

Duff-Norton can competitively supply motors for any application from suppliers such as Baldor, Nord, US Electric, Leeson, and more.

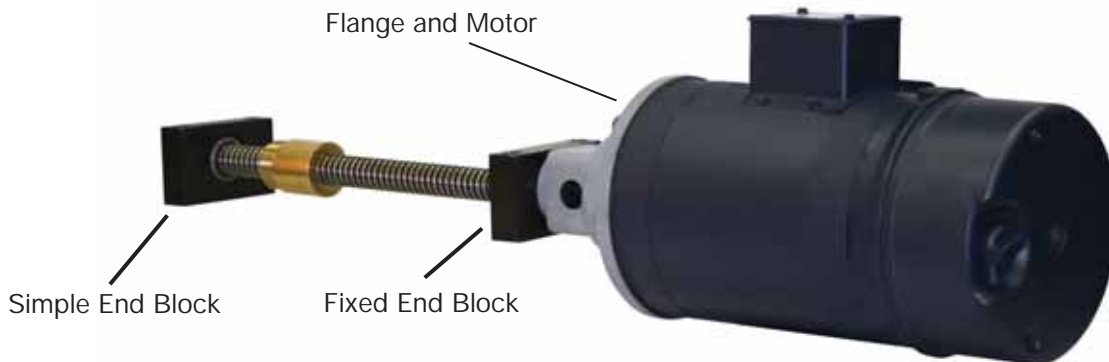
Features

Standard motors options:

- Brake and non-brake models
- Single and three phase models
- Explosion proof, washdown duty
- Wide variety of voltages and RPM's
- 50/60Hz models
- 1/4 to 10 Horsepower ratings
- Common NEMA frame sizes

Motors can be directly mounted to most Duff-Norton actuators using C-face adapters, directly mounted via speed reducers, or remotely mounted with shafting and couplings. IEC, servo, hydraulic, and air motors can also be supplied upon request.





Duff-Norton provides complete close coupled Motor to Screw & Nut systems to Limit Switch systems for all application needs. These systems use our End Blocks and Motor Flanges to mount the respective drive and control components into one package. Common system components are:

- Motor Flanges: Servo, IEC, NEMA frame motors
- Servo, IEC, or NEMA motors: brake, non-brake, closely mounted to Duff-Norton Motor Flanges
- Ring Kit Encoders: (optional) mounted between Duff-Norton NEMA Motor Flanges and NEMA motors
- Couplings – needed to connect the screw’s journal to the motor shaft - will be included in the motor flange kits.
- Acme or Ball Screw and Nut, with special length screw journal ends
- Limit Switches and Potentiometers (optional)
- Control panels – custom designed for each application

Our standard motor flanges use the most common and appropriately sized motor frames. Common flange and frame sizes available are:

- Servo Flanges: our IEC flanges are compatible with most common European made servo motors
- IEC Flanges: B14 and B5 – frame size varies by screw diameter
- NEMA Flanges: C56, C143, and C182 – for most screw diameters

