ELINCO

designers and
manufacturers of

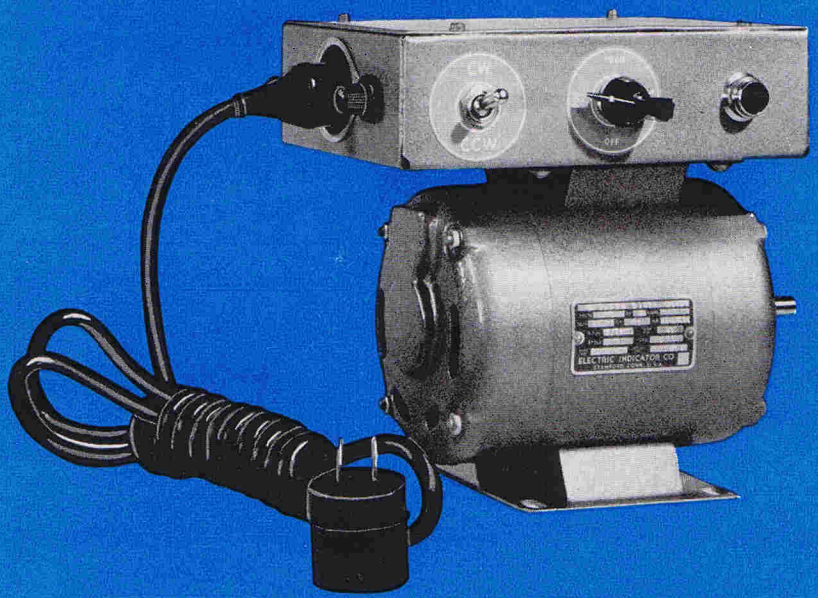
GOVERNOR-CONTROLLED
SELF-SYNCHRONOUS
DRAG CUP
VELOCITY & ACCELERATION
DC & AC TACHOMETER
SHUNT
SERIES
COMPOUND
PERMANENT-MAGNET
SPLIT-FIELD
SEPARATELY EXCITED
UNIVERSAL
INDUCTION
RELUCTANCE
HYSTERESIS
ONE, TWO & THREE PHASE
DC & AC SERVO
TOTALLY-ENCLOSED
AC DYNAMICALLY BRAKED
REELMOTORS

fractional horse-power
motors and generators

ELINCO does not manufacture, or carry in stock, low-cost, mass-production motors. Every order is special, engineered and produced to the customer's own exact specifications ... or by variation of one of our hundreds of different basic types of units. We produce only special, high-precision instruments, demanding the highest engineering ability, and manufactured with the skill and care that the name ELINCO has meant for years.

ELINCO

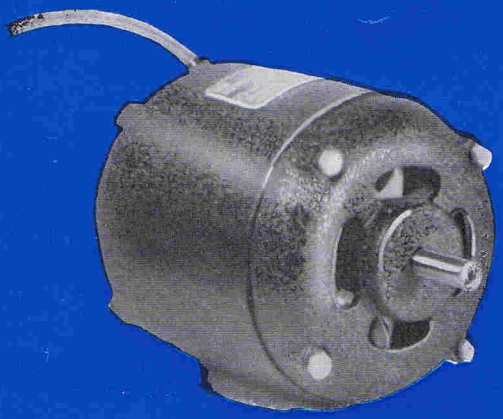
HYSTERESIS MOTORS



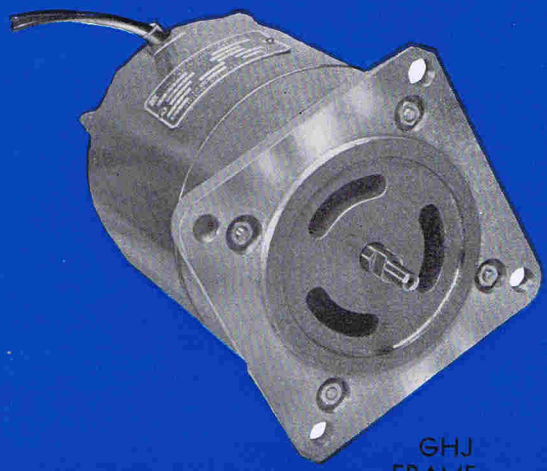
ELECTRIC INDICATOR CO. STAMFORD, CONN.

