

Shaft Mounted Clutches and Brakes

Shaft Mounted Clutches

EC Series

All the features of an electric clutch in a convenient, preassembled package. Mounts on any through shaft or double shafted motor. Easy-to-assemble with standard sheaves, pulleys, gears and sprockets.

Available in a wide range of bore sizes. Shaft extension makes pulley or sprocket installation easy.

Shaft Mounted Brakes

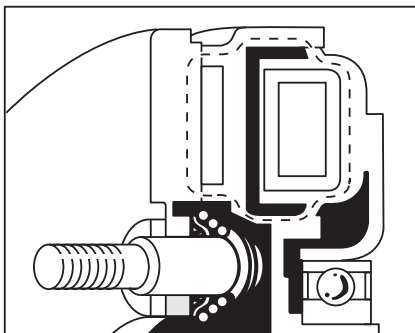
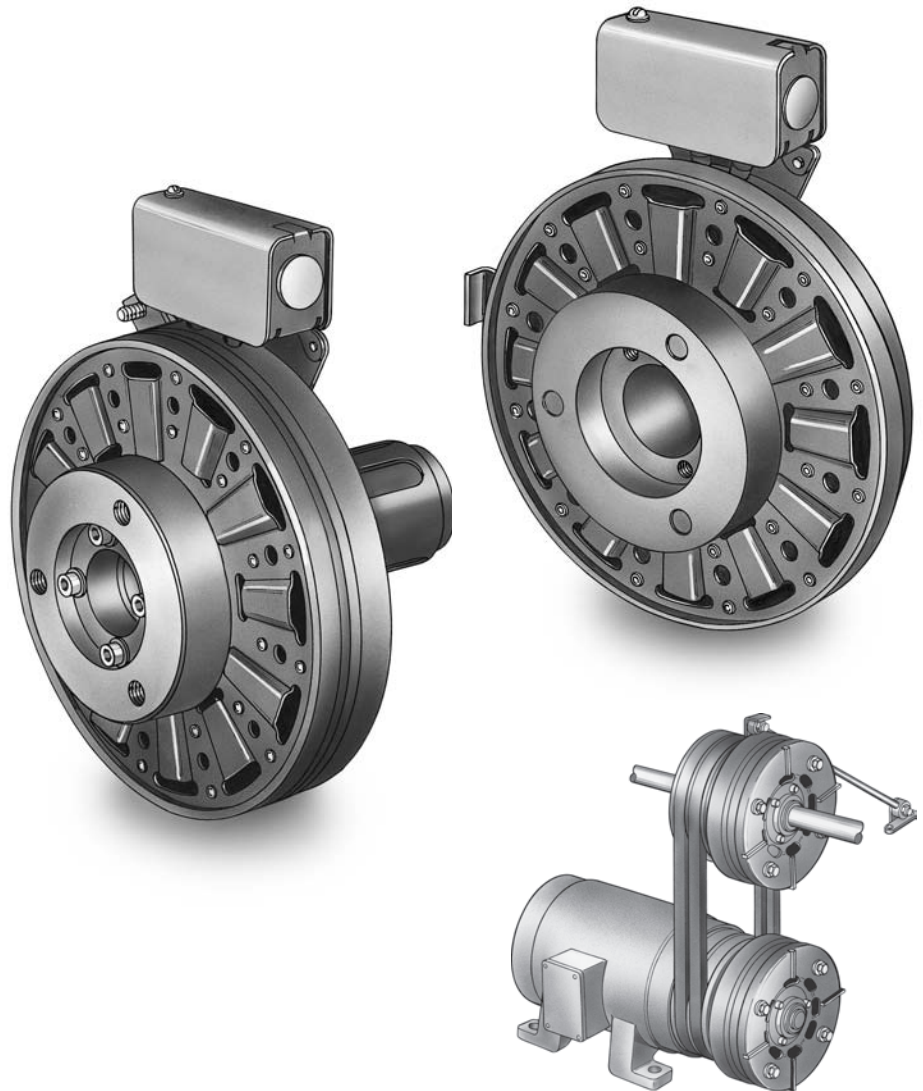
EB Series

Electro Brakes mount directly on a motor or through shaft for basic braking functions.

Torque arm feature makes Electro Brakes easy to install on any through shaft or double shaft motor.

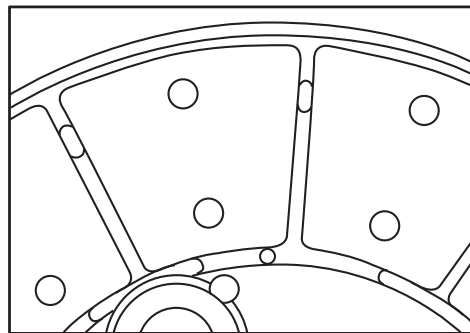
Segmented and fluted armature disc provides maximum cooling of friction surfaces.

- Six sizes of clutches and brakes
- 16 lb. ft. to 465 lb. ft. torque range
- Preassembled. Factory aligned.
- Mounting flexibility
- Simple to install



Brushless Design

Warner Electric designed electromagnetic circuit eliminates brushes.



Heat Dissipation

Specially designed segmented armature disc is segmented and fluted to provide maximum cooling of friction surfaces. Automatically adjusts for wear.

Motor mounted Electro Clutch used in combination with an Electro Brake on a through shaft installation.

EC Series | Electro Clutch

Shaft Mounted Clutches

Mounting flexibility

Standard Electro Clutches are offered in a wide variety of bore sizes.

UL listed

Conduit box meets industry standards.

