. units are supplied with split ring governors, which, in effect, reverse the polarity on the governor brushes every half revolution, thus giving equal life on both the governor brushes. Frames available with this type of governor per drawing A-3729.

A.C. or universal units are available with concentric ring governors

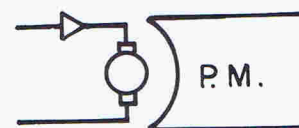
per drawing A-3728. While many of the universal units have been supplied with split ring governors, some of the more recent units have concentric ring governors, which give somewhat smoother operation by eliminating some of the vibration at the expense of a longer frame length.

ACCURACY: All governor motors are guaranteed to maintain speed to $\pm 1\%$ over normal voltage and load variations. At higher speeds this accuracy increases to $\pm \frac{1}{4}$ of 1%.

ROTATION: Standard governor motors are manufactured for clockwise rotation facing shaft extension. Units are available for counter clockwise rotation when specified on purchase order.

PERMANENT MAGNET D.C. GOVERNOR MOTORS

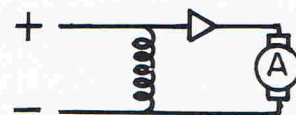
"BG" or "FG" FRAMES SEE PRINT A-3730 PAGE 23



Motor Type No.	Rated Torque Oz. In.	HP	RPM	Volts	Full Load Amps	Locked Torque Oz. In.	Frame Figure Numbers Page 23
171	.63	1/1000	1600	24	.13	4.5	1 & 2
246	1.6	1/400	1600	48	.14	6.0	1 & 2
178	1.8	1/350	1600	6	1.2	5.5	1 & 2
145	2.7	1/250	1500	6	1.5	7.0	1 & 2
235	1.7	1/150	4000	24	.75	5.5	1 & 2
116	1.5	1/150	4500	6	1.9	15	1 & 2

"FBG" FRAME SEE PRINT **A-3730** PAGE **23**

Motor Type No.	Rated Torque Oz. In.	HP	RPM	Volts	Full Load Amps	Rated Torque Oz. In.	Frame Figure Numbers Page 23
271	6.2	1/90	1800	24	1.0	16.0	3

D. C. SHUNT GOVERNOR MOTORS**"BG" or "FG" FRAMES** SEE PRINT **A-3730** PAGE **23****SPLIT RING GOVERNORS**

Motor Type No.	Rated Torque Oz. In.	HP	Volts	RPM	Full Load Amps	Field Resis. Ohms	Arm. Resis. Ohms	Frame Figure Number Page 23
272	2.2	1/250	24	1800	.6	140	16.0	1 & 2
51	1.4	1/175	6	4000	2.9	10.4	.4	1 & 2
52	1.4	1/175	12	4000	1.5	38	1.6	1 & 2
61	1.7	1/150	27.5	4000	1.3	140	13	1 & 2
61-A	1.1	1/150	27.5	6000	1.3	140	13	1 & 2
88	2.0	1/125	110	4000	.28	2540	163	1 & 2
92	2.0	1/125	220	4000	.15	5120	*610	1 & 2
148	2.1	1/75	24	4000	1.7	90	4.4	1 & 2
826	3.9	1/70	6	3600	3.9	4	.3	1 & 2
827	5.0	1/50	6	4000	4.6	4.6	.3	1 & 2
204	3.5	1/50	24	5750	.8	140	13	1 & 2

INTERMITTENT DUTY

785	7.0	1/40	12	3600	6.7	18.1	1.16	1 & 2
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"FBG" FRAME SEE PRINT **A-3730** PAGE **23**

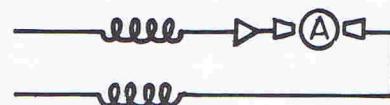
Motor Type No.	Rated Torque Oz. In.	HP	Volts	RPM	Full Load Amps	Field Resis. Ohms	Arm. Resis. Ohms	Frame Figure Number Page 23
497	2.2	1/150	18	3000	.85	84	2.5	3

"ASCG" FRAME SEE PRINT **A-3729** PAGE **24**

Motor Type No.	Rated Torque Oz. In.	HP	Volts	RPM	Full Load Amps	Field Resis. Ohms	Arm. Resis. Ohms	Frame Figure Number Page 24
222	8.4	1/100	12	1200	3.0	9	1.8	1, 2, 3 & 4
254	8.4	1/100	24	1200	1.3	36	7.1	1, 2, 3 & 4
255	8.4	1/50	6	2400	11.5	1.1	.08	1, 2, 3 & 4
345	8.4	1/50	12	2400	4.0	4.2	3.2	1, 2, 3 & 4
1045	6.7	1/50	28	3000	1.8	35	3.0	1, 2, 3 & 4
237	3.4	1/50	27.5	6000	5.0	9	3.2	1, 2, 3 & 4
1325	16.8	1/6	150	10000	1.2	1500	8.5	1, 2, 3 & 4

"ALCG" FRAME SEE PRINT **A-3729** PAGE **24**

Motor Type No.	Rated Torque Oz. In.	HP	Volts	RPM	Full Load Amps	Field Resis. Ohms	Arm. Resis. Ohms	Frame Figure Number Page 24
1297	11.2	1/100	28	900	1.2	58	6.2	1, 2, 3 & 4
1011	18.7	1/30	28	1800	2.2	50	1.6	1, 2, 3 & 4
277	13.2	1/30	12	2700	6.8	9.6	.33	1, 2, 3 & 4
752	17.8	1/30	24	2000	3.0	40	7	1, 2, 3 & 4
800	8.9	1/30	12	4000	4.5	18.8	.20	1, 2, 3 & 4
587	16.8	1/15	115	4000	.80	890	19.5	1, 2, 3 & 4
684	25.2	1/8	28	5000	7.5	.57	.44	1, 2, 3 & 4
253	19.2	1/6	115	8800	2	2.7	4.4	1, 2, 3 & 4
1014	50.4	1/4	28	5000	12.	.97	.49	1, 2, 3 & 4

D. C. SERIES GOVERNOR MOTORS**"BG" or "FG" FRAMES** SEE PRINT **A-3730** PAGE **23****SPLIT RING GOVERNORS**

Motor Type No.	Rated Torque Oz. In.	HP	Volts	RPM	Full Load Amps	Field Resis. Ohms	Arm. Resis. Ohms	Frame Figure Number Page 23
433	.67	1/500	115	3000	.4	75	170	1 & 2
319	3.3	1/85	24	3600	1.3	2.0	425	1 & 2

INTERMITTENT DUTY

1087	14.0	1/20	12	3600	10	.2	.1	1 & 2
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"ALCG" FRAME SEE PRINT **A-3729** PAGE **24**

Motor Type No.	Rated Torque Oz. In.	HP	Volts	RPM	Full Load Amps	Field Resis. Ohms	Arm. Resis. Ohms	Frame Figure Number Page 24
526	22.0	1/12	12	3800	20	.75	.03	1, 2, 3 & 4
730	22.0	1/12	48	3800	3	2.5	1.5	1, 2, 3 & 4
734	17.5	1/12	125	4800	1.1	15.5	7.3	1, 2, 3 & 4
211	21.0	1/8	12	6000	25	.75	.03	1, 2, 3 & 4
227	21.0	1/8	24	6000	9.7	4.5	.150	1, 2, 3 & 4
509	16.8	1/8	27	7500	7.5	4.5	.120	1, 2, 3 & 4
456	14.3	1/8	24	8800	11	.67	.150	1, 2, 3 & 4
1134	35.0	1/8	125	3600	1.2	11.2	10.2	1, 2, 3 & 4

INTERMITTENT DUTY

1169	35.0	1/8	12	3600	18.0	.1	.05	1, 2, 3 & 4
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"BG" or "FG" FRAMES SEE PRINT **A-3730** PAGE **23****SPLIT RING GOVERNORS**

Motor Type No.	Rated Torque Oz. In.	HP	Volts	RPM	Full Load Amps	Field Resis. Ohms	Arm. Resis. Ohms	Frame Figure Number Page 23
433	.67	1/500	115	3000	.4	75	170	1 & 2

"ALCG" FRAME SEE PRINT **A-3729** PAGE **24** **SPLIT RING GOVERNORS**

Motor Type No.	Rated Torque Oz. In.	HP	Volts	RPM	Full Load Amps	Frame Figure Number Page 24
313	14.0	1/40	115	1800	1.2	1, 2, 3 & 4
251	9.5	1/15	115	7000	1.5	1, 2, 3 & 4
335	8.8	1/15	115	7200	1.35	1, 2, 3 & 4
606	25.2	1/8	115	5000	1.8*	1, 2, 3 & 4
344	21.0	1/8	115	6000	3.0	1, 2, 3 & 4

*Rotation — Clockwise from shaft end.