Motor Flange Assortment

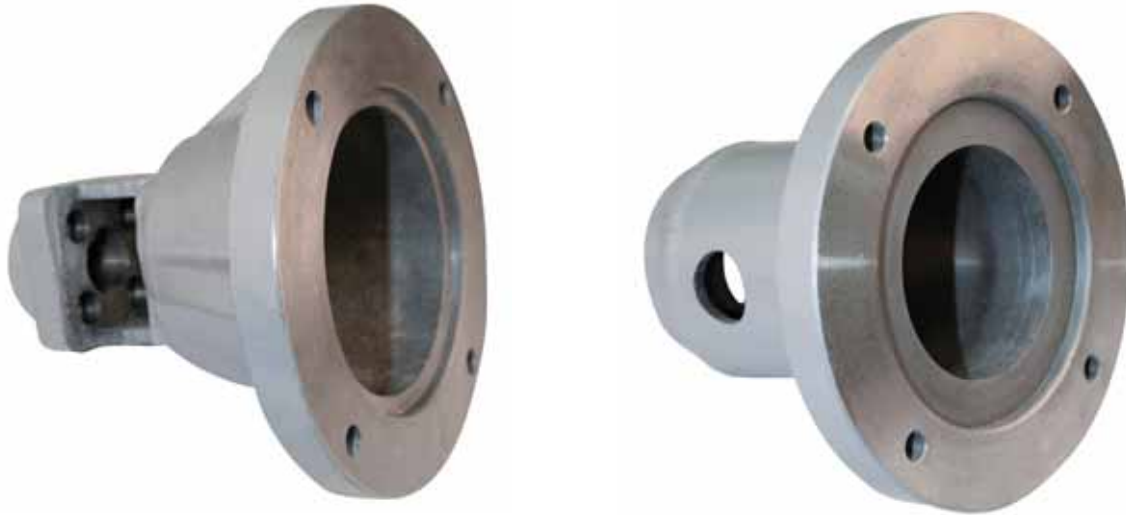
Acme Screw & Lead	Ball Screw & Lead	Fixed End Block#	NEMA Flanges	IEC / Servo Flanges
0.5 - all*	0.5 - all*	EB000F	MFN000-C56, MFN000-C143	MFE000-63B14, MFE000-71B14, MFE000-80B14, MFE000-90B14
0.63 - all*, 0.75 - all*	0.63 - all*	EB001F	MFN001-C56, MFN001-C143	MFE001-63B14, MFE001-71B14, MFE001-80B14, MFE001-90B14
1 - all*	0.75 - all*	EB003F	MFN003-C56, MFN003-C143, MFN003-C182	MFE003-71B5, MFE003-80B5, MFE003-90B5, MFE003-100B14, MFE003-112B14
1 x .100	1, 1.17 - all*	EB004F	MFN004-C56, MFN004-C143, MFN004-C182	MFE004-71B5, MFE004-80B5, MFE004-90B5, MFE004-100B14, MFE004-112B14
1.5 x .375	1.5 - all*	EB005F	MFN005-C56, MFN005-C143, MFN005-C182	MFE005-80B5, MFE005-80B5, MFE005-100B14, MFE005-112B14
1.5 - all*, 2 x .500	1.5 x 1.875	EB006F	MFN006-C56, MFN006-C143, MFN006-C182	MFE006-80B5, MFE006-80B5, MFE006-100B14, MFE006-112B14
2 x .250, 2.25 x .500	2 - all*	EB008F	MFN008-C182, MFN008-C213	N.A.
2.25 x .250	2.25 - all*	EB009F	MFN009-C182, MFN009-C213	N.A.
2.5 - all*	-	EB010F	MFN010-C182, MFN010-C213	N.A.

All leads for that diameter screw except where noted

NOTE: Unless otherwise specified all dimensions are in Inches.

Our motor flanges can be purchased as a kit along with our End Blocks and Limit Switches to form a complete drive system. Motor flange kits include:

- Motor flange
- All required mounting hardware
- Couplings will be specified and should be provided with the Motor Flange kit



NEMA C-Face Performance Specifications

Our performance tables below show directly coupled motorized performance for each screw type's diameters and leads which coordinate with our motor flanges. Screw diameter and lead along with Speed and Maximum Stroke are listed in columns along the table's left side. RPM's and Horsepowers are listed in rows along the table's top. Actual lifting capacities are shown throughout the table's body under their respective horsepower size.

To calculate your own Speed and Lifting Capacity for other motor types, horsepowers, or voltages and hertz ratings not shown; Duff-Norton advises using the following formulas:

Speed (in/min): **Motor RPM X Screw Lead**

Capacity (lbs): **Motor Torque (in-lb) = HP X 63025/RPM**
Capacity = Motor Torque X Screw Torque to Raise 1 lb.

NOTE: Critical speeds vs. stroke lengths, column strength, compressed loads vs. tension loads (catalog pages 112 and 113) must be considered when a screw is directly coupled to a motor and turning at high RPM's. For these applications Duff-Norton always recommends using the "Fixed-Simple" mounting option. Tension loads are often preferred for vertical applications to enable longer stroke lengths. Duff-Norton advises using the following formula to help determine your systems maximum stroke length:

Max Stroke Length = SQRT(4056 x root diameter)

PV Values (catalog page 111) should be consulted as well.