Simple installation

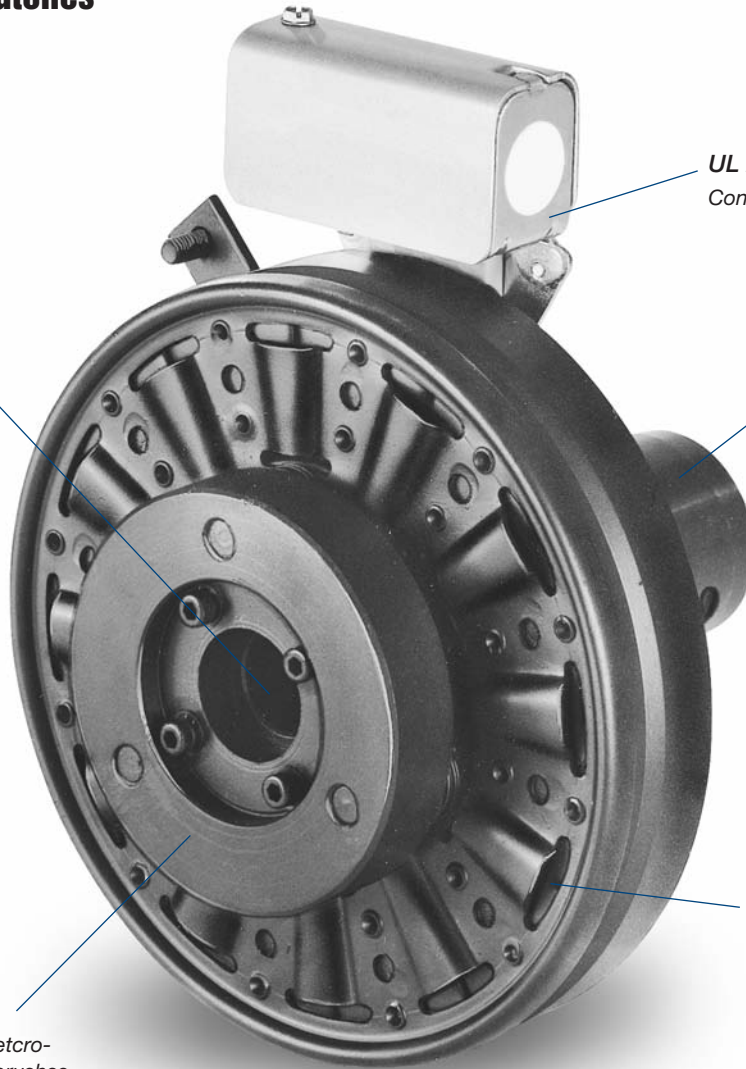
Easy-to-install a pulley, sprocket, sheave or gear on the Electro Clutch shaft extension.

Long life – no maintenance

Specially designed armature disc is segmented and fluted to provide maximum cooling of friction surfaces. Automatically adjusts to wear.

No brushes to wear out

Warner Electric designed electro-magnetic circuit eliminates brushes.



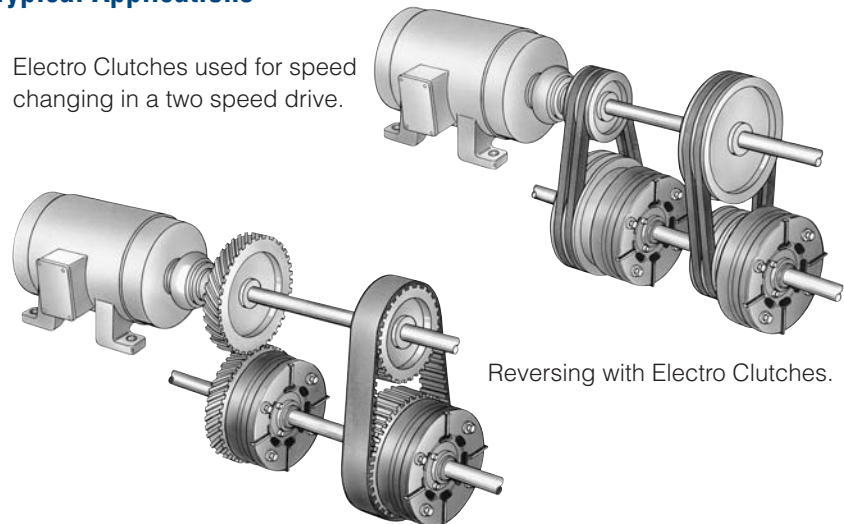
Packaged Performance

The engineering is built-in. Warner Electric Packaged Performance products are factory aligned and pre-assembled. They have been designed to mate easily with industry standard motors, reducers and other power transmission components. "Bolt-it-down and wire-it-up" . . . they're ready to go.

- Hubs mate to standard sheaves, sprockets, gears and pulleys
- Wide torque range from 16 to 465 lb. ft.
- Handle 1 to 20 HP at 1800 RPM

Typical Applications

Electro Clutches used for speed changing in a two speed drive.



Reversing with Electro Clutches.

Selection/Ordering Information

Selection Procedure

- Determine the motor horsepower and r.p.m. at the clutch location.
 - Use the Horsepower vs. Shaft Speed chart to determine the right size Electro Clutch.
 - When ordering, specify bore size and voltage.
 - To get maximum performance from your Electro Clutch, use a Warner Electric Control. See the Controls Section.
- Note:**
Electro Clutches require extended length motor shafts for motor mounting.

Horsepower vs. Shaft Speed

HP	SHAFT SPEED AT CLUTCH (IN RPM)																					
	100	200	300	400	500	600	700	800	900	1000	1100	1200	1500	1800	2000	2400	3000	3600	4000	4500	5000	
1/50																						
1/20																						
1/12																						
1/8																						
1/6																						
1/4																						
1/2																						
3/4																						
1																						
1-1/2																						
2																						
3																						
5																						
7-1/2																						
10																						
15																						
20																						

Specifications

Electro Clutch Size	Static Torque lb. ft.	Max. RPM	Voltage DC	Total Wt. lbs.
EC-375	16	5000	6, 24 or 90	4
EC-475	30	4500	6, 24 or 90	8
EC-650	95	3600	6, 24 or 90	18
EC-825	125	3600	6, 24 or 90	28
EC-1000	240	2000	6, 24 or 90	41
EC-1225	465	2000	6, 24 or 90	85