"ASCG" FRAME SEE PRINT **A-3728** PAGE **25** **CONCENTRIC RING GOVERNORS**

Motor Type No.	Rated Torque Oz. In.	HP	Volts	RPM	Full Load Amps	Frame Figure Number Page 25
974	31.5	1/8	115	4000	2.5	1, 2, 3 & 4
661	25.2	1/8	115	5000	2.3	1, 2, 3 & 4
972	33.7	1/6	115	5000	3.5	1, 2, 3 & 4

"ALCG" FRAME SEE PRINT **A-3728** PAGE **25** **CONCENTRIC RING GOVERNORS**

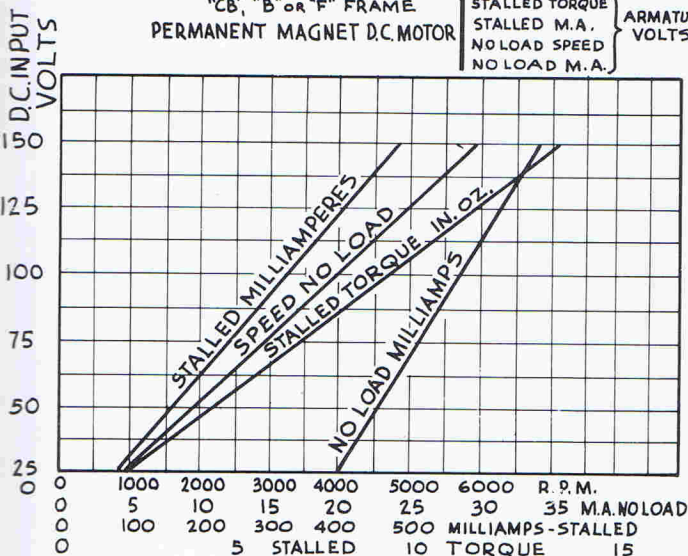
Motor Type No.	Rated Torque Oz. In.	HP	Volts	RPM	Full Load Amps	Frame Figure Number Page 25
502	22.5	1/5	115	8960	2.9	1, 2, 3 & 4
973	50.4	1/4	115	5000	4.0	1, 2, 3 & 4

ELINCO TYPE 35 — "B" OR "F" FRAME
PERMANENT MAGNET D.C. MOTOR
115 VOLTS, 3200 R.P.M., .13 AMPS., 1/100 H.P.

CURVE NO. 202

"CB", "B" or "F" FRAME
PERMANENT MAGNET D.C. MOTOR

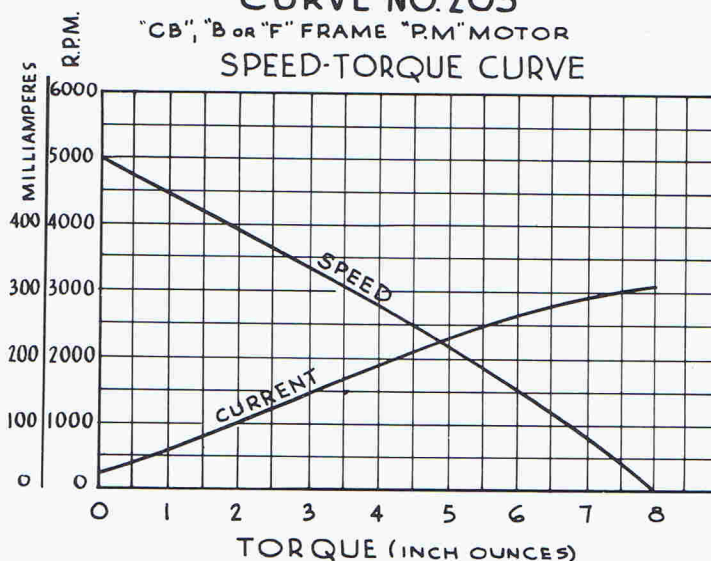
TYPICAL DATA FOR USE
WITH SERVO MOTORS
STALLED TORQUE
STALLED M.A.
NO LOAD SPEED
NO LOAD M.A.



ELINCO TYPE 35 — "B" OR "F" FRAME
PERMANENT MAGNET D.C. MOTOR
115 VOLTS, 3200 R.P.M., .13 AMPS., 1/100 H.P.

CURVE NO. 203

"CB", "B" or "F" FRAME "PM" MOTOR
SPEED-TORQUE CURVE

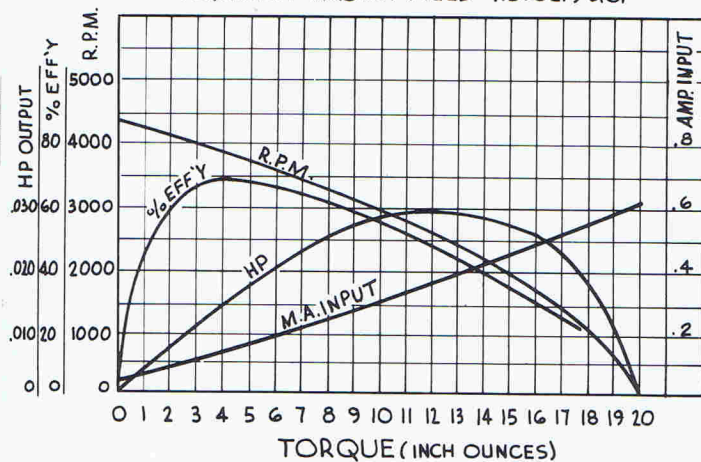
**ELINCO**

TYPICAL PERFORMANCE CURVES

ELINCO TYPE 139 — "FB" FRAME
PERMANENT MAGNET D.C. MOTOR
115 VOLTS, 2500 R.P.M., .4 AMPS., 1/35 H.P.

CURVE NO. 219

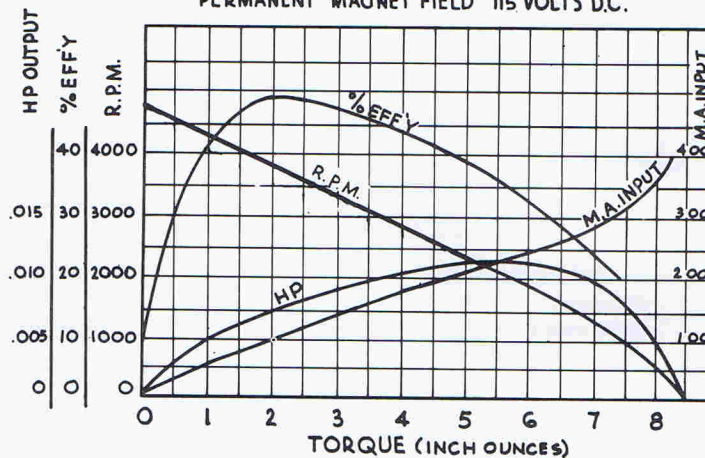
"FB" FRAME MOTOR
PERMANENT MAGNET FIELD 115VOLTS D.C.



ELINCO TYPE 35 — "B" OR "F" FRAME
PERMANENT MAGNET D.C. MOTOR
115 VOLTS, 3200 R.P.M., .13 AMPS., 1/100 H.P.