Acme Screw Performance - .500" - 1.00" Diameters

Acme Diameter & Lead	Speed (in/min)	*Max Screw Length	Motor Flange + (frame size)	End Block Model #	Motor HP (1725rpm) / Frame Size Capacity (pounds) - See Notes**									
					1/4 - 56C	1/3 - 56C	1/2 - 56C	3/4 - 56C	1 - 56C	1.5 - 140C	2 - 140C	3 - 180C	5 - 180C	
050 x 010 Bronze Nut	172.50	39	MFN000+(frame)	EB000F	199	264	397	596	794	1191	1589	1941	N.A.	
050 x 020 Bronze Nut	345.00	39	MFN000+(frame)	EB000F	145	193	290	435	580	870	1160	1219	N.A.	
050 x 025 Bronze Nut	431.25	39	MFN000+(frame)	EB000F	129	171	257	386	515	772	908	908	N.A.	
050 x 050 Bronze Nut	862.50	39	MFN000+(frame)	EB000F	80	107	160	240	320	481	641	783	N.A.	
050 x 025 Plastic Nut	431.25	39	MFN000+(frame)	EB000F	155	206	310	464	619	665	N.A.	N.A.	N.A.	
050 x 050 Plastic Nut	862.50	39	MFN000+(frame)	EB000F	90	120	181	271	362	543	665	N.A.	N.A.	
063 x 010 Bronze Nut	172.50	45	MFN001+(frame)	EB001F	169	225	338	507	677	1015	1353	2030	2897	
063 x 013 Bronze Nut	215.63	45	MFN001+(frame)	EB001F	157	210	315	472	630	945	1260	1890	2836	
063 x 020 Bronze Nut	345.00	45	MFN001+(frame)	EB001F	129	171	257	386	515	772	1029	1544	1544	
063 x 025 Bronze Nut	431.25	45	MFN001+(frame)	EB001F	117	156	234	351	468	703	937	1137	N.A.	
063 x 050 Bronze Nut	862.50	45	MFN001+(frame)	EB001F	75	100	150	225	299	449	599	898	1163	
063 x 025 Plastic Nut	431.25	45	MFN001+(frame)	EB001F	143	190	285	428	571	828	828	N.A.	N.A.	
063 x 050 Plastic Nut	862.50	45	MFN001+(frame)	EB001F	86	115	172	259	345	517	689	808	N.A.	
075 x 010 Bronze Nut	172.50	45	MFN001+(frame)	EB001F	147	196	295	442	589	884	1179	1768	2946	
075 x 020 Bronze Nut	345.00	45	MFN001+(frame)	EB001F	120	160	240	361	481	721	961	1442	2404	
075 x 025 Bronze Nut	431.25	45	MFN001+(frame)	EB001F	110	147	220	330	440	660	880	1321	2201	
075 x 050 Bronze Nut	862.50	45	MFN001+(frame)	EB001F	73	97	146	219	292	438	585	877	1461	
075 x 100 Bronze Nut	1725.00	45	MFN001+(frame)	EB001F	42	57	85	127	170	255	340	510	850	
075 x 025 Plastic Nut	431.25	45	MFN001+(frame)	EB001F	136	182	273	409	545	818	1091	1636	1652	
075 x 050 Plastic Nut	862.50	45	MFN001+(frame)	EB001F	84	112	168	251	335	503	670	1006	1501	
075 x 100 Plastic Nut	1725.00	45	MFN001+(frame)	EB001F	47	63	94	141	188	282	377	565	942	
100 x 010 Bronze Nut	172.50	55	MFN004+(frame)	EB004F	116	154	231	347	462	694	925	1387	2312	
100 x 020 Bronze Nut	345.00	55	MFN003+(frame)	EB003F	99	132	199	298	397	596	794	1191	1986	
100 x 025 Bronze Nut	431.25	55	MFN003+(frame)	EB003F	93	124	186	280	373	559	746	1118	1864	
100 x 050 Bronze Nut	862.50	55	MFN003+(frame)	EB003F	65	87	130	196	261	391	522	783	1305	
100 x 100 Bronze Nut	1725.00	55	MFN003+(frame)	EB003F	40	54	80	121	161	241	322	483	805	
100 x 025 Plastic Nut	431.25	55	MFN003+(frame)	EB003F	119	158	237	356	474	712	949	1423	2239	
100 x 050 Plastic Nut	862.50	55	MFN003+(frame)	EB003F	77	103	155	232	310	464	619	929	1548	
100 x 100 Plastic Nut	1725.00	55	MFN003+(frame)	EB003F	45	60	90	136	181	271	362	543	904	