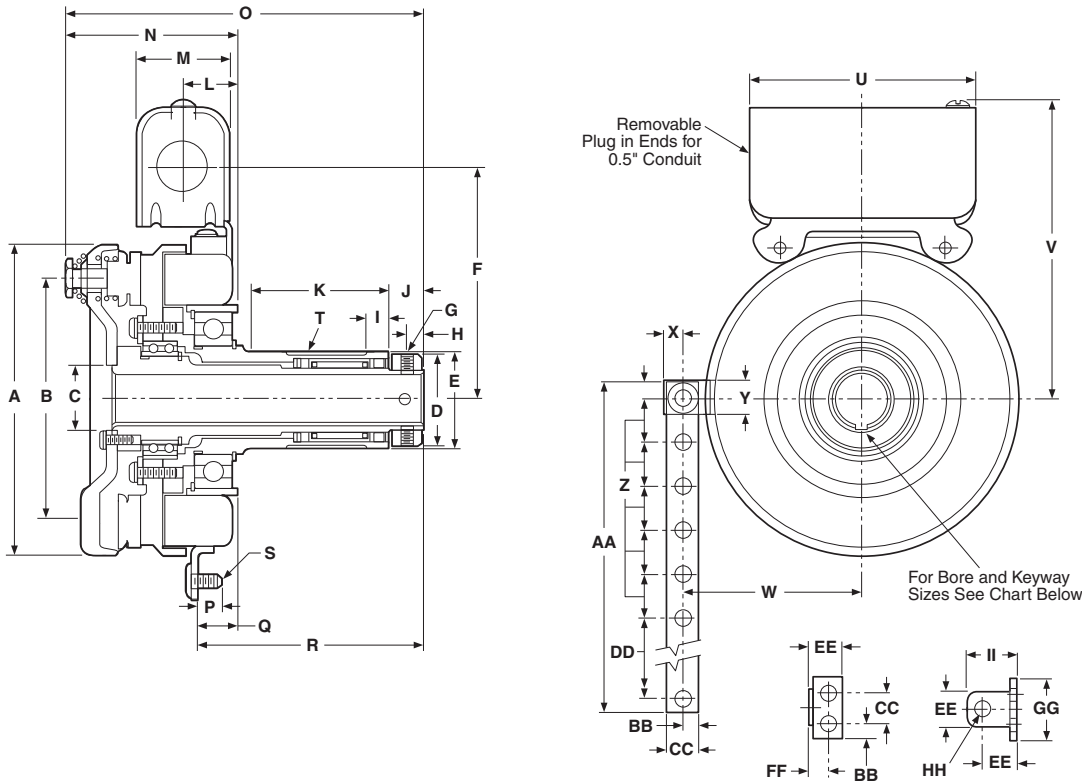
Part Numbers

Model Size	Bore Size	Voltage DC	Part No.
EC-375	1/2"	6	5180-271-006
		24	5180-271-004
		90	5180-271-009
EC-475	5/8"	6	5181-271-002
		24	5181-271-008
		90	5181-271-005
EC-475	5/8"	6	5181-271-033
		24	5181-271-037
		90	5181-271-036
	3/4"	6	5181-271-032
		24	5181-271-038
		90	5181-271-034
EC-650	7/8"	6	5181-271-031
		24	5181-271-039
		90	5181-271-035
EC-650	1"	6	5281-271-004
		24	5281-271-018
		90	5281-271-007
	1-1/8"	6	5281-271-002
		24	5281-271-019
		90	5281-271-005
EC-825	1-1/4"	6	5281-271-009
		24	5281-271-020
		90	5281-271-008
EC-825	1-3/8"	6	5281-271-003
		24	5281-271-016
		90	5281-271-006
EC-1000	1-1/8"	6	5282-271-002
		24	5282-271-008
		90	5282-271-011
EC-1000	1-1/4"	6	5282-271-003
		24	5282-271-009
		90	5282-271-012
EC-1000	1-3/8"	6	5282-271-004
		24	5282-271-010
		90	5282-271-013
EC-1000	1-3/8"	6	5283-271-002
		24	5283-271-010
		90	5283-271-003
	1-1/2"	24	5283-271-012
		90	5283-271-013
		1-5/8"	6
24	5283-271-011		
90	5283-271-005		
EC-1225	1-5/8"	6	5284-271-008
		24	5284-271-013
		90	5284-271-010
	1-7/8"	6	5284-271-002
		24	5284-271-014
		90	5284-271-003
EC-1225	2-1/8"	6	5284-271-004
		24	5284-271-015
		90	5284-271-005

Note: Metric bores available in some sizes, consult factory.

EC Series Electro Clutch

EC-375, EC-475, EC-650



Dimensions

All dimensions are nominal, unless otherwise noted.

Size	A Max.	B Dia.	C Min.	D Dia.	E Dia.	F	G	H	I	J	K Max.	L	M
375	4.078	3.125	.7505	1.313	1.375	3.344	10-24 UNC	.188	.375	.344	2.047	.781	1.547
					1.374		-3A x 5/15						
475	5.172	4.000	1.0625	1.563	1.625	3.922	1/4-20 UNC	.281	.375	.578	2.359	.875	1.547
					1.624		-3A x 7/16						
650	6.578	5.125	1.625	2.375	2.5000	4.625	1/4-20 UNC	.281	.188	.563	3.047	.953	1.547
					2.4985		-3A x 1/2						

Bore Sizes and Keyways

Size	Bore Dia.	Keyway
375	.625	*3/16 x 1/16
	.500	1/8 x 1/16
475	.750	3/16 x 3/32
	.875	*3/16 x 1/16
650	.625	3/16 x 3/32
	1.125	*1/4 x 1/8
	1.375	*5/16 x 3/32
	1.000	1/4 x 1/8
	1.250	1/4 x 1/8

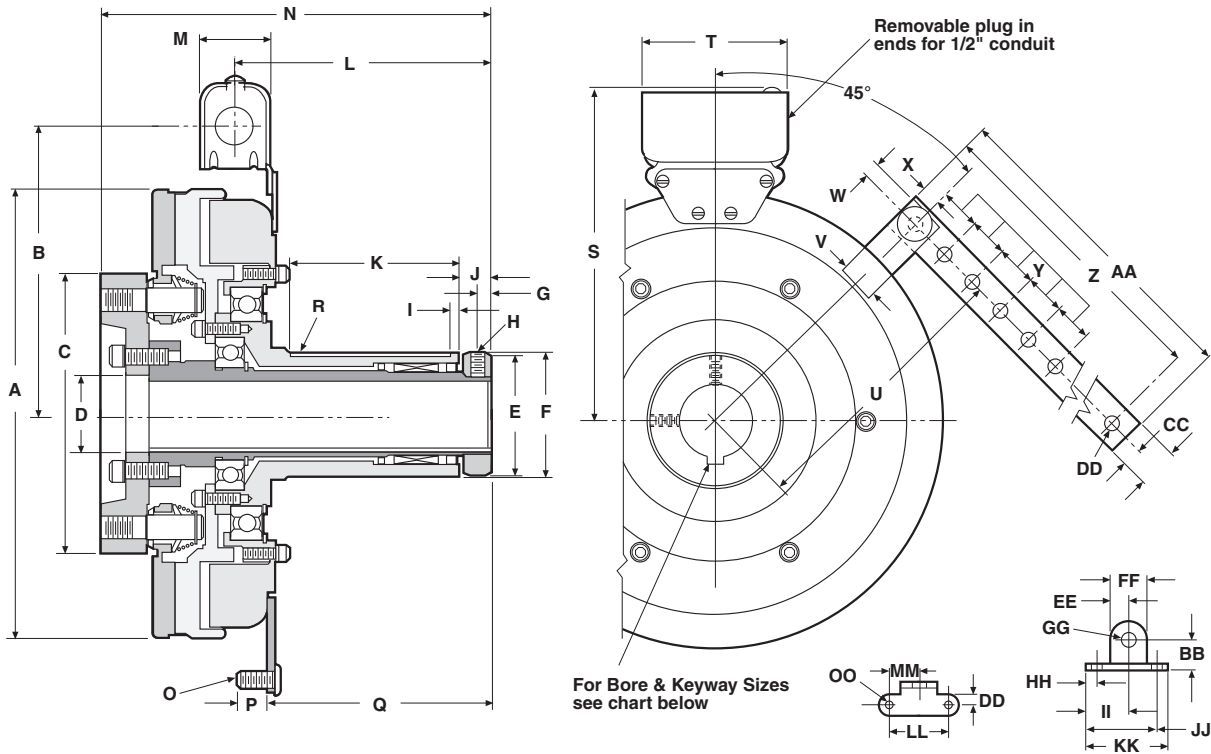
*Key Furnished

Size	N Max.	O Max.	P	Q Max.	R Min.	S	T	U	V Max.	W	X
375	2.484	4.984	.438	.609	3.000	1/4-20 UNC-2A	5/16 x 3/32	3.750	4.438	2.438	.313
475	3.219	6.266	.422	.658	3.641	1/4-20 UNC-2A	3/8 x 3/32	3.750	4.984	2.984	.313
650	3.547	7.141	.422	.722	4.359	1/4-20 UNC-2A	5/8 x 3/32	3.750	5.750	3.750	.313