PRINTED IN U.S.A.

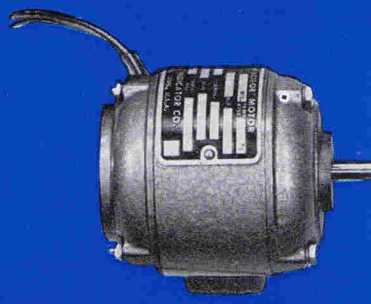
BULLETIN No. 49 B



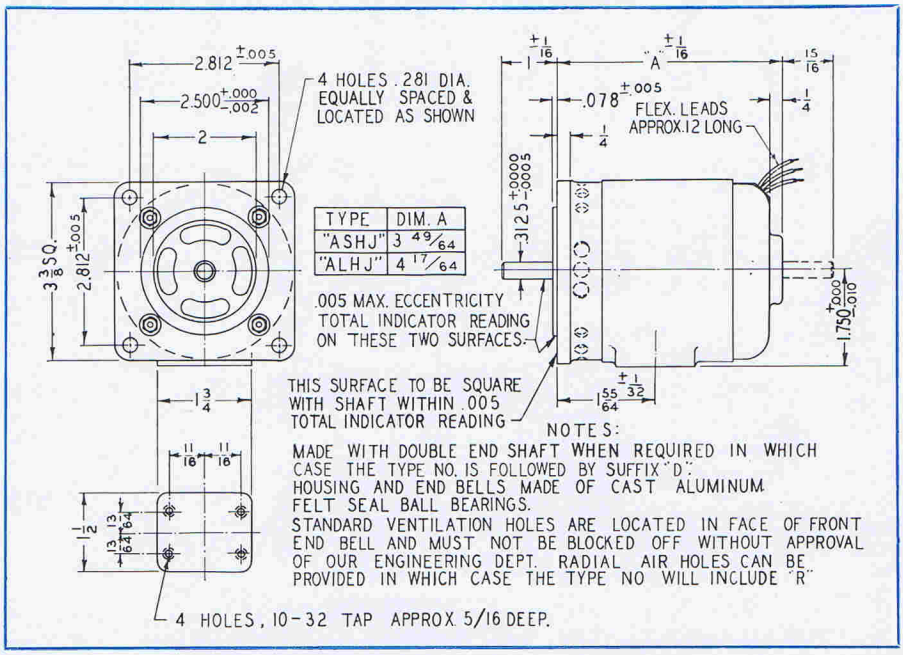
AH FRAME



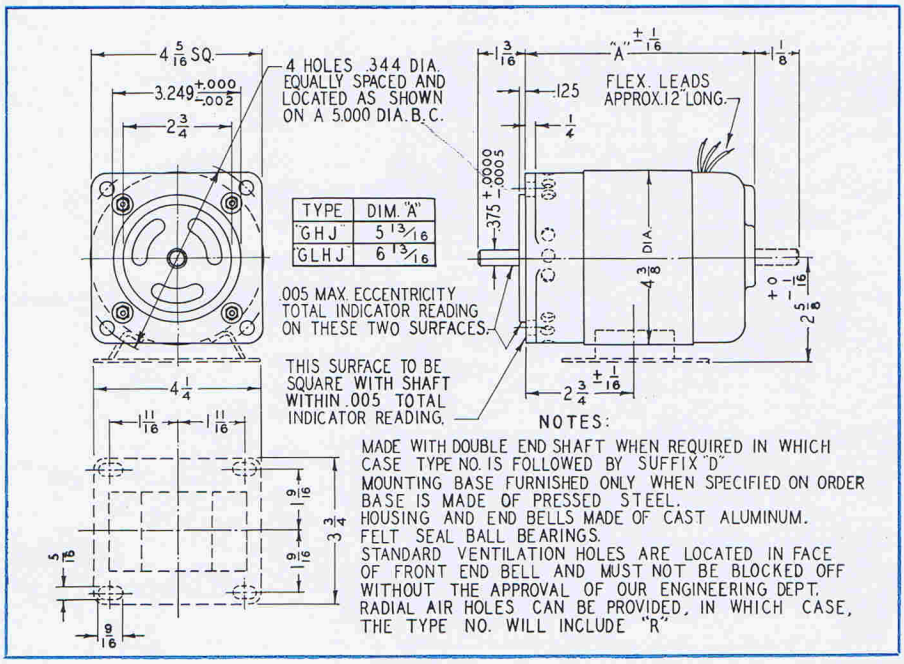
GHJ FRAME



BSH FRAME



AJ FRAME



GJ FRAME

CHARAC

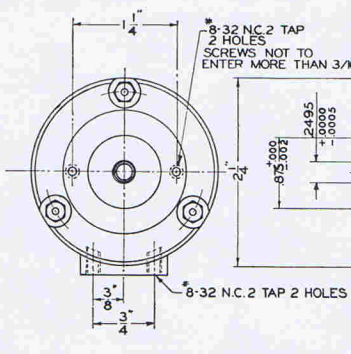
Hysteresis synchronous Motors differ fr
reluctance type in the following particu

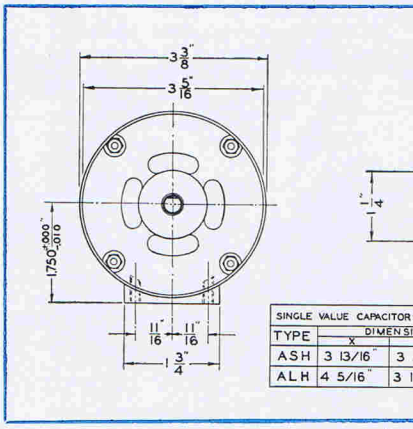
1. There is no variation in torque
of angular rotation. Hence, no torque
dition of constant load.

2. They will start and pull into s