Note: Cells with blue shading mean the combination of screw and motor horsepower exceeds the screw & nut's dynamic load rating

NOTE: Unless otherwise specified, all capacities are in Pounds, all dimensions are in Inches, and all speeds are in Inches per Minute. Catalog performance assumes 230/460VAC, 3Ø, 60HZ are being used.

Acme Screw Performance - 1.50" - 2.50" Diameters

Acme Diameter & Lead	Speed (in/min)	*Max Screw Length	Motor Flange + (frame size)	End Block Model #	Motor HP (1725rpm) / Frame Size Capacity (pounds) - See Notes**										
					1/4 - 56C	1/3 - 56C	1/2 - 56C	3/4 - 56C	1 - 56C	1.5 - 140C	2 - 140C	3 - 180C	5 - 180C	7.5 - 210C	10 - 210C
150 x 010 Bronze Nut	172.50	70	MFN006+(frame)	EB006F	82	110	165	247	329	494	658	987	1646	N.A.	N.A.
150 x 025 Bronze Nut	431.25	70	MFN006+(frame)	EB006F	70	94	141	211	281	422	562	843	1405	N.A.	N.A.
150 x 038 Bronze Nut	646.88	70	MFN006+(frame)	EB005F	60	80	119	179	239	358	478	716	1194	N.A.	N.A.
150 x 050 Bronze Nut	862.50	70	MFN006+(frame)	EB006F	53	70	106	158	211	317	422	634	1056	N.A.	N.A.
200 x 025 Bronze Nut	431.25	80	MFN008+(frame)	EB008F	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	677	1128	1691	2255
200 x 050 Bronze Nut	862.50	80	MFN006+(frame)	EB006F	46	62	93	139	185	278	371	556	927	N.A.	N.A.
225 x 025 Bronze Nut	431.25	86	MFN009+(frame)	EB009F	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	612	1021	1531	2041
225 x 050 Bronze Nut	862.50	86	MFN008+(frame)	EB008F	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	515	858	1286	1715
250 x 025 Bronze Nut	431.25	92	MFN010+(frame)	EB010F	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	562	937	1405	1874
250 x 050 Bronze Nut	862.50	92	MFN010+(frame)	EB010F	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	479	798	1197	1595

Note: N.A. means Motor Flanges for these motor frame sizes, and screw diameters are not available.

NOTE: Unless otherwise specified, all capacities are in Pounds, all dimensions are in Inches, and all speeds are in Inches per Minute. Catalog performance assumes 230/460VAC, 3Ø, 60HZ are being used.

Ball Screw Performance - .500" - 1.17" Diameters

Ball Diameter & Lead	Speed (in/min)	*Max Screw Length	Motor Flange + (frame size)	End Block Model #	Motor HP (1725rpm) / Frame Size Capacity (pounds) - See Notes**									
					1/4 - 56C	1/3 - 56C	1/2 - 56C	3/4 - 56C	1 - 56C	1.5 - 140C	2 - 140C	3 - 180C	5 - 180C	
050 x 020 Double Return	345.00	41	MFN000+(frame)	EB000F	261	348	522	783	1044	1200	N.A.	N.A.	N.A.	N.A.
050 x 050 Double Return	862.50	41	MFN000+(frame)	EB000F	104	138	208	311	415	623	830	859	N.A.	N.A.
063 x 020 Single Return	345.00	45	MFN001+(frame)	EB001F	261	348	522	783	800	N.A.	N.A.	N.A.	N.A.	N.A.
063 x 100 Double Return	1725.00	45	MFN001+(frame)	EB001F	52	69	103	155	206	310	413	578	N.A.	N.A.
075 x 020 Single Return	345.00	52	MFN003+(frame)	EB003F	261	348	522	783	950	N.A.	N.A.	N.A.	N.A.	N.A.
075 x 020 Double Return	345.00	52	MFN003+(frame)	EB003F	261	348	522	783	1044	1566	1900	N.A.	N.A.	N.A.
075 x 050 Double Return	862.50	52	MFN003+(frame)	EB003F	104	138	208	311	415	623	830	1246	2076	N.A.
100 x 025 Single Return	345.00	58	MFN004+(frame)	EB004F	208	277	415	623	830	1246	1612	N.A.	N.A.	N.A.
100 x 025 Double Return	345.00	58	MFN004+(frame)	EB004F	208	277	415	623	830	1246	1661	2491	3350	N.A.
100 x 100 Double Return	1725.00	58	MFN004+(frame)	EB004F	52	69	103	155	206	310	413	619	1032	N.A.
117 x 041 Double Return	712.43	59	MFN004+(frame)	EB004F	125	167	250	375	500	751	1001	1501	2502	N.A.