CURVE NO. 218

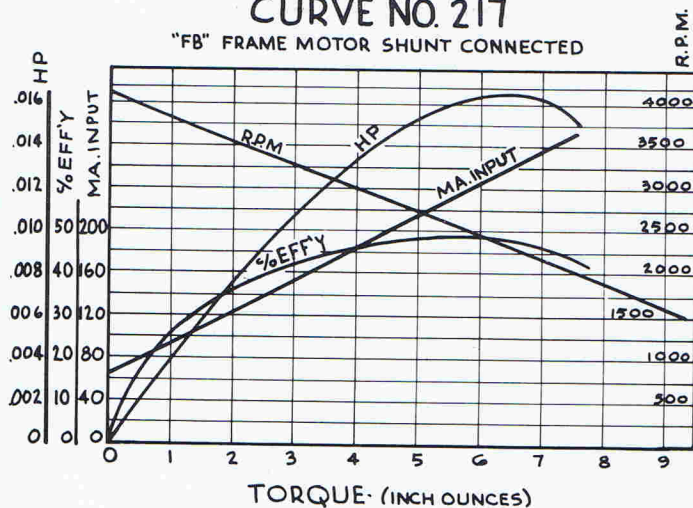
"CB", "B" OR "F" FRAME MOTOR
PERMANENT MAGNET FIELD 115 VOLTS D.C.



ELINCO TYPE 127 — "FB" FRAME
SHUNT WOUND D.C. MOTOR
115 VOLTS, 3700 R.P.M., .13 AMPS., 1/125 H.P.

CURVE NO. 217

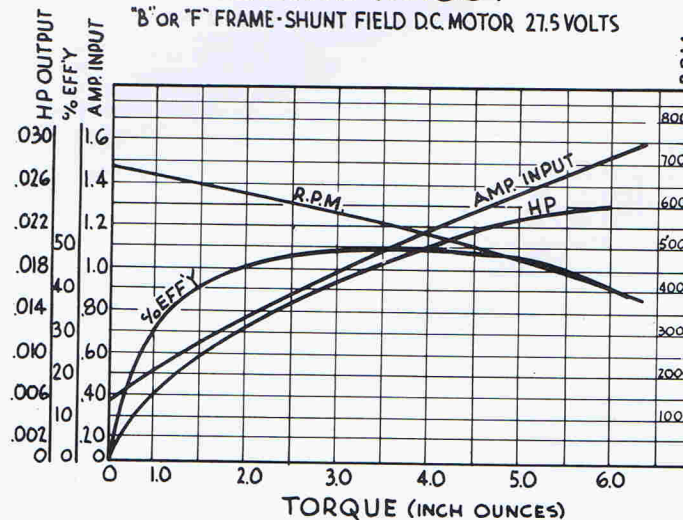
"FB" FRAME MOTOR SHUNT CONNECTED



ELINCO TYPE 613 — "B" OR "F" FRAME
SHUNT WOUND D.C. MOTOR
27.5 VOLTS, 5200 R.P.M., 1.15 AMPS., 1/50 H.P.

CURVE NO. 307

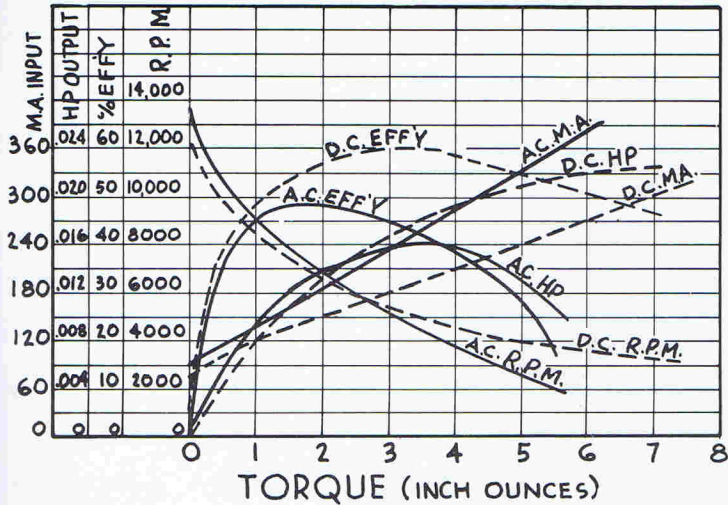
"B" OR "F" FRAME - SHUNT FIELD D.C. MOTOR 27.5 VOLTS



TYPICAL PERFORMANCE CURVES

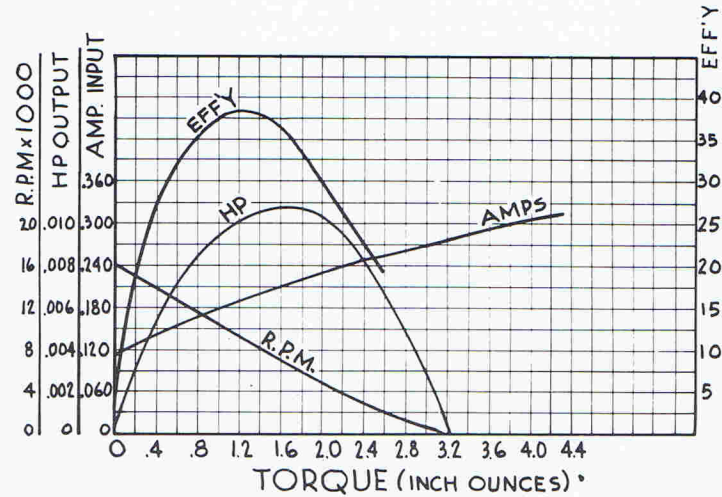
ELINCO TYPE 57 — "FB" FRAME
UNIVERSAL MOTOR
115 VOLTS, 8500 R.P.M., .17 AMPS., 1/100 H.P.

CURVE NO. 224
"FB" FRAME - SERIES MOTOR
115 VOLTS - 60 CYCLES A.C.



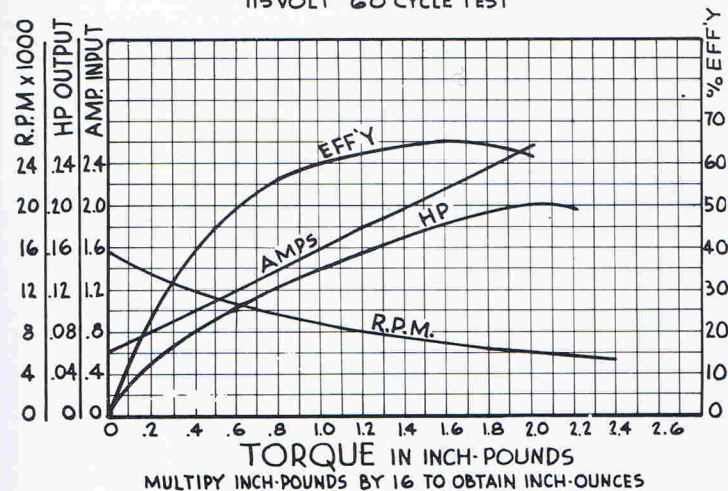
ELINCO TYPE 239 — "B" FRAME
UNIVERSAL MOTOR
115 VOLTS, 10,000 R.P.M., .17 AMPS., 1/100 H.P.

CURVE NO. 268
"B" OR "F" FRAME - UNIVERSAL MOTOR



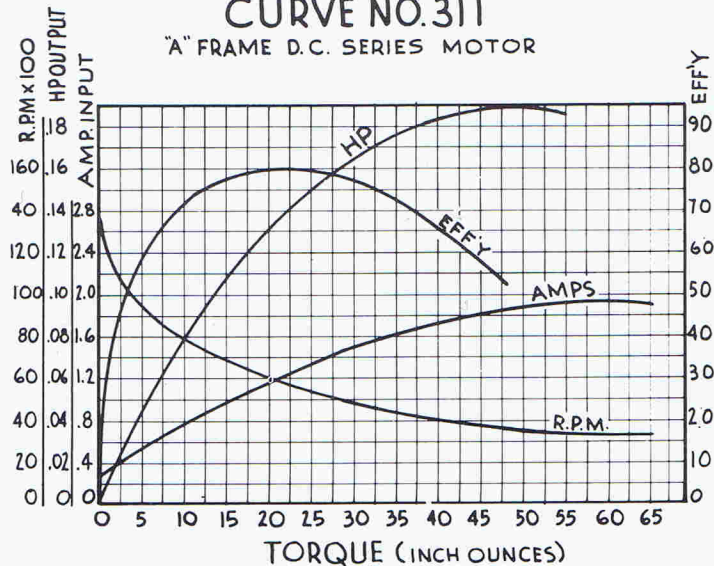
ELINCO TYPE 173 — "ALC" FRAME
UNIVERSAL MOTOR
115 VOLTS, 7000 R.P.M., 2.2 AMPS., 1/8 H.P.