inertia loads and do not require a s
that of the pure power component of

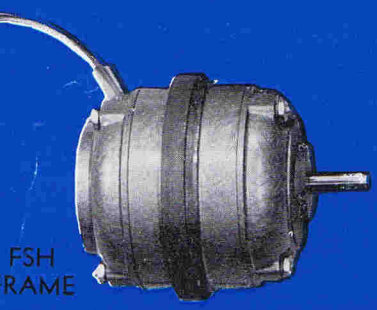
"A" and "G" frame units are self-ventil
units are totally enclosed with no fan.
are all capacitor type; polyphase moto
frame tpyes.

BSH

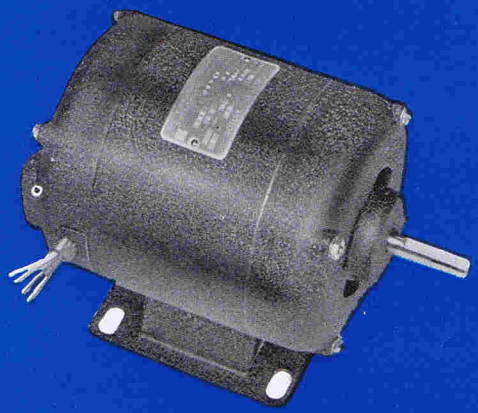




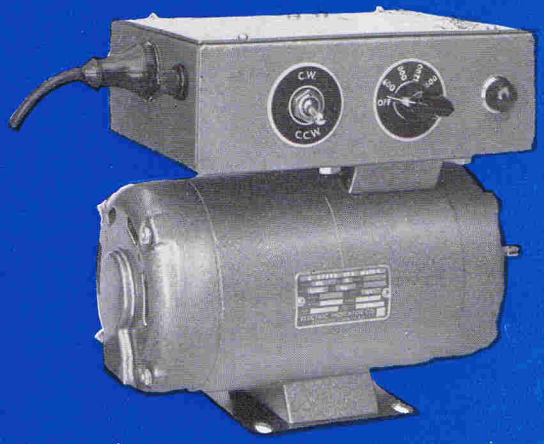
AH



FSH
RAME



GH FRAME



GGH FRAME WITH
CONTROL BOX

RISTICS AND CONSTRUCTION OF ELINCO HYSTERESIS MOTORS

he more common

ughout the 360°
sation under con-

ronism with high
or rating beyond
l.