Size	Y	Z	AA	BB	CC	DD	EE Dia.	FF	GG	HH Dia.	II
375	.563	.750	5.000	.250	.500	.750	.563	.313	1.000	.270 .260	.828
475	.578	.750	5.000	.250	.500	.750	.563	.313	1.000	.270 .260	.828
650	.563	.750	10.000	.250	.500	5.750	.563	.313	1.000	.270 .260	.828

Specifications

Size	Average Wt.-lbs.				Inertia-WR ² (lb.ft. ²)			
	Arm. & Carrier	Rotor	Outer Sleeve	Inner Sleeve	Arm. & Carrier	Rotor	Outer Sleeve	Inner Sleeve
EC-375	.60	.55	.49	.60	.010	.018	.001	.001
EC-475	1.13	1.12	.78	1.22	.072	.033	.006	.002
EC-650	2.3	2.5	1.6	2.37	.106	.202	.010	.013



Dimensions

All dimensions are nominal, unless otherwise noted.

Size	A Max.	B Dia.	C	D Min.	E Dia.	F Dia.	G	H	I	J
825	8.656	5.656	4.625	1.437	2.375	2.5000 2.4985	.281	1/4-20 UNC -3A x 3/8	.188	.563

Size	K Max.	L	M	N Max.	O	P	Q Max.	R*	S	T
825	3.047	5.219	1.547	8.000	5/16-18 UNC-2A	1.547	4.468	5/8 x 3/32	6.813	3.750

Size	U	V	W	X	Y	Z	AA	BB	CC	DD Dia.
825	5.063	.875	—	.375	.750	16.625	17	.750	.375	.330 .321

Size	EE	FF	GG Dia.	HH	II	JJ	KK	LL	MM	NN	OO
825	.438	.875	.313	.250	1.000	1.750	2.000	1.500	.750	.250	.270 .260

* Key supplied

Specifications

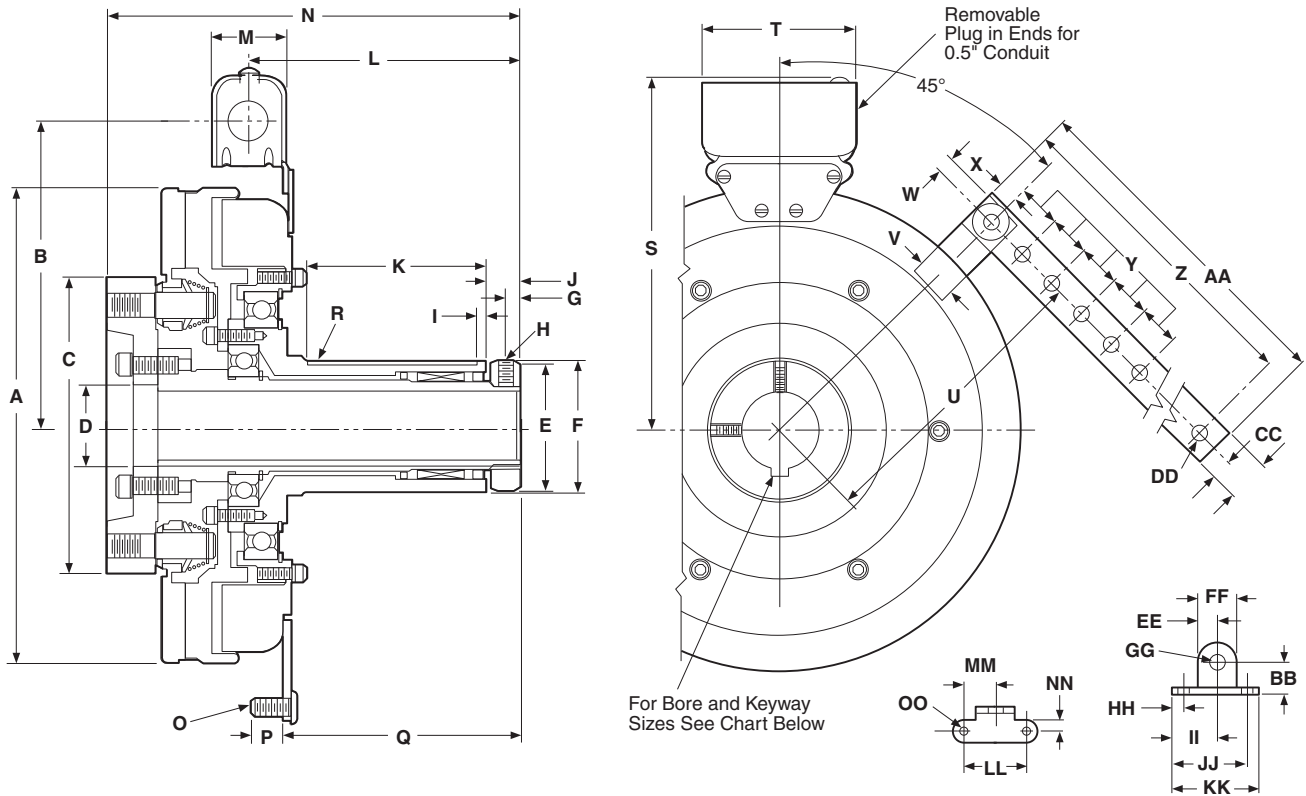
Model Size	Voltage DC	Inertia-WR ² (lb. ft ²)		Total Weight lbs.	Average Weight-lbs.	
		Armature, Hub & Inner Sleeve	Rotor & Outer Sleeve		Armature, Hub & Inner Sleeve	Rotor & Outer Sleeve
EC-825	6	.35	.87	28	6.0	18.5
	24	.35	.87	28	6.0	18.5
	90	.35	.87	28	6.0	18.5

Bore Sizes and Keyways

Size	Bore Dia.	Keyway
825	1.125	1/4 x 1/8
	1.250	1/4 x 1/8
	1.375	5/16 x 3/32

EC Series Electro Clutch

EC-1000, EC-1225



Specifications

Model Size	Voltage DC	Static Torque (lb. ft.)	Max. Speed RPM	Inertia-WR ² (lb. ft ²)				Total Weight lbs.
				Arm. & Hub	Rotor	Outer Sleeve	Inner Sleeve	
EC-1000	6	240 lb. ft.	2000	.720	.894	.129	.036	41
	24	240 lb. ft.	2000	.720	.894	.129	.036	41
	90	240 lb. ft.	2000	.720	.894	.129	.036	41
EC-1225	6	465 lb. ft.	2000	1.8	2.4	.129	.061	85
	24	465 lb. ft.	2000	1.8	2.4	.129	.061	85
	90	465 lb. ft.	2000	1.8	2.4	.129	.061	85

Electro Clutch | EC Series

EC-1000, EC-1225

Dimensions

All dimensions are nominal, unless otherwise noted.