CURVE NO. 236
"ALC" FRAME SERIES MOTOR FOR 115 VOLT A.C.-D.C.
115 VOLT 60 CYCLE TEST



ELINCO TYPE 494 — "ASC" FRAME
D.C. SERIES MOTOR
115 VOLTS, 6000 R.P.M., 1.1 AMPS., 1/10 H.P.

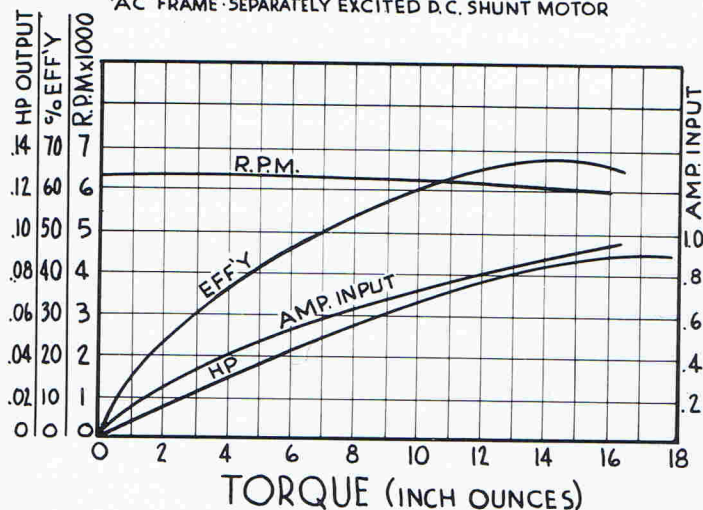
CURVE NO. 311
"A" FRAME D.C. SERIES MOTOR



ELINCO TYPE 680 — "ASC" FRAME
SEPARATELY EXCITED SHUNT MOTOR
115 ARMATURE VOLTS, 230/115 FIELD VOLTS,
6000 R.P.M., 1/25 H.P.

CURVE NO. 308

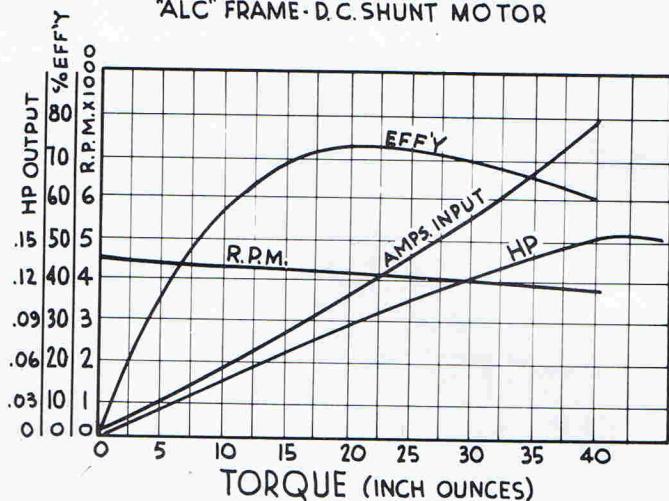
"AC" FRAME - SEPARATELY EXCITED D.C. SHUNT MOTOR



ELINCO TYPE 636 — "ALC" FRAME
D.C. SHUNT MOTOR
115 VOLTS, 4000 R.P.M., 1.2 AMPS., 1/8 H.P.

CURVE NO. 309

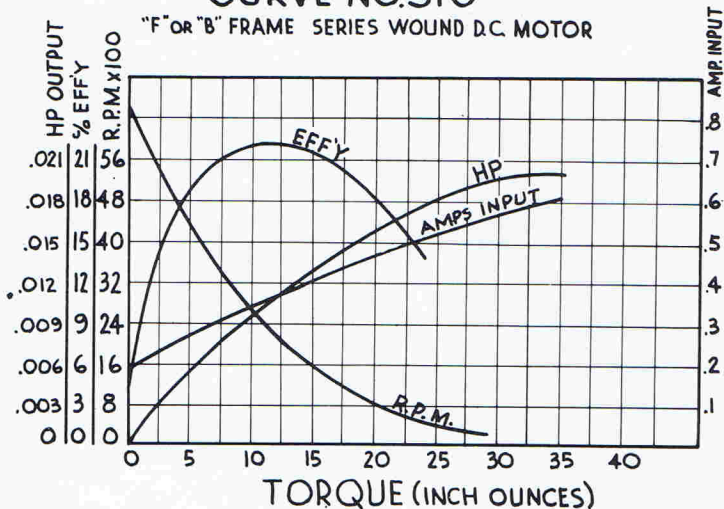
"ALC" FRAME - D.C. SHUNT MOTOR



ELINCO TYPE 129 — "B" OR "F" FRAME
SERIES WOUND D.C. MOTOR
24 VOLTS, 1600 R.P.M., 1.5 AMPS., 1/475 H.P.

CURVE NO. 310

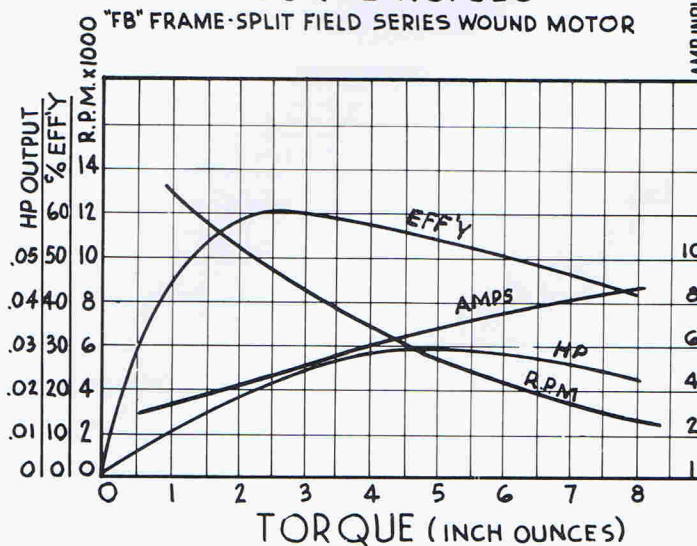
"F" OR "B" FRAME SERIES WOUND D.C. MOTOR



ELINCO TYPE 152 — "FB" FRAME
SPLIT FIELD SERIES WOUND MOTOR
6 VOLTS, 8000 R.P.M., 4.0 AMPS., 1/40 H.P.

CURVE NO. 228

"FB" FRAME - SPLIT FIELD SERIES WOUND MOTOR



FRAME DIMENSIONS

All surfaces marked "P" are perpendicular to shaft within .005 T.I.R.

Decimal dimensions have a tolerance of $\pm .005$ unless otherwise specified.

Fraction dimensions are for reference only.

Figures 1 & 2 can be supplied with 4 tapped holes in base.

Figures 3, 4, & 5 can be supplied with double shaft extension in which case add suffix "D" to style designation. Terminal boards will vary with type of unit ordered. Leads supplied upon request.

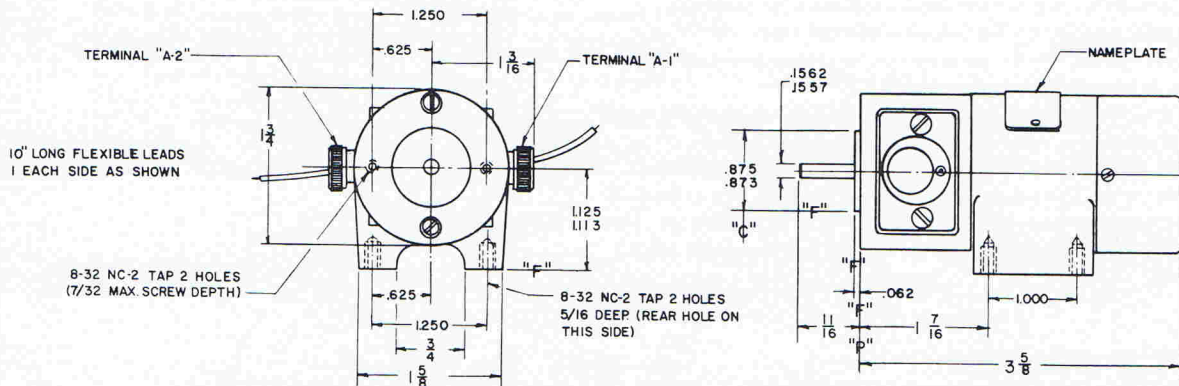


FIGURE 1, "CB" FRAME, SQUARE HORIZONTAL BRUSH.