Note: Cells with blue shading mean the combination of screw and motor horsepower exceeds the screw & nut's dynamic load rating

NOTE: Unless otherwise specified, all capacities are in Pounds, all dimensions are in Inches, and all speeds are in Inches per Minute. Catalog performance assumes 230/460VAC, 3Ø, 60HZ are being used.

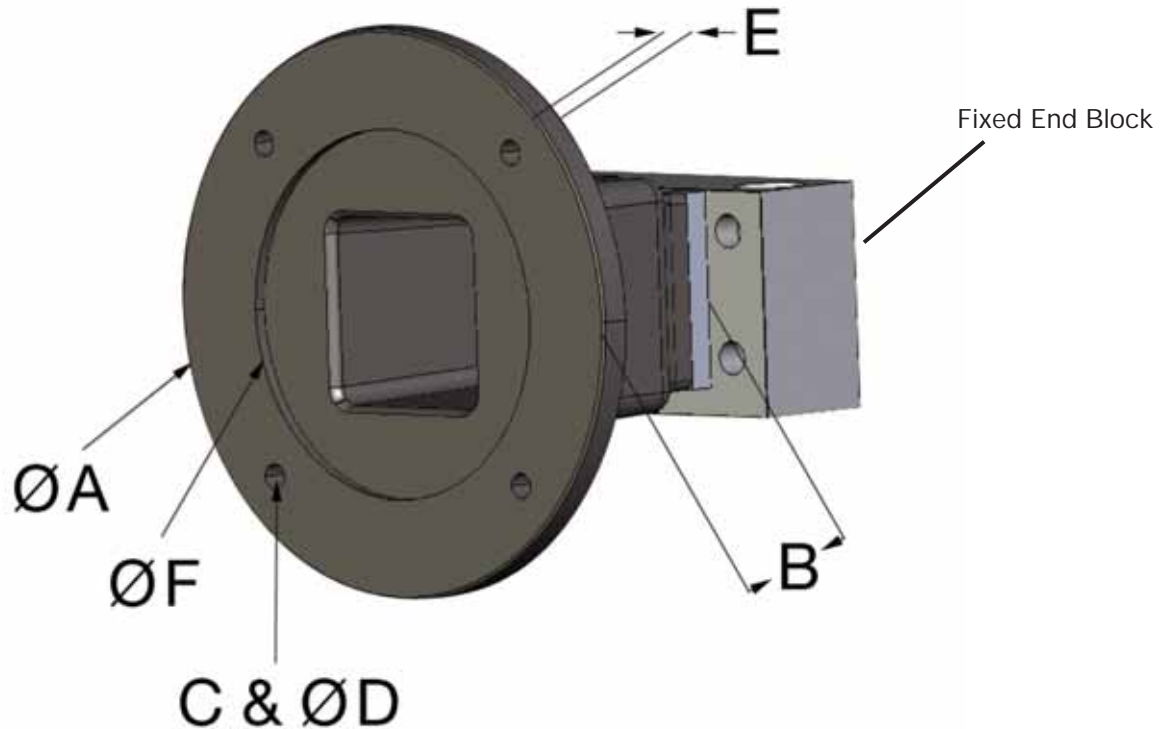
Ball Screw Performance - 1.50" - 2.25" Diameters