Size	A Max.	B Dia.	C	D Min.	E Dia.	F Dia.	G	H	I	J	K Max.	L	M
1000	10.328	6.531	6.344	1.750	2.875	2.9375 2.9365	.344	5/16-18 UNC -3A x 3/8	.188	.750	3.969	6.000	1.547
1225	12.672	7.531	6.969	2.234	3.625	3.750 3.749	.406	5/81-16 UNC -3A x 3/4	.375	.859	5.219	7.781	1.547

Size	N Max.	O	P	Q Max.	R*	S	T	U	V	W	X	Y
1000	9.031	5/16-18 UNC-2A	1.547	5.281	3/4 x 1/8	7.688	3.750	6.125	.875	.344	.375	.750
1225	11.016	5/16-18 UNC-2A	1.547	7.047	7/8 x 1/8	8.688	3.750	7.000	.875	.344	.375	.750

Size	Z	AA	BB	CC	DD Dia.	EE	FF	GG Dia.	HH	II	JJ	KK	LL	MM	NN	OO
1000	16.625	17	.750	.375	.330 .321	.438	.875	.313	.250	1.000	1.750	2.000	1.500	.750	.250	.270 .260
1225	16.625	17	.750	.375	.330 .321	.438	.875	.313	.250	1.000	1.750	2.000	1.500	.750	.250	.270 .260

* Key supplied

Bore Sizes and Keyway

Size	Bore Dia.	Keyway
1000	1.375	*5/15 x 5/32
	1.500	*3/8 x 11/64
	1.625	*3/8 x 1/8
1225	1.625	*3/8 x 5/32
	1.875	*1/2 x 1/4
	2.125	*1/2 x 3/16

*Key Furnished

EB Series Electro Brake

Shaft Mounted Brakes for Power-On Applications

Pre-engineered, pre-packaged brakes mount on motor or thru shafts. They have been designed to mate easily with industry standard motors, reducers and other power transmission components. Bolt-it-down and wire-it-up . . . they're ready to go.

- Wide torque range from 16 to 465 lb. ft.
- Handle 1 to 75 HP at 1800 RPM
- Adjustable torque arm

UL Listed

Conduit box meets industry standards.

Long Life, No Maintenance

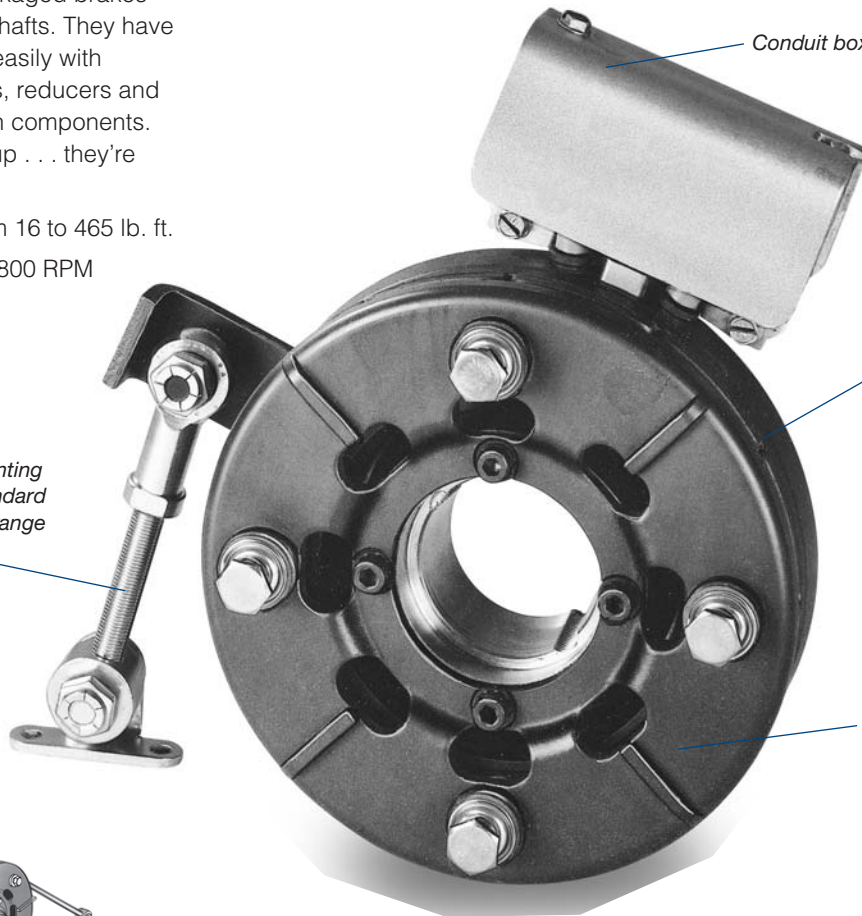
Automatically adjusts for wear. Designed for maximum heat dissipation. No lubrication necessary.

Mounting Flexibility

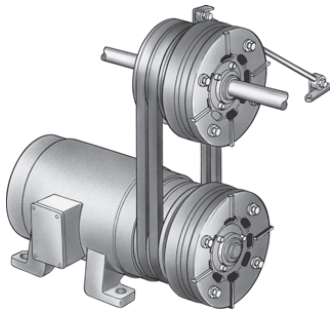
Torque arm allows mounting anywhere on shaft. Standard bushings cover a wide range of shaft sizes.

Packaged Design

No assembly required. Insert bushing for proper shaft size, slide on shaft and bolt down torque arm.



Typical Application



An Electro Brake mounted on a through shaft.

Selection Procedure

1. Determine the motor horsepower and RPM at the brake location.
2. Use the Horsepower vs. Shaft Speed chart to determine the right size Electro Brake.
3. When ordering, specify bore size and voltage.
4. To get maximum performance from your Electro Clutch, use a Warner Electric Control. See the Controls Section.

