



**FIFE CORPORATION**  
 222 W. Memorial Road, Oklahoma City, OK 73114-2317  
 Post Office Box 26508, Oklahoma City, OK 73126-0508  
 Phone: 405.755.1600 / 800.639.3433 / Fax: 405.755.8425  
 www.fife.com / E-mail: fife@fife.com

**ELECTRO-MECHANICAL ACTUATOR  
 THRUST AND SPEED SELECTION  
 REFERENCE TABLES**

**OPERATING INSTRUCTIONS**

**ELECTRO-MECHANICAL ACTUATORS**

ACTUATOR MODEL	SIGNAL PROCESSOR	RATIO	SCREW PITCH (INCH)	STALL THRUST (LBS)	THRUST FACTOR NOTE 5	DESIGN THRUST (LBS)	MAX LOAD @ 0.1 (LBS) NOTE 1	MAX LOAD @ 0.075 (LBS) NOTE 2	MAX LOAD @ 0.3 (LBS) NOTE 1	MAX MOTOR RPM	MAX ACTUATOR SPEED (IN/SEC)	MAX LINE SPEED (FT/MIN)
GAB-1-2	CDP, DP-20, D-MAX	2.40	0.2	132	0.72	95	953	1271	318	1400	1.94	4500
GAB-1/DAB-1	CDP, DP-20, D-MAX	3.00	0.2	165	0.72	119	1191	1589	397	1400	1.56	3300
GAG-2/DLAB-3	CDP, DP-20, D-MAX	6.00	0.2	331	0.61	202	2019	2692	673	1400	0.78	900
GAG-3/DAG-3	CDP, D-MAX	6.00	0.2	497	0.61	303	3033	4043	1011	1560	0.87	1200
AG-9-6	CDP, D-MAX	6.00	0.25	395	0.58	229	2294	3058	765	1560	1.08	1800
AG-9-8	CDP, D-MAX	7.58	0.25	500	0.58	290	2898	3864	966	1560	0.86	1200
AG-9-10	CDP, D-MAX	9.80	0.25	646	0.58	375	3746	4995	1249	1560	0.66	700
AG-9-13	CDP, D-MAX	13.12	0.25	865	0.58	502	5015	6687	1672	1560	0.50	400
LAB-10-5	CDP, 18 Mhz, D-MAX	5.06	0.2	541	0.69	373	3735	4980	1245	1450	0.96	1400
LAB-10-7	CDP, 18 Mhz, D-MAX	7.04	0.2	753	0.69	520	5196	6928	1732	1450	0.69	750
LAB-10-9	CDP, 18 Mhz, D-MAX	9.00	0.2	963	0.69	664	6643	8857	2214	1450	0.54	500
LAG-10-6	CDP, 18 Mhz, D-MAX	6.00	0.25	511	0.58	296	2961	3948	987	1450	1.01	1500
LAG-10-8	CDP, 18 Mhz, D-MAX	7.58	0.25	645	0.58	374	3741	4988	1247	1450	0.80	1000
LAG-10-10	CDP, 18 Mhz, D-MAX	9.80	0.25	834	0.58	484	4837	6449	1612	1450	0.62	600
LAG-10-13	CDP, 18 Mhz, D-MAX	13.12	0.25	1116	0.58	648	6475	8633	2158	1450	0.46	350
AG-11-6	D-MAX 2/VTB-60	6.00	0.25	1505	0.61	918	9183	12244	3061	1800	1.25	2500
AG-11-8	D-MAX 2/VTB-60	7.58	0.25	1902	0.61	1160	11602	15469	3867	1800	0.99	1500
AG-11-10	D-MAX 2/VTB-60	9.80	0.25	2459	0.61	1500	14999	19999	5000	1800	0.77	900
AG-11-13	D-MAX 2/VTB-60	13.12	0.25	3292	0.61	2008	20081	26774	6694	1800	0.57	550
AB-12-7	D-MAX 2/VTB-60	7.25	0.25	1819	0.66	1201	12006	16008	4002	1800	1.03	1600
AB-12-9	D-MAX 2/VTB-60	8.70	0.25	2183	0.66	1441	14407	19210	4802	1800	0.86	1200
AB-12-11	D-MAX 2/VTB-60	10.87	0.25	2727	0.66	1800	18001	24001	6000	1800	0.69	750
AB-12-13	D-MAX 2/VTB-60	13.06	0.25	3277	0.66	2163	21627	28836	7209	1800	0.57	400
LAB-14-06	MPA-30	5.52	0.197	1272	0.69	878	8776	11702	2925	1850	1.10	1800
LAB-14-07	MPA-30	6.96	0.197	1604	0.69	1107	11066	14754	3689	1850	0.87	1200
LAB-14-08	MPA-30	8.42	0.197	1940	0.69	1339	13387	17849	4462	1850	0.72	800
LAB-14-10	MPA-30	10.00	0.197	2304	0.69	1590	15899	21199	5300	1850	0.61	600
LAB-14-12	MPA-30	12.05	0.197	2777	0.66	1833	18325	24434	6108	1850	0.50	400
LAB-14-14	MPA-30	13.77	0.197	3173	0.66	2094	20941	27921	6980	1850	0.44	340
LAB-14-16	MPA-30	16.06	0.197	3701	0.66	2442	24423	32565	8141	1850	0.38	280