Ball Diameter & Lead	Speed (in/min)	*Max Screw Length	Motor Flange + (frame size)	End Block Model #	Motor HP (1725rpm) / Frame Size Capacity (pounds) - See Notes**										
					1/4 - 56C	1/3 - 56C	1/2 - 56C	3/4 - 56C	1 - 56C	1.5 - 140C	2 - 140C	3 - 180C	5 - 180C	7.5 - 210C	10 - 210C
150 x 047 Double Return	815.93	68	MFN005+(frame)	EB005F	109	145	217	326	435	652	870	1305	2175	N.A.	N.A.
150 x 100 Double Return	1725.00	68	MFN005+(frame)	EB005F	52	69	104	156	208	311	415	623	1038	N.A.	N.A.
150 x 187 Double Return	3234.38	69	MFN006+(frame)	EB006F	28	37	55	83	110	165	220	330	550	N.A.	N.A.
200 x 050 Double Return	862.50	84	MFN008+(frame)	EB008F	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	1246	2076	3135	4152
200 x 100 Double Return	1725.00	84	MFN008+(frame)	EB008F	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	623	1038	1567	2076
225 x 050 Double Return	862.50	87	MFN009+(frame)	EB009F	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	1246	2076	3135	4152
225 x 100 Double Return	1725.00	68	MFN009+(frame)	EB009F	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	623	1038	1567	2076

Note: N.A. means Motor Flanges for these motor frame sizes, and screw diameters are not available.

NOTE: Unless otherwise specified, all capacities are in Pounds, all dimensions are in Inches, and all speeds are in Inches per Minute. Catalog performance assumes 230/460VAC, 3Ø, 60HZ are being used.





NEMA - Motor Flanges

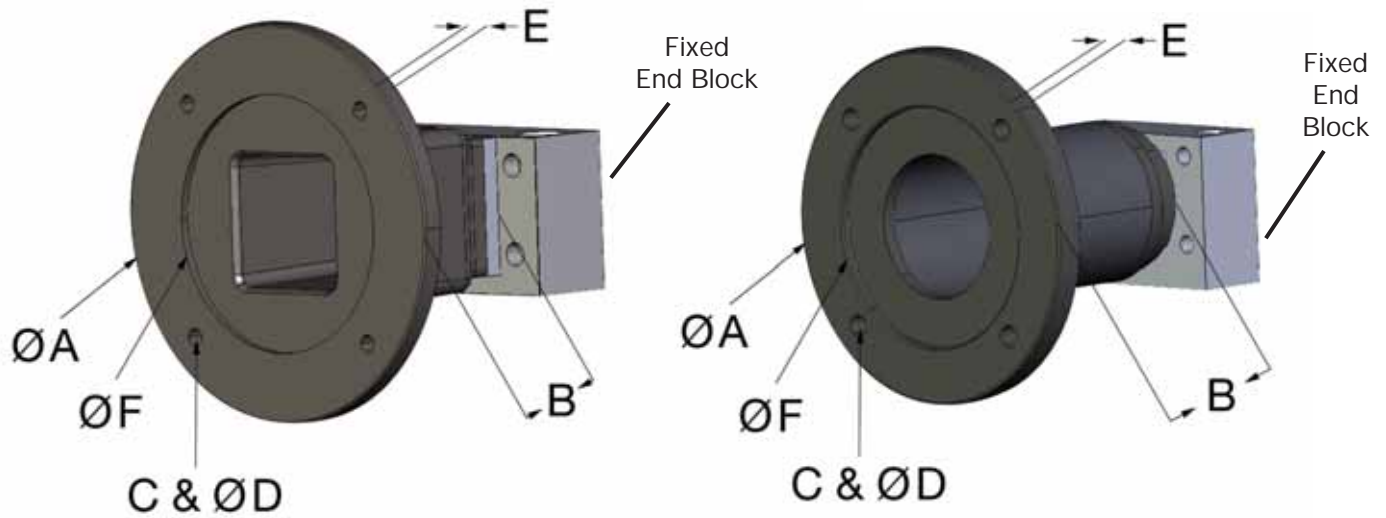
NEMA Flanges	A Flange O.D.	B Flange Length**	C Mounting Holes B.C.	D Mounting Holes Dia.	E Mounting Hole Depth	F Counter Bore Dia.	G Through Hole
MFN000-C56, MFN000-C143*, MFN001-C56, MFN001-C143*	6.75	4.48	5.87	.406	.47	4.502	1.87 Sq.
MFN003-C56, MFN003-C143*, MFN004-C56, MFN004-C143*	6.75	4.68	5.87	.406	.56	4.502	2.63 Sq.
MFN003-C182, MFN004-C182	9.00	5.52	7.25	.531	1.38	8.502	2.63 Sq.
MFN005-C56, MFN005-C143*	6.75	5.19	5.87	.406	.60	4.502	4.25 Dia.
MFN005-C182	9.00	6.03	7.25	.531	1.38	8.502	4.25 Dia.
MFN006-C56, MFN006-C143*	6.75	5.32	5.87	.406	.97	4.502	3.50 Sq.
MFN006-C182***	9.00	6.05	7.25	.531	1.38	8.502	3.50 Sq.
MFN008-C182, MFN009-C182, MFN010-C182	9.00	9.125	7.25	.531	.31	8.502	4.00 Dia.
MFN008-C213, MFN009-C213, MFN010-C213	11.13	9.625	9.00	.531	.81	10.502	4.00 Dia.