Horsepower vs. Shaft Speed

HP	SHAFT SPEED AT BRAKE (IN RPM)																				
	100	200	300	400	500	600	700	800	900	1000	1100	1200	1500	1800	2000	2400	3000	3600	4000	4500	5000
1/12																					
1/8																					
1/6																					
1/4																					
1/3																					
1/2																					
3/4																					
1																					
1-1/2																					
2																					
3																					
5																					
7-1/2																					
10																					
15																					
20																					
25																					
30																					
40																					
50																					
60																					
75																					

Part Numbers

Model Size	Bore Size	Voltage DC	Part No.
EB-375	1/2"	6	5380-170-005
		24	5380-170-006
		90	5380-170-004
	5/8"	6	5380-170-003
		24	5380-170-007
		90	5380-170-002
EB-475	1/2" to 1"	6	5381-170-003
		24	5381-170-004
		90	5381-170-002
EB-650	1/2" to 1-3/8"	6	5382-170-003
		24	5382-170-005
		90	5382-170-002
EB-825	1/2" to 1-1/2"	6	5383-170-002
		24	5383-170-004
		90	5383-170-005
EB-1000	1/2" to 1-5/8"	6	5384-170-003
		24	5384-170-005
		90	5384-170-002
EB-1225	1/2" to 2-12"	6	5385-170-003
		24	5385-170-005
		90	5385-170-002

Note: EB-375 also available in some metric bores.
EB-475-1225 use bushings which are available in metric bores.

Adapter Requirements

For thru-shaft mounting, specify bore size. For EB-475 and EB-650 order bushing separately. EB-375 does not require a bushing. (See pages 198 and 199)

For motor mounting, order adapter separate (see page 77).

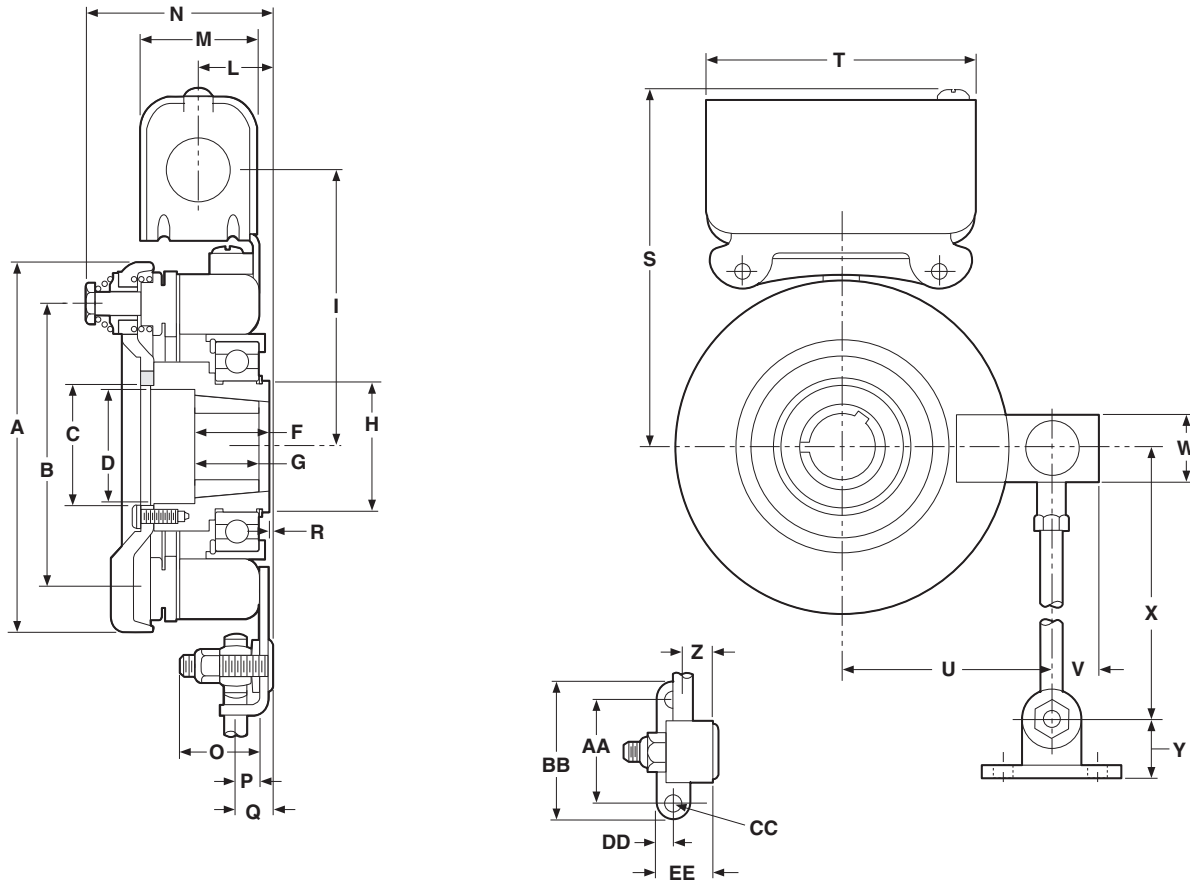
Bore Sizes and Keyway

Size	Bore Dia.	Keyway
375	.501/.500	1/8 x 1/16
	.626/.625	3/16 x 3/32
475	.500/.563	1/8 x 1/16
	.625/.875	3/16 x 3/32
	.938/1.000	*1/4 x 1/8
650	.500/.563	1/8 x 1/16
	.625/.875	3/16 x 3/32
	1.250/1.313	1/4 x 1/8
	1.313/1.375	5/16 x 5/32