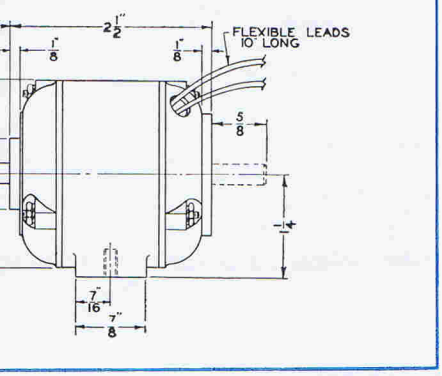
"BS" and "FS"
gle-phase motors
e available in all

All units are so constructed that special features, such as double end shafts, face mounting, or other changes can usually be made without large additional cost. Totally enclosed motors in "A" and "G" frames can be furnished with reduced ratings. An automatic thermal overload protector can be furnished in the "G" frame without change in dimensions, and in the "A" frame with somewhat longer frame length.

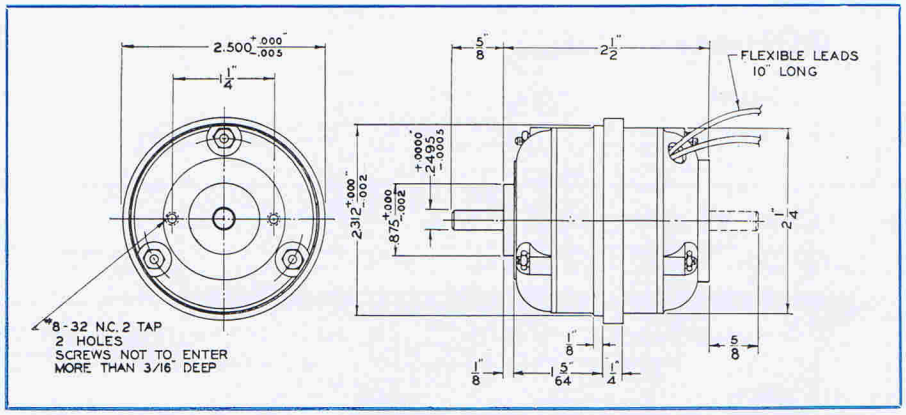
Elinco units are designed for maximum performance both for production and laboratory applications and are designed and built to rigid standards. The armature rotates on precision ball bearings selected for smoothness and quietness; these are factory-lubricated with extremely-wide temperature range grease and, in most cases, original lubrication is sufficient for at least one year. All rotor assemblies are dynamically balanced to very precise limits and finished with baked corrosion-resistant enamel. The Elinco Hysteresis motors described herein are finished, except for mounting surfaces, in light-blue mottletone, baked synthetic enamel. Special colors or other finishes can be furnished, as well as construction variations to meet individual requirements of use.

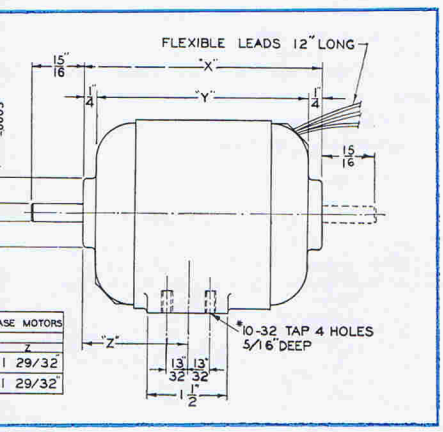
Other windings for operation on different voltages, different speeds of other variations can be developeed within limits of machine. Full information on such variations for required characteristics should be forwarded for comments by our engineers.

