

# Technical Data

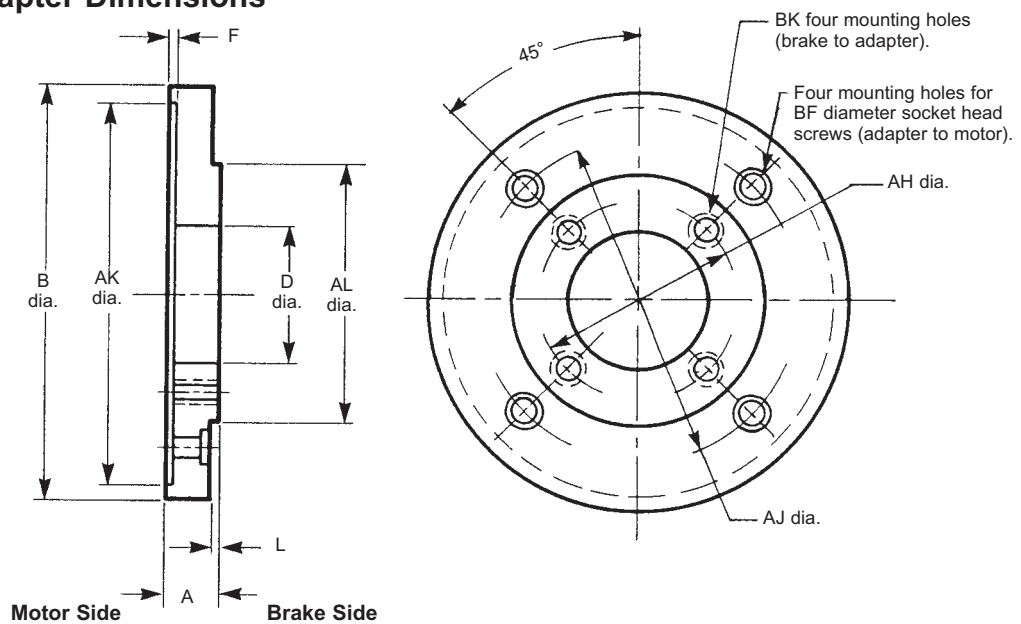
## SAB Motor Frame Adapter Dimensions

### Selection

To select an adapter for a specific brake, refer to the *Motor Frame Adapter Tables* as shown in the brake series sections of this Catalog. After selecting the adapter stock number, refer to the Tables below for dimensions.

All adapters are constructed with an opening for internal lead wire connection, corresponding to the NEMA standard location for the motor frame size.

Screws for mounting adapter to motor must be provided by customer. Socket head cap screws are supplied for mounting brake to adapter.



Dimensions for estimating only. For installation purposes, request certified prints.