**TABLE 1  
 ELECTRO-MECHANICAL ACTUATOR SELECTION USING ENGLISH UNITS**

ACTUATOR MOUNTING TYPES	
A	CLEVIS
B	SPERICAL ROD END BRG
C	KLB KANTIROLLER
D	KA-4 KANTIROLLER
E	KLB KAMBEROLLER & LRB
F	KA KAMBEROLLER
G	KCA,KHA,KWA,KWB,KHWA
H	KHS,KXS,KXWA,KXWB,KYWA
J	RECTANGLE, KYD,KYE,KXT
Z	SPECIAL
AP	AIR PURGED

**NOTES**

1. THE STANDARD COEFFICIENT OF FRICTION IS 0.1 FOR ROLLING BEARINGS AND 0.3 FOR SLIDING.
2. ROLLING COEFFICIENT OF FRICTION OF 0.075 CAN BE USED BUT WILL REDUCE PERFORMANCE AND LIFE.
3. THE LAB-10 HAS A MAXIMUM STROKE OF 10 INCHES AND IS NOT AS HEAVY DUTY AS THE LAG-10.
4. MAXIMUM ACTUATOR TEMPERATURE IS 125°F.
5. THRUST FACTOR BASED ON BELT DRIVE VERSUS GEAR DRIVE, NUMBER OF BELTS OR GEARS AND SIZE.