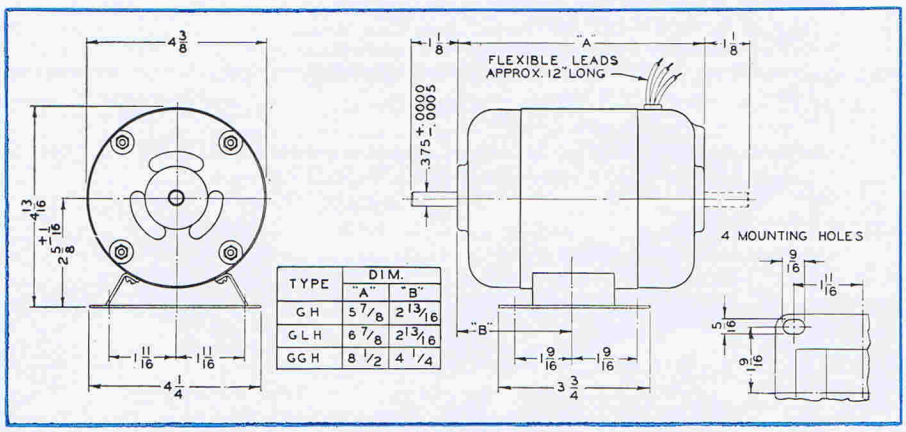
AME



FSH FRAME







TYPE	DIM. "A"	DIM. "B"
GH	5 7/8	2 13/16
GLH	6 7/8	2 13/16
GGH	8 1/2	4 1/4

AME

GH FRAME

115 VOLT 60 CYCLE SINGLE-PHASE SINGLE-SPEED MOTORS

MOTOR TYPE	SPEED	NOMINAL H.P. RATING	FULL LOAD POWER INPUT	STARTING TORQUE INCH LB.	PULL-IN TORQUE INCH LB.	PULL-OUT TORQUE INCH LB.	CAP VALUE MFD.
BSH-369	1800	1/750	14.0	.085	.050	.052	1.25
BSH-389	3600	1/350	12.5	.080	.050	.055	1.25
ASH-309	1800	1/125	24.0	.36	.36	.40	2.75
ALH-504	900	1/250	36.0	.36	.43	.49	4.00
ALH-310	1800	1/60	46.0	.75	.70	.80	4.00
ALH-346	3600	1/50	65.0	.50	.40	.41	2.50
GH-353	600	1/150	76.0	.75	.75	.85	7.00
GH-377	1200	1/30	86.0	2.15	1.85	2.00	8.00
GH-368	1800	1/16	100.0	2.55	2.40	2.50	5.00
GH-374	3600	1/20	70.0	1.00	.95	1.20	7.00
GLH-463	1800	1/12	136.0	3.10	3.10	3.20	6.00
GLH-420	3600		UNDER DEVELOPMENT				

115 VOLT 60 CYCLE SINGLE-PHASE DUAL-SPEED MOTORS

BSH-388	1800	1/1200	14.0	.05	.032	.032	1.5
	3600	1/600	14.0	.035	.030	.030	
ALH-287	900	1/150	41.0	.21	.45	.48	4.0
	1800	1/75	41.0	.37	.61	.70	
ALH-480	1800		UNDER DEVELOPMENT				
	3600						
GH-366	600	1/200	64.0	.50	.65	.65	6.0
	1200	1/75	61.0	.70	1.25	1.35	
GH-486	600	1/200	61.0	.50	.55	.65	6.0
	1800	1/40	73.0	1.25	1.55	1.60	5.0
GH-325	900	1/100	62.0	.80	.82	.90	5.0
	1800	1/40	77.0	1.20	1.40	1.70	
GH-455	900	1/100	59.0	.95	.86	.90	5.0
	3600	1/40	123.0	.50	.90	.90	8.0
GH-355	1200	1/60	55.0	1.10	1.00	1.20	4.25
	3600	1/60	92.0	.42	.55	.60	8.0
GH-394	1800	1/25	94.0	1.60	1.60	1.80	6.0
	3600	1/20	132.0	1.00	1.10	1.20	10.0