Brake Series	Torque (lb-ft)	Adapter Stock Number	Dimensions in Inches (Dimensions in Millimeters)											Add'l Shaft Length Req'd	List Price	Discount Symbol			
			A	AH	AJ	AK	AL	B	BF	BK Hole	D	F	L						
56,000	1.5 - 6	5-55-5041-00				8.500 (215.900)	4.497 (114.325)											\$700	B4
65,300*		5-55-5046-00	1.25 (31.75)	5.88 (149.22)	7.25 (184.15)	8.502 (215.900)	4.500 (114.325)	9.00 (228.60)	.50 (12.70)	3/8 - 16 x 1/2 deep	4.00 (101.60)	.19 (4.76)	.12 (3.18)	.94 (23.88)				\$700	B4
56,000 and 56,800*	10 - 25	5-55-5043-00																	
87,000 and 87,800*	6 - 105	5-55-7046-00	1.06 (26.99)		11.00 (279.40)	12.501 (317.525)	8.499 (215.875)	13.00 (330.20)	.62 (15.88)		4.12 (104.78)			.87 (22.10)			\$875	B2	
87,300		5-55-7054-00		7.25 (184.15)		12.504 (317.602)	8.497 (215.849)			1/2 - 13 through		.19 (4.76)		.38 (9.52)					
87,000 and 87,800*	6 - 105	5-55-7055-00	1.00 (25.40)		9.00 (228.60)	10.500 (266.700)	8.499 (215.875)	11.00 (279.40)	**		6.25 (158.75)			.81 (20.57)			\$450	B2	
87,300*		5-55-7045-00				10.502 (266.751)	8.497 (215.849)							.25 (6.35)					
87,000, 87,800* and 87,300*	6 - 105	5-55-7043-00	.75 (19.05)	7.25 (184.15)	5.88 (149.35)	4.502 (114.35)	8.499 (215.875)	8.75 (222.25)	.62 (15.75)	1/2 - 13 through	4.00 (101.60)	.19 (4.76)	.25 (6.35)	.56 (14.23)			\$1,300	B2	
81,000	125 - 130	5-55-2045-00	1.06 (26.99)	11.00 (279.40)	14.00 (355.60)	16.002 (406.451)	12.499 (317.475)	16.50 (419.10)	.62 (15.88)	5/8 - 11 through	9.75 (247.65)	.19 (4.76)	.25 (6.35)	.87 (22.10)			\$1,875	C1	
81,000	125 - 230	5-55-2041-00			7.25 (184.15)	8.500 (215.900)	12.499 (317.475)	12.499 (317.398)	.50 (12.70)		6.00 (152.40)			.93 (23.62)			\$1,325	C1	
81,000		5-55-2043-00	1.12 (28.58)	11.00 (279.40)		10.500 (266.700)	12.496 (317.398)	12.496 (317.398)	.50 (12.70)	5/8 - 11 through	7.75 (196.85)	.19 (4.76)		.93 (23.62)				C1	
82,000 and 82,300*	125 - 550	5-55-2046-00	1.94 (49.21)		14.00 (355.60)	16.002 (406.451)	12.499 (317.398)	16.50 (419.10)	.62 (15.88)	5/8 - 11 x 1 deep	9.50 (241.30)			1.75 (44.45)			\$1,875	C1	
82,000 and 82,300*		5-55-2042-00	1.38 (34.92)	11.00 (279.40)	7.25 (184.15)	8.500 (215.900)	12.496 (317.475)	13.25 (336.55)			6.00 (152.40)	.19 (4.76)	.25 (6.35)	1.19 (30.23)			\$1,325	C1	
82,000 and 82,300*		5-55-2044	1.38 (34.92)		9.00 (228.60)	10.500 (266.700)	12.499 (317.398)	13.25 (336.55)	.50 (12.70)	5/8 - 11 through	7.75 (196.85)			1.19 (30.23)			\$2,075	C1	
86,000	500 - 1000	5-55-6041-00	1.56 (38.69)	14.00 (355.60)	11.00 (279.40)	12.500 (317.500)	16.000 (406.400)	16.19 (411.16)	.62 (15.88)	5/8 - 11 x 3/4 deep	8.62 (219.08)	.19 (4.76)	.25 (6.35)	1.37 (34.80)			\$2,800	C1	

\* 1/2-13 flat head screws are supplied with adapter.

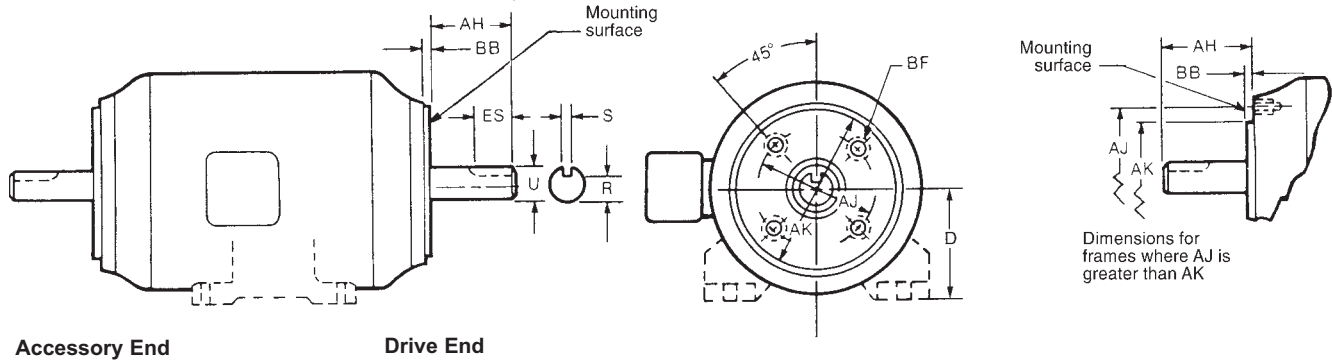
\*\* When adding an adapter to a hazardous location brake, refer to the "mounting requirements" on the product page for the recommended brake series for accommodating adapters.

# Dimensions for C-Face Brake Motor Systems

## Brakes Externally Wired to Motor

C-face motor with double shaft extension.

Stearns Disc Brakes are designed to mount on standard C-face motors having the same dimensions and tolerances on the accessory end as on the drive end. They also mount on foot mounting brackets and machine mounting faces having the same mounting dimensions and tolerances. Some motor accessory end C-face may differ from the drive end.