*Key Furnished

EB Series Electro Brake

EB-375, EB-475, EB-650



Dimensions

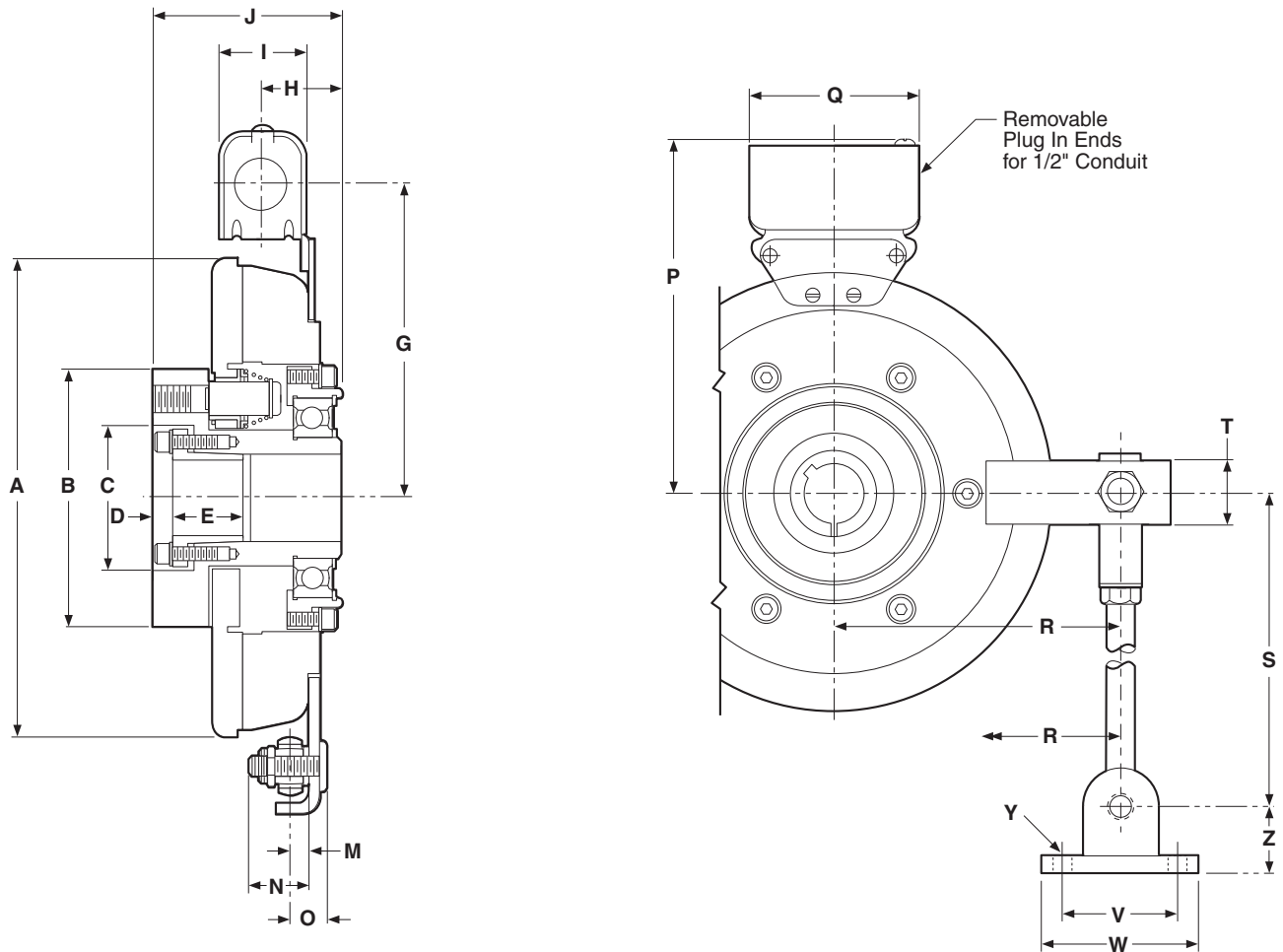
All dimensions are nominal, unless otherwise noted.

Size	A Max.	B Dia.	C Min.	D Dia.	E	F	G	H Dia.	I	J	K	L	M	N Max.	O
375	4.078	3.125	.7505	-	.031	1.656	-	1.375	3.344	10-32 UNF -3A x 1/4	.188	1.047	1.547	2.438	.844
475	5.172	4.000	1.663	1.594	-	1.000	1.000	1.781	3.875	-	-	.986	1.547	2.922	1.094
650	6.578	5.125	2.343	2.281	-	1.313	1.000	2.563	4.656	-	-	.986	1.547	3.109	1.031

Size	P	Q	R	S Max.	T	U	V	W	X	Y	Z	AA	BB	CC	DD	EE
375	.281	.625	.094 Min.	4.453	3.750	2.453	.666	1.000	8.000	.635	.359	1.500	2.000	.270 .260	.250	.781
475	.313	.531	.125 Max.	4.984	3.750	3.093	.697	1.000	10.000	.635	.391	1.500	2.000	.270 .260	.250	.781
650	.344	.641	.203 Max.	5.766	3.750	4.063	.843	1.125	11.000	.635	.438	1.500	2.000	.270 .260	.250	.781

Specifications

Model Size	Voltage DC	Static Torque (lb. ft.)	Max. Speed RPM	Inertia-WR ² (lb. ft ²)		Total Weight lbs.
				Arm. & Carrier	Hub	
EB-375	6, 24, 90	16	5000	.010	.001	4
EB-475	6, 24, 90	30	4500	.072	.006	7
EB-650	6, 24, 90	95	3600	.106	.010	11.3



Dimensions

All dimensions are nominal, unless otherwise noted.

Size	A Max.	B Max.	C Dia.	D	E	F	G	H	I	J Max.	K	L	M
825	8.656	4.625	2.625	.563	1.250	-	5.281	1.344	1.547	3.375	-	-	.344

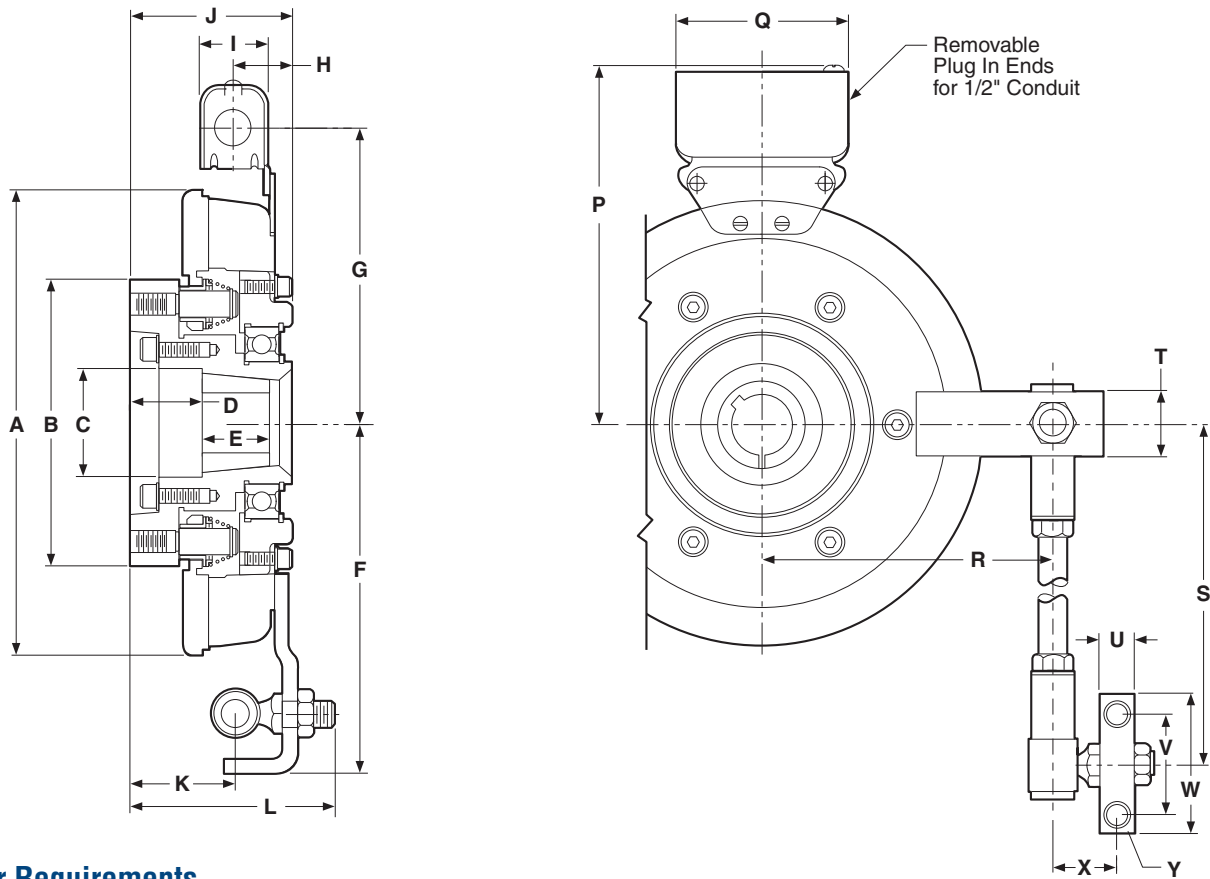
Size	N	O	P Max.	Q	R	S	T	U	V	W	X	Y	Z
825	1.031	.641	6.813	3.750	4.813	11.000	1.125	-	1.500	2.000	-	.270 .260	.781