UNITS FOR OPERATION FROM SPECIAL POWER SOURCES

MOTOR TYPE	VOLTAGE	FREQ.	SPEED	NOMINAL H.P. RATING	FULL LOAD PWR INPUT	STARTING TORQUE INCH LB.	PULL-IN TORQUE INCH LB.	PULL-OUT TORQUE INCH LB.	CAP VALUE MFD.
ALH-349	220v-2Ph	60cy	900	1/150	40	.69	.56	.58	None
GH-434	115v-1Ph	240cy	7200	1/20	95	.27	.45	.50	1
GH-453	115v-3Ph	400cy	6000	1/20	156	3.30	.65	.67	None
GLH-413	220v-3Ph	60cy	3600	1/12	148	3.00	1.50	1.55	None
GH-357	35v-1Ph	25cy	750	1/120	60	.75	1.20	1.30	72.0
GH-510	440v-1Ph	60cy	1200	1/30	90	2.05	1.93	2.10	.5

115 VOLT 60 CYCLE SINGLE-PHASE MOTORS FOR SUB-SYNCHRONOUS APPLICATIONS

MOTOR TYPE	SPEED	NOMINAL H.P. RATING	FULL LOAD POWER INPUT	STARTING TORQUE INCH LB.	FULL LOAD TORQUE INCH LB.	DUTY	CAP VALUE MFD.
BSH-398	2550	1/200	30	.14	.125	Inter.	3.0
ALH-350	1750	1/40	60	.95	.95	Cont.	4.5
GH-351	1750	1/20	100	2.10	2.10	Cont.	4.0

A NEW DEVELOPMENT IN HYSTERESIS MOTORS

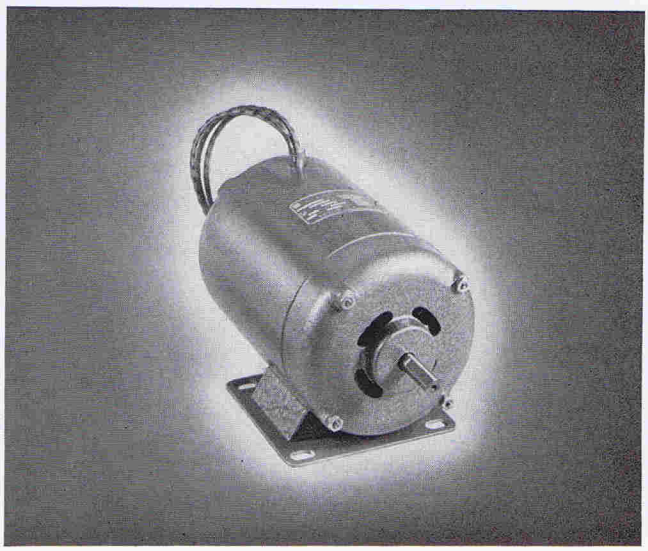
A NON-HUNTING HYSTERESIS MOTOR FOR LARGE INERTIA LOADS

Earlier designs of hysteresis motors, with their soft rotor coupling and low synchronous torques showed little tendency to hunt. As design techniques were improved (from 1/40 HP in 1947 to 1/16 HP in 1949 in the same motor size) difficulties with hunting became proportionately greater. Now, in 1950, ELINCO is pleased to announce a high torque hysteresis motor with fully damped motion for large inertia loads.