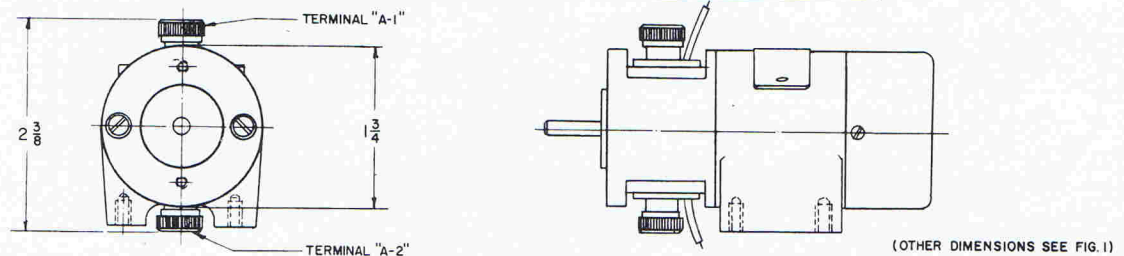


FIGURE 2, "CB" FRAME, SQUARE VERTICAL BRUSH.

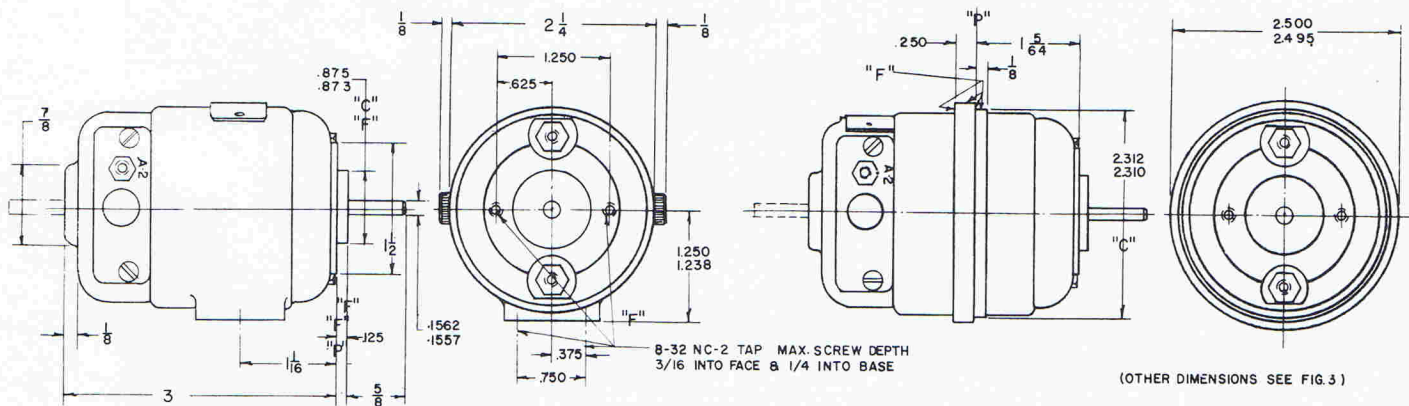


FIGURE 3, "B" FRAME, SQUARE BRUSH.

FIGURE 4, "F" FRAME, SQUARE BRUSH.

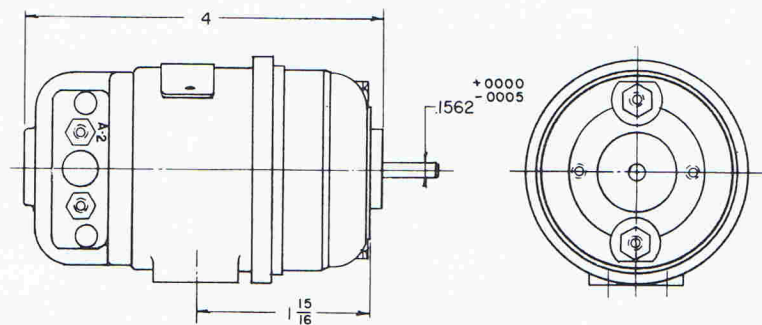


FIGURE 5,"FB" FRAME,SQUARE BRUSH.

(CAN BE SUPPLIED WITH .2188 OR
.2495 DIA SHAFT EXTENSION IF
SPECIFIED.)

(OTHER DIMENSIONS SEE FIG. 384)

A-2539

"ASC" & "ALC" frames WITH STANDARD, "JR", "NR" and "FR" END BELL

Housing & end caps are cast aluminum anodized after machining.
All diameters marked "C" are concentric to shaft within .005 T.I.R.
All surfaces marked "P" are perpendicular to shaft within .005 T.I.R.
All surfaces marked "F" are not painted.
Decimal dimensions have a tolerance of $\pm .005$ unless otherwise noted.
Fractional dimensions without tolerance are for reference only.
Add suffix "D" to frame designation if double end shaft is required.
Add suffix "E" to frame designation if totally enclosed unit is required.
Number & length of leads will vary with type of unit. All are nylon jacketed & flexible.
Unless otherwise ordered, units will be painted instrument dull black.

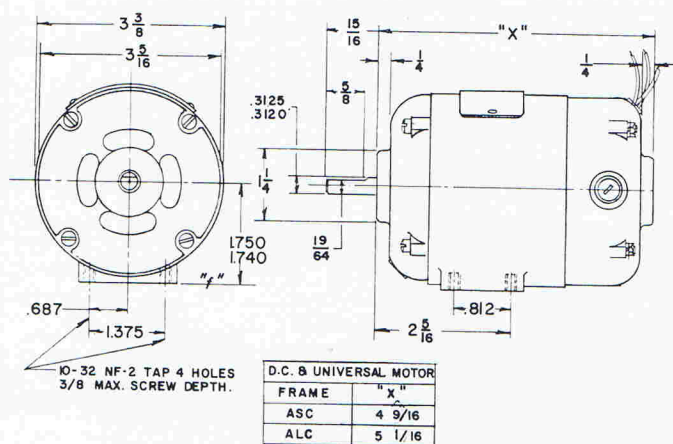


FIGURE ONE

NOTE : "ELINCO" RESERVES THE RIGHT
TO MAKE MINOR MODIFICATIONS THAT
DO NOT AFFECT MOUNTING DIMENSIONS.