Specifications

Model Size	Voltage DC	Static Torque lb. ft.	Max. Speed RPM	Inertia-WR ² (lb. ft ²) Arm. & Hub	Total Weight lbs.
EB-825	6, 24, 90	125	3600	.459	20

EB Series | Electro Brake

EB-1000, EB-1225



Adapter Requirements

For thru-shaft mounting, specify bore size. Order bushing separately.
 For motor mounting order adapter separate (see page 77).

Dimensions

All dimensions are nominal, unless otherwise noted.

Size	A Max.	B Max.	C Dia.	D	E	F	G	H	I	J Max.	K	L	M
1000	10.328	6.344	2.563	1.563	1.500	7.688	6.531	1.281	1.547	3.531	2.266	4.531	-
1225	12.672	6.969	3.391	.875	1.750	8.438	7.531	1.297	1.547	3.719	2.453	4.703	-

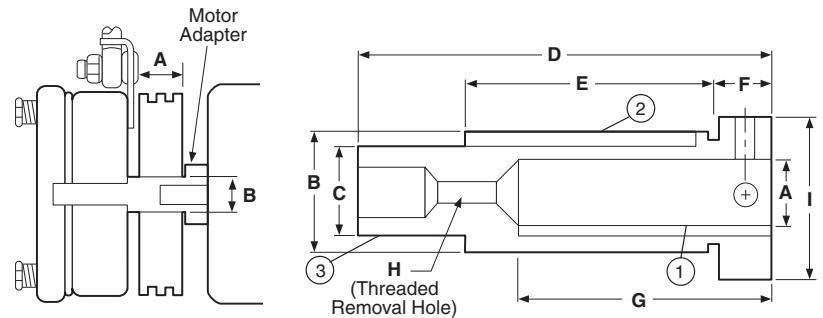
Size	N	O	P Max.	Q	R	S	T	U	V	W	X	Y	Z
1000	-	-	7.688	3.750	-	18.000	1.500	.750	.2375	3.375	1.438	.413 .404	-
1225	-	-	8.688	3.750	-	18.000	1.500	.750	2.375	3.375	1.438	.413 .404	-

Specifications

Model Size	Voltage DC	Static Torque lb. ft.	Max. Speed RPM	Inertia-WR ² (lb. ft ²)		Total Weight lbs.
				Arm. & Hub	Hub	
EB-1000	6, 24, 90	240	2000	.720	.129	35.5
EB-1225	6, 24, 90	465	2000	1.8	.129	52.5

Optional Motor Shaft Adapter

Ten motor shaft adapters are available as an option for mounting Electro-Brakes on single shaft extension motors. For double shaft extension motors the adapter can be eliminated. A standard sheave, pulley, or sprocket, with either a tapered bushing or straight bore, can be installed on the shaft adapter. The Electro Brake is mounted on the end of the shaft adapter and the complete assembly fits onto the motor shaft and is secured with setscrews. Fitting the belts or chain and attaching the torque arm completes the installation.



Dimensions

All dimensions are nominal, unless otherwise noted.

Model	A	Kwy.	Key Part No. (1)	B	Kwy.	Key Part No. (2)	C	Kwy.	Key Part No. (3)	Dodge Bushing Size	D	E	F	G	H	I
EB-375	5/8	3/16x 3/32	*	7/8	3/16x 3/32	590-0016	5/8	3/16x 3/32	590-0043	None	4.391 4.359	2	.391 .359	2	1/4-20 UNC	1.125
EB-375	7/8	3/16x 3/32	*	1-1/4	1/4x 1/8	590-0022	5/8	3/16x 3/32	590-0043	None	4.578 4.742	2-1/4	.516 .484	2-1/4		1.500
EB-475	1-1/8	1/4x 1/8	*	1-5/8	3/8x 3/16	590-0041	1	1/4x 1/8	**	#1008 1"	4.516 4.484	2-3/4	.641 .609	2-3/4	1/2-13 UNC	1.750
EB-650	1-3/8	5/16x 5/32	*	2	1/2x 1/4	590-0042	1-3/8	5/16x 5/32	590-0044	#1310 1-3/8"	5.547 5.515	3-3/8	.641 .609	3-3/8	1/2-13 UNC	2.125
EB-650	1-5/8	3/8x 3/16	*	2-1/4	1/2x 1/4	590-0042	1-3/8	5/16x 5/32	590-0044	#1310 1-3/8"	6.172 6.140	4	.641 .609	4		2.375
EB-1000	1-5/8	3/8x 3/16	*	2-15/16	3/4x 7/16	590-0052	1-5/8	3/8x 7/32	**	#1615 1-5/8"	8.297 8.265	5-1/4		5	3/4-10 UNC	2.937
EB-1000	1-7/8	1/2x 7/32	*	2-15/16	3/4x 7/16	590-0052	1-5/8	3/8x 7/32	**	#1615 1-5/8"						2.937
EB-1000	2-1/8	1/2x 1/8	590-0062	2-15/16	3/4x 5/16	590-0069	1-5/8	3/8x 7/32	**	#1615 1-5/8"						2.937
EB-1225	2-1/8	1/2x 7/32	*	3-3/4	7/8x 7/16	590-0049	2-1/8	1/2x 9/32	590-0048	#2517 2-1/8"	10.672 10.640	7-1/4		6-7/8	7/8-9 UNC	3.750
EB-1225	2-3/8	5/8x 9/32	*	3-3/4	7/8x 7/16	590-0049	2-1/8	1/2x 9/32	590-0048	#2517 2-1/8"						3.750

*Standard Square Key Furnished with Motor.

**Special Key Furnished with Bushing.

Note: For adapter part numbers, see Service Parts beginning on page 276.