## Drive End Dimensions (Inches)

Frame Designation	AJ	AK	BB Min.	BF Hole			U	AH	Keyseat			Base to Centerline D
				Number	Tap Size	Bolt Penetration Allowance			R	ES Min.	S	
42C	3.750	3.000	0.16	4	1/4-20	...	0.375	1.312	0.328	...	flat	2.62
48C	3.750	3.000	0.16	4	1/4-20	...	0.500	1.69	0.453	...	flat	3.00
56C	5.875	4.500	0.16	4	3/8-16	...	0.625	2.06	0.517	1.41	0.188	3.50
143TC and 145TC	5.875	4.500	0.16	4	3/8-16	0.56	0.875	2.12	0.771	1.41	0.188	3.50
182TC and 184TC	7.250	8.500	0.25	4	1/2-13	0.75	1.125	2.62	0.986	1.78	0.250	4.50
182TCH and 184TCH	5.875	4.500	0.16	4	3/8-16	0.56	1.125	2.62	0.986	1.78	0.250	4.50
213TC and 215TC	7.250	8.500	0.25	4	1/2-13	0.75	1.375	3.12	1.201	2.41	0.312	5.25
254TC and 256TC	7.250	8.500	0.25	4	1/2-13	0.75	1.625	3.75	1.416	2.91	0.375	6.25
284TC and 286TC	9.000	10.500	0.25	4	1/2-13	0.75	1.875	4.38	1.591	3.28	0.500	7.00
284TSC and 286TSC	9.000	10.500	0.25	4	1/2-13	0.75	1.625	3.00	1.416	1.91	0.375	7.00
324TC and 326TC	11.000	12.500	0.25	4	5/8-11	0.94	2.125	5.00	1.845	3.91	0.500	8.00
324TSC and 326TSC	11.000	12.500	0.25	4	5/8-11	0.94	1.875	3.50	1.591	2.03	0.500	8.00
364TC and 365TC	11.000	12.500	0.25	8	5/8-11	0.94	2.375	5.62	2.021	4.28	0.625	9.00
364TSC and 365TSC	11.000	12.500	0.25	8	5/8-11	0.94	1.875	3.50	1.591	2.03	0.500	9.00
404TC and 405TC	11.000	12.500	0.25	8	5/8-11	0.94	2.875	7.00	2.450	5.65	0.750	10.00
404TSC and 405TSC	11.000	12.500	0.25	8	5/8-11	0.94	2.125	4.00	1.845	2.78	0.500	10.00
444TC and 445TC	14.000	16.000	0.25	8	5/8-11	0.94	3.375	8.25	2.880	6.91	0.875	11.00
444TSC and 445TSC	14.000	16.000	0.25	8	5/8-11	0.94	2.375	4.50	2.021	3.03	0.625	11.00
500 Frame Series	14.500	16.500	0.25	4	5/8-11	0.94	...	...	...	...	...	12.50

## Tolerances (Inches)

### AK Dimension, Face Runout, Permissible Eccentricity of Mounting Rabbet

AK Dimension	Tolerance on AK Dimension		Maximum Face Runout	Maximum Permissible Eccentricity of Mounting Rabbet
	Plus	Minus		
Less than 12	0.000	0.003	0.004	0.004
12 and Larger	0.000	0.005	0.007	0.007

### Shaft Extension Diameters

Shaft Diameter	Tolerances	
	Plus	Minus
0.2500 to 1.5000, inclusive	0.000	0.0005
Over 1.5000 to 6.500, inclusive	0.000	0.001

### Width of Shaft Extension Keyseats

Width of Keyseat	Tolerances	
	Plus	Minus
0.188 to 0.750, inclusive	0.002	0.000
Over 0.750 to 1.500, inclusive	0.003	0.000