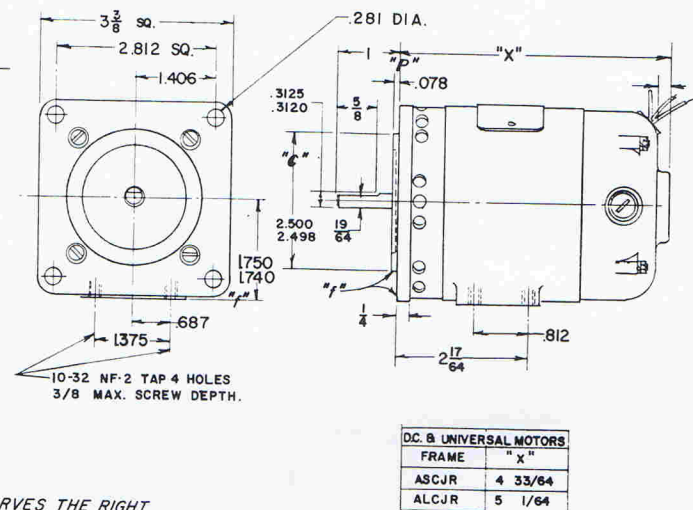


FIGURE TWO

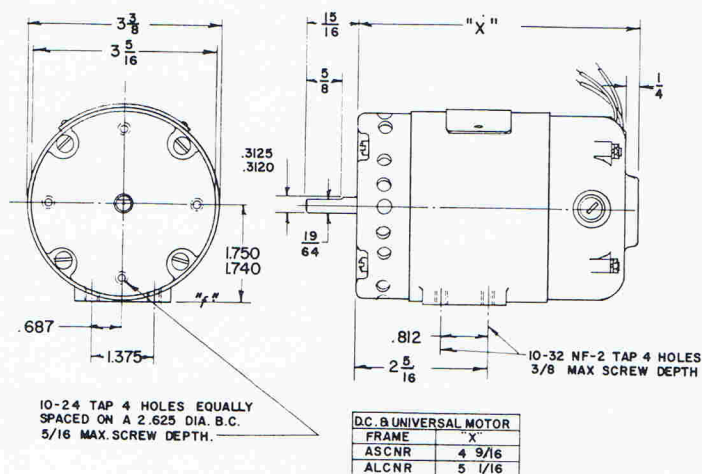


FIGURE THREE

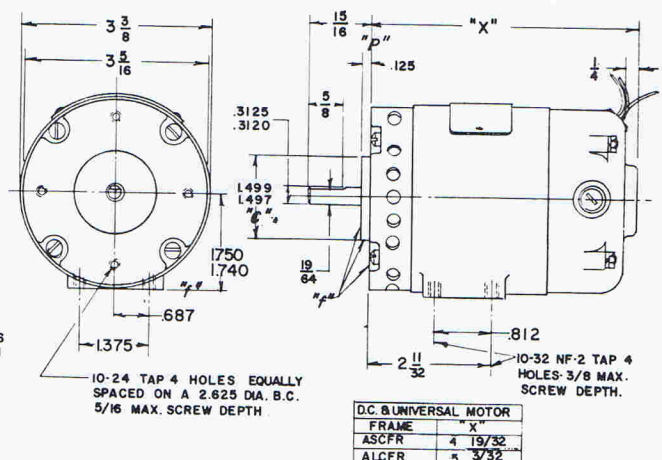


FIGURE FOUR

SPLIT RING GOVERNORS

FRAME DIMENSIONS

Housing & end caps are cast aluminum anodized after machining.
 All diameters marked "C" are concentric to shaft within .005 T.I.R.
 All surfaces marked "P" are perpendicular to shaft within .005 T.I.R.
 All surfaces marked "F" are not painted.
 Decimal dimensions have a tolerance of $\pm .005$ unless otherwise noted.
 Fractional dimensions without tolerance are for reference only.
 Terminal boards will vary with type of unit ordered.
 Nylon jacketed flexible leads provided instead of studs if specified.
 All units may be face mounted.
 "ELINCO" reserves the right to make minor modifications that do not affect mounting dimensions.

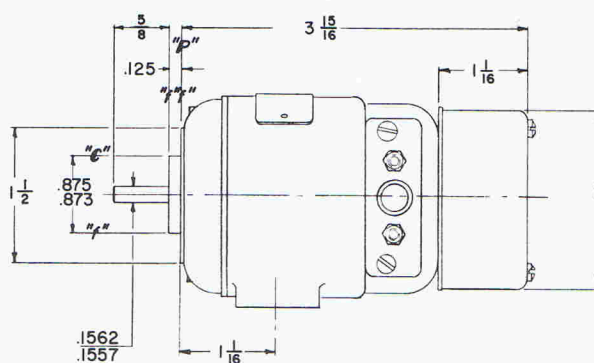
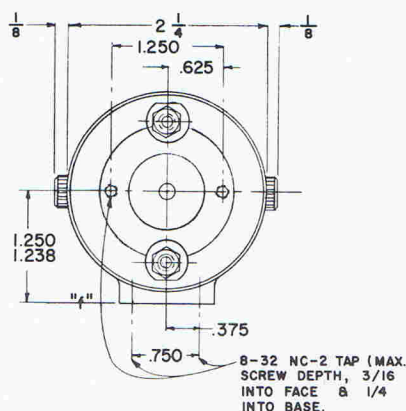


FIGURE ONE, "BG" FRAME (BASE MOUNTED)
(SQUARE BRUSH)

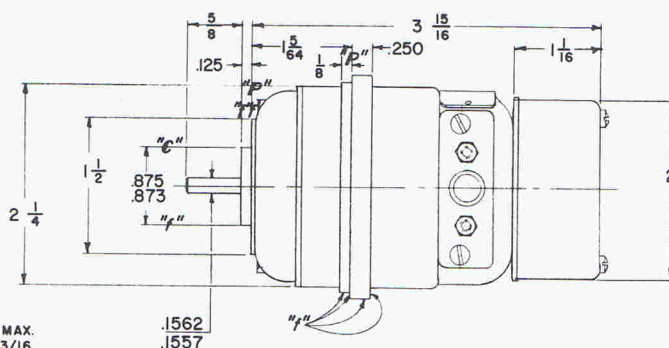
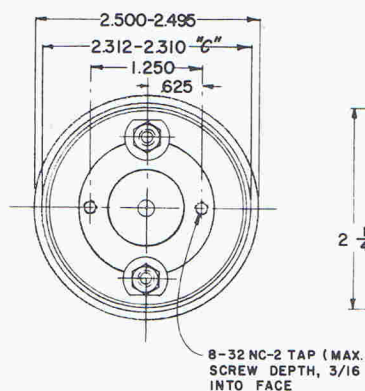


FIGURE TWO, "FG" FRAME (FLANGE MOUNTED)
(SQUARE BRUSH)

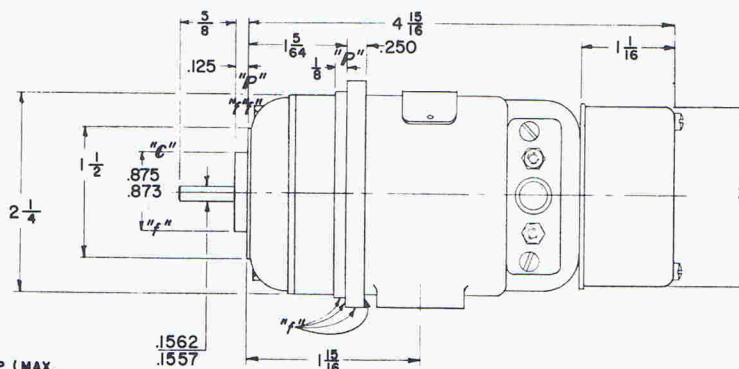
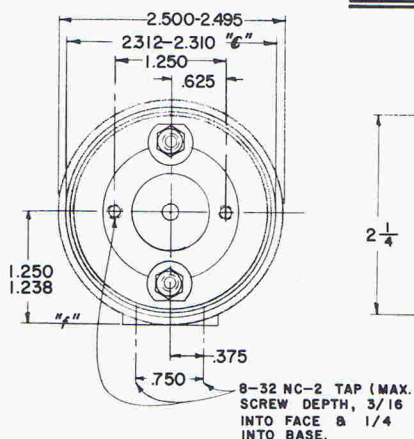


FIGURE THREE, "FBG" FRAME (FLANGE / BASE MOUNTED)
(SQUARE BRUSH)

SPLIT RING "AS" & "ALC" frame GOVERNOR MOTORS

Housing & end caps are cast aluminum anodized after machining.

All diameters marked "C" are concentric to shaft within .005 T.I.R.

All surfaces marked "P" are perpendicular to shaft within .005 T.I.R.

All surfaces marked "F" are not painted.

Decimal dimensions have a tolerance of $\pm .005$ unless otherwise noted.

Fractional dimensions without tolerance are for reference only.

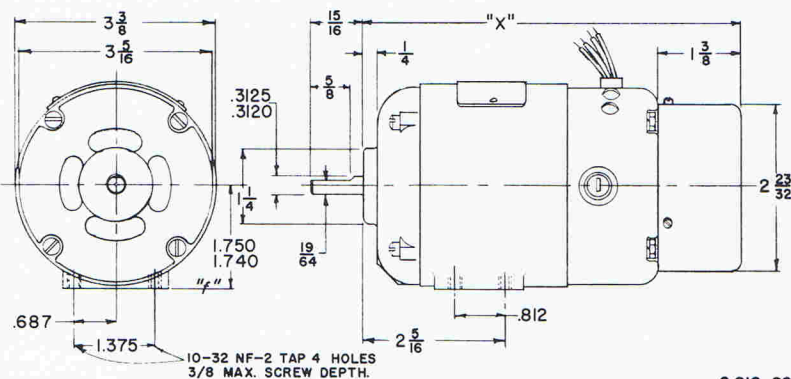
Add suffix "D" to frame designation if double end shaft is required.