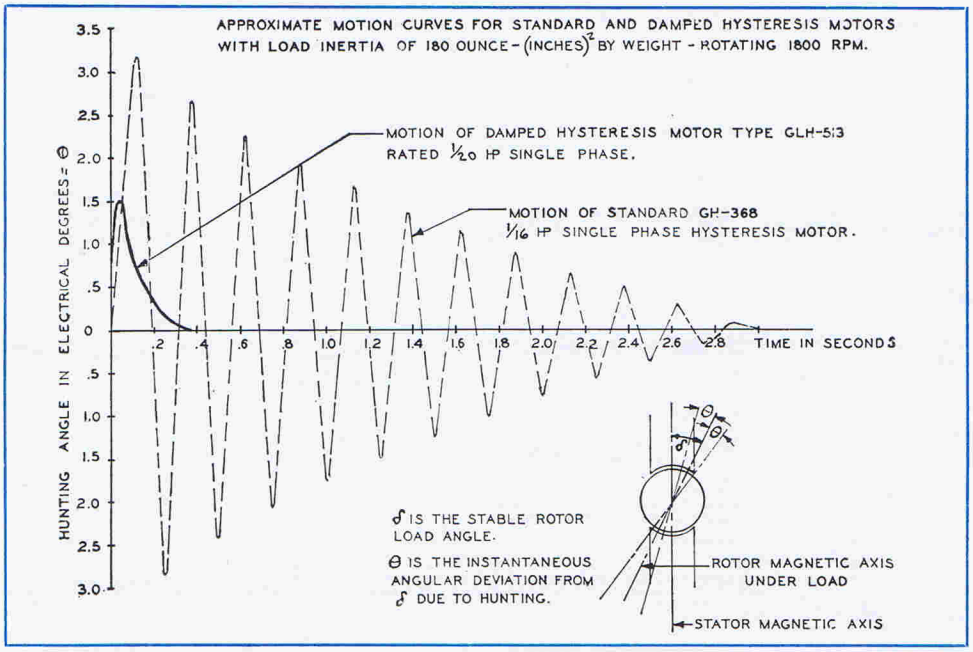
The curve below shows the comparison between a standard 1/16 HP hysteresis motor and the newer non-hunting unit. It may be seen that the non-hunting motor not only radically reduces the duration of any oscillation but cuts the magnitude of the initial swing about 50%.

The standard motor is capable of damping out after one oscillation a connected load inertia of approximately 9 oz.in.^{2} by weight as against a value of 180 oz.in.^{2} for the motor with damped motion.

Such motors have a natural application for all sound and optical work, for goniometer drives, and wherever an excellent degree of motional stability is required. They will permit the use of higher basic motor speeds for a given load inertia without increase in flutter, thereby permitting greater power output for fixed motor size. These units are, at present, available in our GLH frame with ratings as shown below. Units with other speed and voltage ratings as well as multiple speed units, will become available as development proceeds.



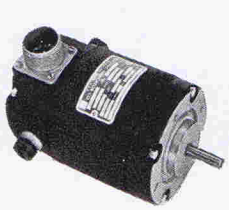
MOTION STABILITY CURVE FOR HYSTERESIS MOTORS



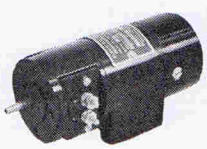
MOTOR STYLE	SPEED	NOM. HP RATING	POWER INPUT AT RATED LOAD	STARTING TORQUE IN. LBS.	PULL-IN TORQUE IN. LBS.	PULL-OUT TORQUE IN. LBS.	MAX. LOAD INERTIA FOR CRITICAL DAMPING	CAP. VAL. MFD.
GLH-512	3600	1/20	UNDER DEVELOPMENT					
GLH-513	1800	1/20	106	2.7	2.1	2.5	180 oz.in.^{2} by weight	6

OTHER ELINCO FRAME TYPES AND SPECIAL FEATURES

The variety of units Elinco can supply is almost limitless; there are over 500 basic models, all of which can be varied both electrically and physically. Certain others of these models and frame types are illustrated below. For specific information write for other literature.