### Shaft Runout

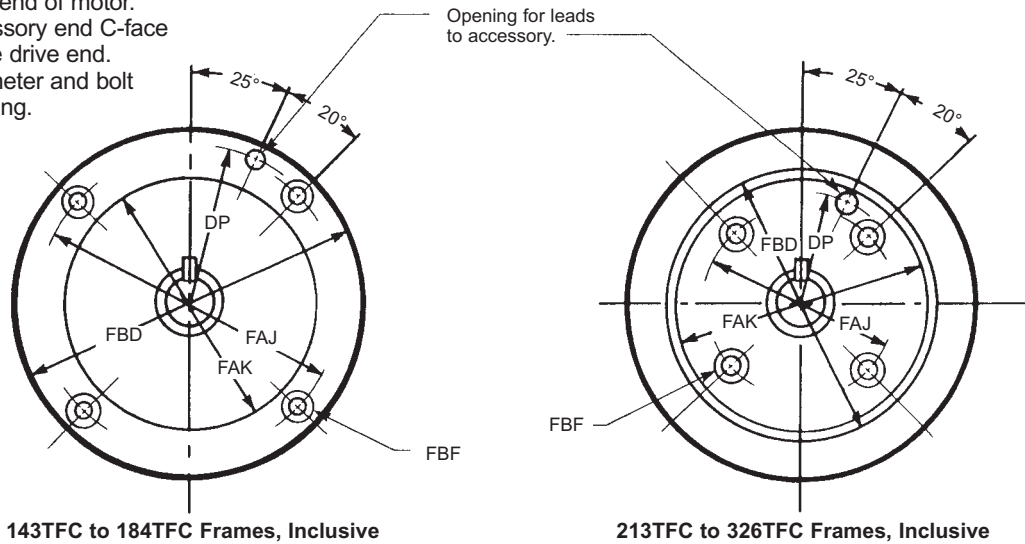
Shaft Diameter	Maximum Permissible Shaft Runout
0.3750 to 1.625, inclusive	0.002
Over 1.625 to 6.500, inclusive	0.003

SOURCE: ANSI/NEMA Standards Publication No. MG 1-1987; Part 4 and Part 11.

# Dimensions for C-Face AC Brake Motor System (cont.)

## Accessory End

FC face mounting for accessories, including brakes, on the end opposite the drive end of motor. Some motor accessory end C-face may differ from the drive end. Confirm shaft diameter and bolt circle before ordering.



143TFC to 184TFC Frames, Inclusive

213TFC to 326TFC Frames, Inclusive

## Dimensions (Inches)

Frame Designation	FAJ	FAK	FBD Max.	FBF Hole			Hole for Accessory Leads	
				Number	Tap Size	Bolt Penetration Allowance	DP	Diameter
143TFC and 145TFC	5.875	4.500	6.50	4	3/8-16	0.56	2.81	0.41
182TFC and 184TFC	5.875	4.500	6.50	4	3/8-16	0.56	2.81	0.41
213TFC and 215TFC	7.250	8.500	9.00	4	1/2-13	0.75	3.81	0.62
254TFC and 256TFC	7.250	8.500	10.00	4	1/2-13	0.75	3.81	0.62
284TFC and 286TFC	9.000	10.500	11.25	4	1/2-13	0.75	4.50	0.62
324TFC and 326TFC	11.000	12.500	14.00	4	5/8-11	0.94	5.25	0.62

NOTE: Standards have not been developed for the shaft extension diameter and length, and keyseat dimensions.

## Tolerances\* (Inches)

FAK Dimension, Face Runout, Permissible Eccentricity of Mounting Rabbet

FAK Dimension	Tolerance on FAK Dimension		Maximum Face Runout	Maximum Permissible Eccentricity of Mounting Rabbet
	Plus	Minus		
Less than 12	0.000	0.003	0.004	0.004
12 and Larger	0.000	0.005	0.007	0.007

## Shaft Runout

Shaft Diameter	Maximum Permissible Shaft Runout
0.3750 to 1.625, inclusive	0.002
Over 1.625 to 6.500, inclusive	0.003

\* Tolerance requirement on 56,X00 and 87,000 Series Brake kits is .015 T.I.R. (total indicated runout shaft to motor register face).

SOURCE: ANSI/NEMA Standards Publication No. MG 1-1987; Part 4 and Part 11.

## Stearns Recommended Minimum Shaft Diameter by Torque

Minimum recommended shaft size considers a keyed C1045 steel shaft under dynamic use in a typical spring set brake application.

Torque ft-lb	Minimum Shaft (inches)
0.50	0.250
0.75	0.250
1.5	0.375
3	0.500
6	0.500
10	0.625
15	0.750
25	0.875
35	1.000
50	1.125

Torque ft-lb	Minimum Shaft (inches)
75	1.250
105	1.375
125	1.375
175	1.625
230	1.750
330	2.000
440	2.125
500	2.375
750	2.500
1000	2.750

Torque Nm	Minimum Shaft (mm)
4 Nm	ø10 mm
8 Nm	ø13 mm
16 Nm	ø16 mm
32 Nm	ø20 mm
60 Nm	ø25 mm
80 Nm	ø28 mm
150 Nm	ø34 mm
240 Nm	ø39 mm
400 Nm	ø47 mm