Add suffix "E" to frame designation if totally enclosed unit is required.

Number & length of leads will vary with type of unit. All are nylon jacketed & flexible.

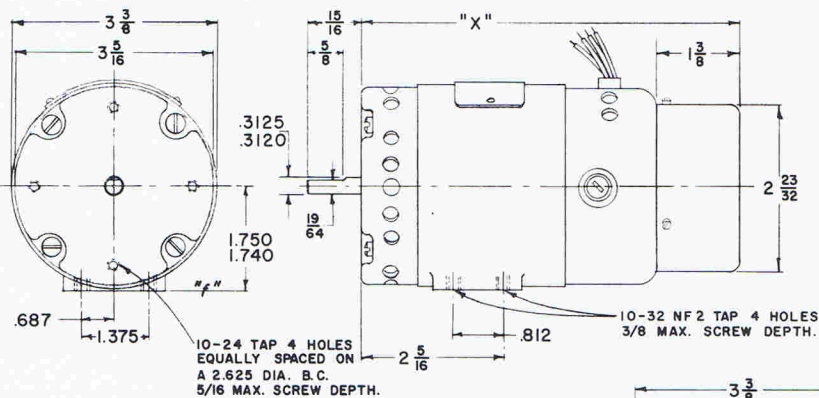
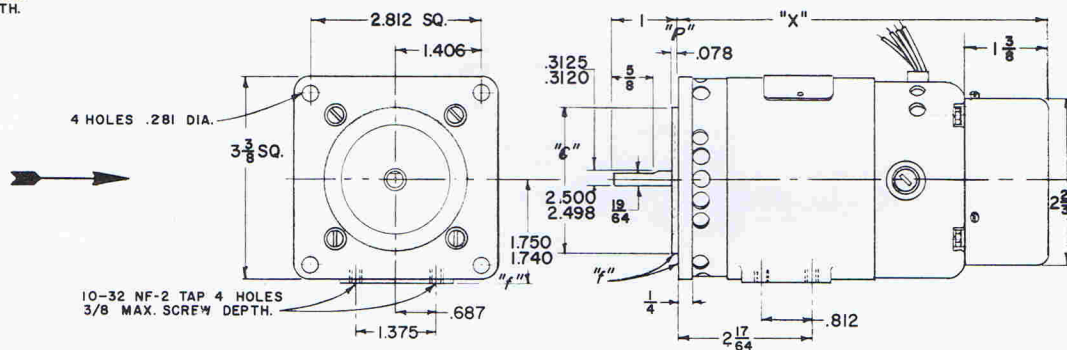
Frames shown are for split ring governors only.

"ELINCO" reserves the right to make minor modifications that do not affect mounting dimensions.



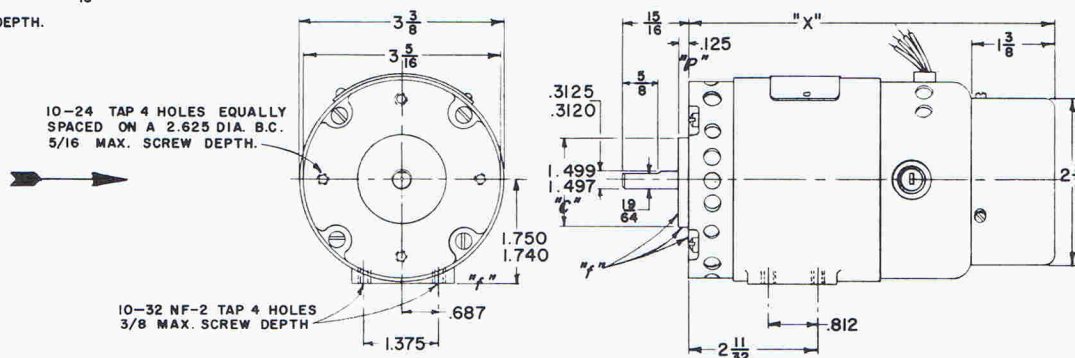
SPLIT GOVERNOR	RING MOTOR
FRAME	"X"
ASCGJR	5 27/32
ALCGJR	6 11/32

FIGURE TWO



SPLIT GOVERNOR	RING MOTOR
FRAME	"X"
ASCGFR	5 29/32
ALCGFR	6 13/32

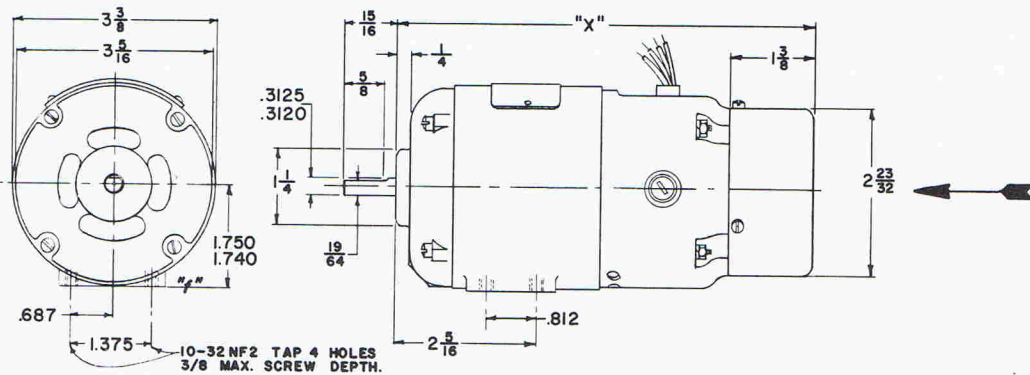
FIGURE FOUR



CONCENTRIC RING GOVERNORS

FRAME DIMENSIONS

Housing & end caps are cast aluminum anodized after machining.
 All diameters marked "C" are concentric to shaft within .005 T.I.R.
 All surfaces marked "P" are perpendicular to shaft within .005 T.I.R.
 All surfaces marked "F" are not painted.
 Decimal dimensions have a tolerance of $\pm .005$ unless otherwise noted.
 Fractional dimensions without tolerance are for reference only.
 Add suffix "D" to frame designation if double end shaft is required.
 Add suffix "E" to frame designation if totally enclosed unit is required.
 Number & length of leads will vary with type of unit. All are nylon jacketed & flexible.
 Frames shown are for concentric ring governors only.
 "ELINCO" reserves the right to make minor modifications that do not affect mounting dimensions.



CONCENTRIC RING GOVERNOR MOTOR	
FRAME	"X"
ASCG	6 13/32
ALCG	6 29/32

FIGURE ONE

CONCENTRIC RING GOVERNOR MOTOR	
FRAME	"X"
ASCGJR	6 3/8
ALCGJR	6 7/8

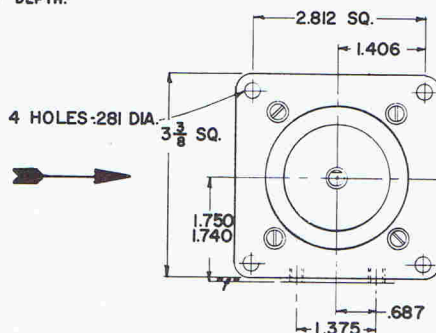
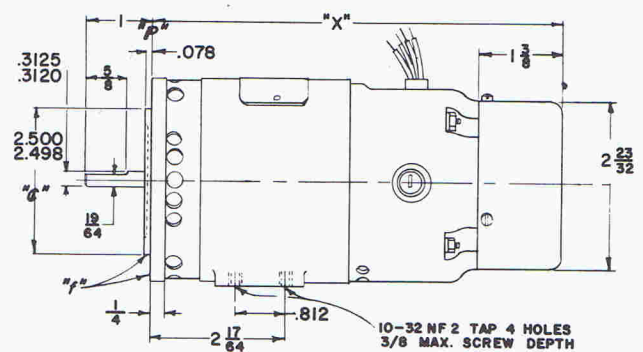
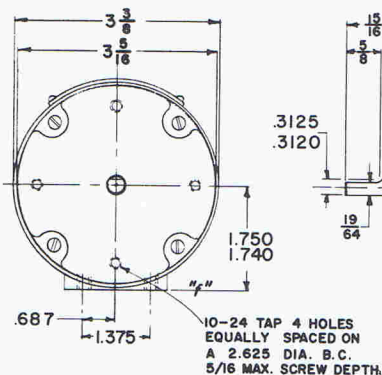