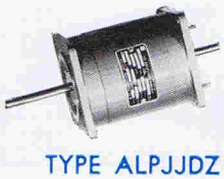

MODEL ALCFE 435


MODEL 336


CB FRAME

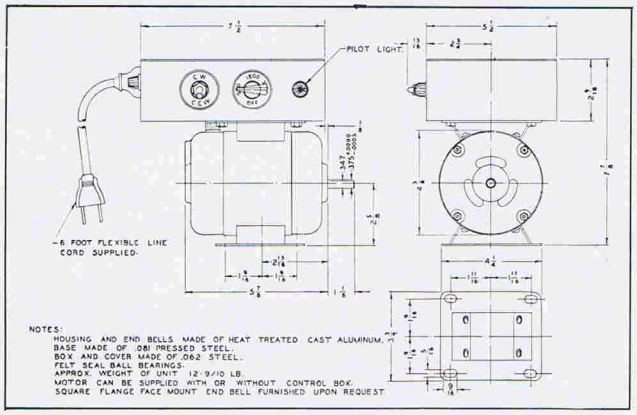

DRAG CUP


TYPE MI

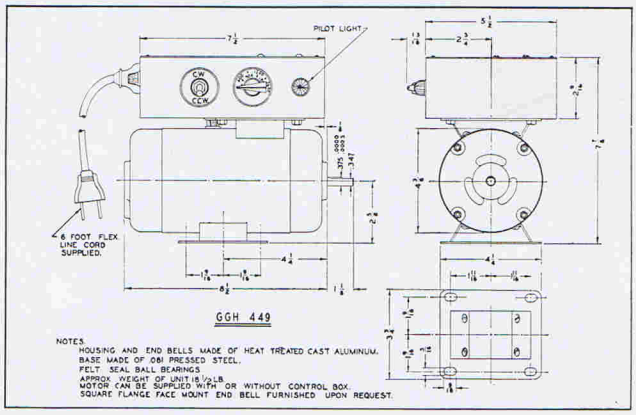

TYPE ALPJJDZ


T FRAME

ELINCO THREE AND FIVE SPEED SYNCHRONOUS MOTORS



GH FRAME WITH CONTROL BOX



GGH FRAME WITH CONTROL BOX

115 Volt 60 Cycle Single-Phase Multiple-Speed Motors

MOTOR	SPEED	NOMINAL H.P. RATING	FULL LOAD POWER INPUT	STARTING TORQUE INCH LB.	PULL-IN TORQUE INCH LB.	PULL-OUT TORQUE INCH LB.	CAP VALUE MFD.
GH-371 3 Speed	900	1/100	59	.95	.86	.90	5
	1800	1/60	77	.70	1.00	1.05	5
	3600	1/40	123	.50	.90	.90	8
GGH-492* 3 Speed	900	1/50	125	1.70	1.50	1.60	10
	1800	1/30	174	1.35	2.00	2.30	10
	3600	1/20	250	.90	1.50	1.90	16
GGH-449 5 Speed	600	1/200	64	.50	.65	.65	6
	900	1/100	59	.95	.86	.90	5
	1200	1/75	61	.70	1.25	1.35	6
	1800	1/60	77	.70	1.00	1.05	5
	3600	1/40	123	.50	.90	.90	8

*** This motor must be externally cooled if used for continuous duty.**

Other Literature Available

CATALOG NO. 43: Describes A.C. Voltage and Sine-Wave Generators in BS, FS and FB frames; D.C. Motors and Voltage Generators in B, F, CB and FB frames; Drag-Cup Motors and Induction Generators in B and F frames; Self-Synchronous Units in B, F, FB and J frames.

CATALOG NO. 44: Describes units in FB frame: Permanent-Magnet A.C. and D.C. Generators and D.C. motors; Shunt and Series Wound Motors and Generators; Split-Field Series Motors for A.C. and D.C.; Split-Field Separately-Excited Motors for servo applications; Universal Motors.

BULLETIN NO. 45: Describes Midget Induction and Synchronous units [not including Hysteresis types] in BS, FS and FBS frames. Ratings range from 1/2000 to 1/1000 H.P.

BULLETIN NO. 46: Describes A.C. and Sine-Wave Generators in ASP and ALP frames; D.C. Motors and Generators, series, shunt, separately-excited and permanent-magnet fields in ASC and ALC frames; Induction and Synchronous Motors [not including Hysteresis types] from 1/20 to 1/250 H.P. in ASP, ALP, ASPS or ALPH frames . . . single-value capacitor, split-phase, two and three-phase units; Governor-Controlled Constant-Speed Motors in D.C. shunt, series, or permanent-magnet field, and A.C. or Universal series Motors.

BULLETIN NO. 47: Describes Induction and Synchronous Motors [not including Hysteresis types] from 1/6 to 1/90 H.P. in G frame; Single-, two-, and three-phase A.C. Generators, bi-polar or multi-polar with permanent-magnet fields in G frame.

ELECTRIC INDICATOR CO. STAMFORD, CONN.