# ELECTRO-MECHANICAL ACTUATOR THRUST AND SPEED SELECTION REFERENCE TABLES

## OPERATING INSTRUCTIONS

### ELECTRO-MECHANICAL ACTUATORS

ACTUATOR MODEL	SIGNAL PROCESSOR	RATIO	SCREW PITCH (MM)	STALL THRUST (N)	THRUST FACTOR NOTE 5	DESIGN THRUST (N)	MAX LOAD @ 0.1 (KG) NOTE 1	MAX LOAD @ 0.075 (KG) NOTE 2	MAX LOAD @ 0.3 (KG) NOTE 1	MAX MOTOR RPM	MAX ACTUATOR SPEED (MM/SEC)	MAX LINE SPEED (M/MIN)
GAB-1-2	CDP, DP-20, D-MAX	2.40	5.08	589	0.72	424	432	577	144	1400	49.39	1370
GAB-1/DAB-1	CDP, DP-20, D-MAX	3.00	5.08	736	0.72	530	541	721	180	1400	39.51	1005
GAG-2/DLAB-3	CDP, DP-20, D-MAX	6.00	5.08	1472	0.61	898	916	1221	305	1400	19.76	275
GAG-3/DAG-3	CDP, D-MAX	6.00	5.08	2211	0.61	1349	1376	1834	459	1560	22.01	365
AG-9-6	CDP, D-MAX	6.00	6.35	1759	0.58	1020	1041	1387	347	1560	27.52	550
AG-9-8	CDP, D-MAX	7.58	6.35	2222	0.58	1289	1315	1753	438	1560	21.78	365
AG-9-10	CDP, D-MAX	9.80	6.35	2873	0.58	1666	1700	2266	567	1560	16.85	215
AG-9-13	CDP, D-MAX	13.12	6.35	3846	0.58	2231	2275	3034	758	1560	12.58	120
LAB-10-5	CDP, 18 Mhz, D-MAX	5.06	5.08	2408	0.69	1661	1694	2259	565	1450	24.26	425
LAB-10-7	CDP, 18 Mhz, D-MAX	7.04	5.08	3350	0.69	2311	2358	3143	786	1450	17.44	230
LAB-10-9	CDP, 18 Mhz, D-MAX	9.00	5.08	4282	0.69	2955	3014	4018	1005	1450	13.64	150
LAG-10-6	CDP, 18 Mhz, D-MAX	6.00	6.35	2271	0.58	1317	1343	1791	448	1450	25.58	460
LAG-10-8	CDP, 18 Mhz, D-MAX	7.58	6.35	2869	0.58	1664	1697	2263	566	1450	20.25	305
LAG-10-10	CDP, 18 Mhz, D-MAX	9.80	6.35	3709	0.58	2151	2194	2926	731	1450	15.66	185
LAG-10-13	CDP, 18 Mhz, D-MAX	13.12	6.35	4966	0.58	2880	2938	3917	979	1450	11.70	105
AG-11-6	D-MAX 2/VTB-60	6.00	6.35	6696	0.61	4085	4166	5555	1389	1800	31.8	760
AG-11-8	D-MAX 2/VTB-60	7.58	6.35	8460	0.61	5160	5264	7018	1755	1800	25.1	460
AG-11-10	D-MAX 2/VTB-60	9.80	6.35	10937	0.61	6672	6805	9074	2268	1800	19.4	275
AG-11-13	D-MAX 2/VTB-60	13.12	6.35	14642	0.61	8932	9111	12147	3037	1800	14.5	170
AB-12-7	D-MAX 2/VTB-60	7.25	6.35	8091	0.66	5340	5447	7263	1816	1800	26.3	490
AB-12-9	D-MAX 2/VTB-60	8.70	6.35	9710	0.66	6408	6536	8715	2179	1800	21.9	365
AB-12-11	D-MAX 2/VTB-60	10.87	6.35	12131	0.66	8007	8167	10889	2722	1800	17.5	230
AB-12-13	D-MAX 2/VTB-60	13.06	6.35	14576	0.66	9620	9812	13083	3271	1800	14.6	120
LAB-14-06	MPA-30	5.52	5.0	5657	0.69	3904	3982	5309	1327	1850	27.93	550
LAB-14-07	MPA-30	6.96	5.0	7133	0.69	4922	5020	6694	1673	1850	22.15	365
LAB-14-08	MPA-30	8.42	5.0	8630	0.69	5954	6074	8098	2025	1850	18.31	245
LAB-14-10	MPA-30	10.00	5.0	10249	0.69	7072	7213	9618	2404	1850	15.42	185
LAB-14-12	MPA-30	12.05	5.0	12350	0.66	8151	8314	11085	2771	1850	12.79	120
LAB-14-14	MPA-30	13.77	5.0	14113	0.66	9315	9501	12668	3167	1850	11.20	105
LAB-14-16	MPA-30	16.06	5.0	16460	0.66	10864	11081	14774	3694	1850	9.60	85

**TABLE 2**  
ELECTRO-MECHANICAL ACTUATOR SELECTION USING METRIC UNITS

ACTUATOR MOUNTING TYPES	
A	CLEVIS
B	SPERICAL ROD END BRG
C	KLB KANTIROLLER
D	KA-4 KANTIROLLER
E	KLB KAMBEROLLER & LRB
F	KA KAMBEROLLER
G	KCA,KHA,KWA,KWB,KHWA
H	KHS,KXS,KXWA,KXWB,KYWA
J	RECTANGLE, KYD,KYE,KXT
Z	SPECIAL
AP	AIR PURGED

#### NOTES

1. THE STANDARD COEFFICIENT OF FRICTION IS 0.1 FOR ROLLING BEARINGS AND 0.3 FOR SLIDING.
2. ROLLING COEFFICIENT OF FRICTION OF 0.075 CAN BE USED BUT WILL REDUCE PERFORMANCE AND LIFE.
3. THE LAB-10 HAS A MAXIMUM STROKE OF 254 MM AND IS NOT AS HEAVY DUTY AS THE LAG-10.
4. MAXIMUM ACTUATOR TEMPERATURE IS 52°C.
5. THRUST FACTOR BASED ON BELT DRIVE VERSUS GEAR DRIVE, NUMBER OF BELTS OR GEARS AND SIZE.