FIGURE TWO



CONCENTRIC RING GOVERNOR MOTOR	
FRAME	"X"
ASCGNR	6 13/32
ALCGNR	6 29/32

FIGURE THREE



CONCENTRIC RING GOVERNOR MOTOR	
FRAME	"X"
ASCGFR	6 7/16
ALCGFR	6 15/16

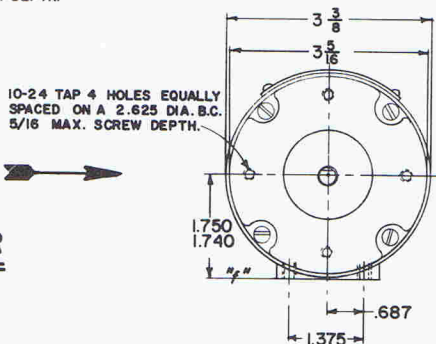
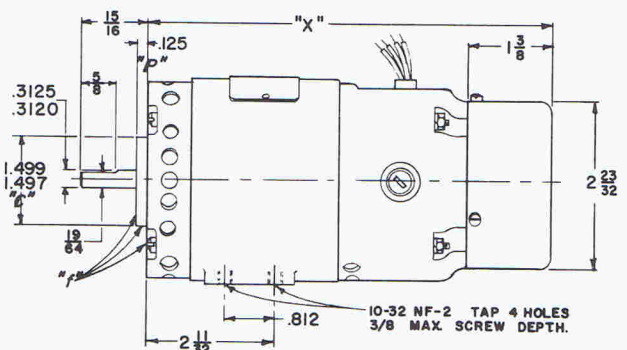


FIGURE FOUR



ELINCO DESIGNATION SYSTEM

Frame descriptions:

Frame sizes are designated by any one of the following:

Permanent Magnet and Direct Current Motors:

"B" "F" "FB" "CB" "ASC" "ALC"

Governor Motors: Direct Current

"BG" "FG" "FBG". Also see "ASCG" & "ALCG" (as shown on drawing A-3729)

Governor Motors: Alternating Current

"ASCG" "ALCG" (as shown on drawing A-3728)

End bells:

The letter or letters following the frame and type designations indicate the end bell style. "B" "FB" "CB" (drawing A-2539) "BG" "FG" "FBG" (drawing A-3730) are available only as standard frames. Standard "A" frame commutator motors are "ASC" and "ALC" as shown in fig. 1 of drawing A-3722. Standard alternating current governor controlled "A" frame commutator motors are "ASCG" and "ALCG" as shown in fig. 1 of drawing A-3728. Standard direct current governor controlled "A" frame commutator motors are "ASCG" and "ALCG" as shown in fig. 1 of drawing A-3729. NOTE THAT IN THE "A" FRAMES THE ALTERNATING CURRENT GOVERNOR CONTROLLED COMMUTATOR MOTORS ARE OF A DIFFERENT OVERALL LENGTH THAN THE DIRECT CURRENT GOVERNOR CONTROLLED MOTORS. In addition to the standard frames all "A" frames can be furnished as flange or face mounted units. "J" indicates a square flange mounting end bell with axial ventilation. "JR" indicates a square flange mounting end bell with radial ventilation. "FR" indicates face mounted with precision boss for critical mounting (gear boxes, etc.) and radial ventilation. "NR" indicates face mounting for not so critical mounting (blower or fan shroud) and radial ventilation.

Example: 1.



Example: 2.

ALCJRN-876-712 This would be identical to example 1 except that it would not be governor controlled.

Suffix letter "E"

Denotes totally enclosed unit. Example: "ALCJNE".

Suffix letter "D"

Denotes double end shaft extension. Example: "ASCJND".

Electrical specifications:

This number describes complete electrical specifications of the motor such as H.P., R.P.M., Voltage Frequency, etc.

Shaft extensions:

The shaft extensions shown in this catalogue are standard. If a shaft extension of different length or diameter is required ELINCO will assign a number which will completely identify the extension for future reference. It is preferable to order non standard shafts in lengths of $\frac{1}{8}$ " increments i.e., $\frac{7}{8}$ ", 1", $1\frac{1}{8}$ ", etc.

Example:

"ASCG-752" (standard shaft)
"ASCG-752-713" (special shaft)

ELINCO ENGINEERING AVAILABLE

ELINCO's Engineering Staff maintains a constant development program which, during the past year alone, developed in excess of a hundred new units to meet difficult commercial and military specifications.

The ELINCO catalogues referred to below contain complete electrical characteristics and physical specifications on hundreds of representative motors and generators:

A.C. AND D.C. GENERATORS CATALOGUE EI-1

Describes in detail over 170 precision built A.C. and D.C. generators in the following classifications:

- D.C. Permanent Magnet Tachometer Generators
- D.C. Wound Field Generators
- D.C. Speed-Squared Generators
- D.C. Dual Field Generators
- A.C. Permanent Magnet Generators
- A.C. Sine Wave Generators

A.C. SELF-SYNCHRONOUS MOTORS CATALOGUE EI-5

More than two dozen representative motors of the following types:

- A.C. Differential Motors
- A.C. Phase Shifting Rotary Transformers
- A.C. One and Three Phase Rotating Transformers
- A.C. Rotating Self-Synchronous Motors

A.C. INDUCTION AND A.C. TORQUE MOTORS CATALOGUE EI-3

Approximately 100 representative Induction Motors from 15 to 400 cycles, available in one, two or three phase, single or dual speeds, single or dual voltages. Data is included on single phase A.C. Induction Brake Motors.

Also included is complete data on approximately 50 Torque Motors for continuous or intermittent duty, single or multiphase, 60 cycle or odd frequency, and 115 or odd voltage.

STEPPING MOTORS

Stepping Motors are available in both Variable Reluctance and Permanent Magnet models. Stepping Motors are ideally suited for accurate positioning and control of digital programmed devices. Motors with frame diameters from 1.06" to 4.65". Stepping angles of 1.8, 4.5, 7.5, 9, 11.25, 12, 15, 22.5, 45, and 90 degrees are available in both face mounting and servo mounting configurations. Rotor torque ratings from 0.14 oz. in. to 25 oz. in. combined with 25 different interchangeable gearhead ratios provide broad applicability to diverse OEM applications.

SYNCHRONOUS MOTORS CATALOGUE EI-4

Nearly 200 Hysteresis and Salient Pole Induction Synchronous Motors are described. Hysteresis motors are available in single speed, dual speed, three, four and five speeds. Ratings are from 1/750 to 1/6 HP at speeds from 300 to 24000 RPM, frequencies from 15 to 400 cycles, voltages up to 440 volts, 1, 2 or 3 phase. Frame sizes are available from 2 1/4 in. in diameter by 2 1/2 in. long, to 4 3/8 in. in diameter by 8 1/2 in. long. Face, flange or base mountings can be supplied. All types can be supplied with ball bearings, some with sleeve bearings.

A.C. AND D.C. SERVO COMPONENTS CATALOGUE EI-6

Nearly 100 representative Motors and Generators of the following types:

- A.C. Low Inertia Induction Servo Motors
- A.C. Induction Generators
- A.C. Motor-Driven Induction Generators
- A.C. Motor-Generator Sets
- D.C. Motor-Generator Sets

ELINCO's Engineering Staff, with over 30 years experience in the specialized field of sub-fractional electrical rotary equipment, is available to tackle the toughest problems of heat, humidity, shock, vibration, torque, acceleration, weight, mounting and special design. Fast delivery on proto-type units — forward complete electrical and mechanical requirements to:

Electric Indicator Company, Inc., 272 Main Ave., Norwalk, Conn. 06851, Phone (203) 847-5861

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