NOTE: All dimensions are shown in inches. All couplings are purchased separately from the motor flange kit.

143C frame models use the 56C frame with an appropriately sized coupling to fit the 143 motor shaft dimensions

Excludes the pilot dimensions which recess into a counter bore in the Fixed End Blocks' face plate

Uses an adapter plate mounted to the MFN006-C56 Flange



B5 Flange Configuration

B14 Flange Configuration

Servo / IEC - Motor Flanges

IEC / Servo Flanges	A Flange O.D.	B Flange Length**	C Mounting Holes B.C.	D Mounting Holes Dia.	E Mounting Hole Depth	F Counter Bore Dia.	G Through Hole
MFE000-63B14, MFE001-63B14	90	83	75	6	12.7	60	57.2 Dia.
MFE001-71B14, MFE001-71B14	105	90	85	7	12.7	70	57.2 Dia.
MFE001-80B14, MFE001-80B14	120	100	100	7	12.7	80	57.2 Dia.
MFE001-90B14, MFE001-90B14	140	110	115	9	12.7	95	57.2 Dia.
MFE003-71B5, MFE004-71B5	160	116	130	M8 Tap	12.4	110	66.7 Sq.
MFE003-80B5, MFE004-80B5	200	116	165	M10 Tap	12.4	130	66.7 Sq.
MFE003-90B5, MFE004-90B5	200	116	165	M10 Tap	12.4	130	66.7 Sq.
MFE003-100B14, MFE004-100B14	160	119	130	9	15.7	110	66.7 Sq.
MFE003-112B14, MFE004-112B14	160	119	130	9	15.7	110	66.7 Sq.
MFE005-80B5	200	128	165	M10 Tap	12.2	130	107.95 Dia.
MFE005-90B5	200	128	165	M10 Tap	12.2	130	107.95 Dia.
MFE005-100B14*	190	138	130	9	10.0	110	107.95 Dia.
MFE005-112B14*	190	138	130	9	10.0	110	107.95 Dia.
MFE006-80B5	200	131	165	M10 Tap	20.1	130	88.9 Sq.
MFE006-90B5	200	131	165	M10 Tap	20.1	130	88.9 Sq.
MFE006-100B14*	190	141	130	9	10.0	110	88.9 Sq.
MFE006-112B14*	190	141	130	9	10.0	110	88.9 Sq.

NOTE: All dimensions are shown in millimeters. All couplings are purchased separately from the motor flange kit.

Uses an adapter plate mounted to the MFE005-90B5, or MFE006-90B5 Flanges respectively.

Adapter plates should be mounted to the motor, and then to the motor flange

Excludes the pilot dimensions which recess into a counter bore in the Fixed End Blocks' face plate