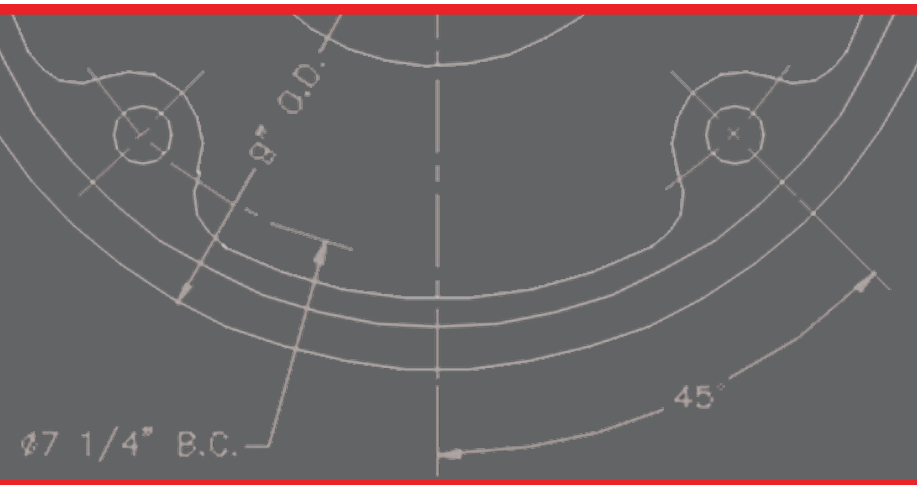
Dings Co. DYNAMICS GROUP

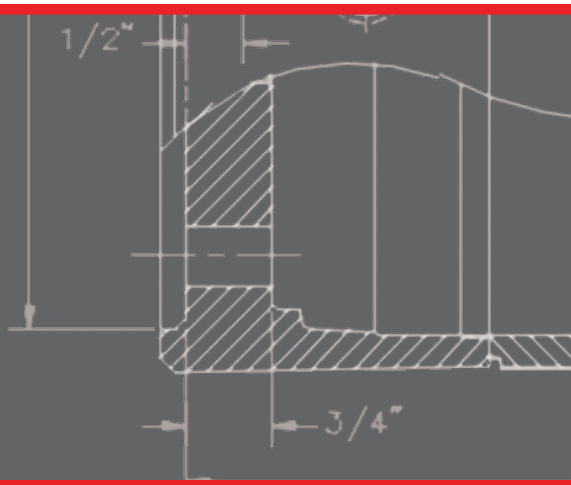
Direct Acting Spring-Set Brakes

Simple Installation | Simple Operation | Simple Service

Direct Acting Brakes







An Engineering Driven Company

Dings Company — A U.S. Manufacturer

dingsbrakes.com | brakesales@dingsco.com | (414)672-7830

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Brake Listing Table

Motor Frame Size	Torque (lb-ft)	Enclosure	Style	Construction	Brake Series	Basic Model #	Page #
Small AC & DC motors	3/8, 3/4	NEMA 2	End Mount	Steel	40	40000-012	3
48C	1.5 - 6	NEMA 2	End Mount	Steel	50	50000-050	4
56C through 145TC Flexmount 5600	1.5 - 25	NEMA 2	End Mount	Steel	60	60000-5600	5
56C through 145TC Flexmount 5600	1.5 - 25	NEMA 2	End Mount	Aluminum/Steel	60	60000-524	7
		NEMA 4, no hub seal	End Mount	Aluminum/Steel or Cast Iron	60	60000-545 / 60000-543	9
		NEMA 4X no hub seal	End Mount	Cast Iron	60	60000-5115	11
		NEMA 4 with hub seal	End Mount	Aluminum/Steel or Cast Iron	60	60000-535 / 60000-530	13
		NEMA 4X with hub seal	End Mount	Cast Iron	60	60000-5116	15
56C through 145TC Flexmount 5600	1.5 - 20	NEMA 2	Double C Face	Aluminum	60	60000-551	19
		NEMA 4	Double C Face	Aluminum	60	60000-5153	19
		NEMA 4X	Double C Face	Aluminum	60	60000-5155	19
182TC through 256TC Flexmount 5600	1.5 - 25	NEMA 2	End Mount	Aluminum/Steel	1-70	70000-115	21
182TC through 256TC 8700	10 - 105	NEMA 2	End Mount	Cast Iron/Steel	70	70000-ES41	23
		NEMA 2	End Mount	Cast Iron	70	70000-EC41	23
		NEMA 2	End Mount	Cast Iron/Steel	70	70000-ES4S	25
		NEMA 2	End Mount	Cast Iron	70	70000-EC4S	25
		NEMA 4, no hub seal	End Mount	Cast Iron/Steel	70	70000-ES61	27
		NEMA 4, no hub seal	End Mount	Cast Iron	70	70000-EC61	27
		NEMA 4X no hub seal	End Mount	Cast Iron	70	70000-EC6W	27
		NEMA 4 no hub seal	Alternate Mount	Cast Iron/Steel	70	70000-ES6S	29
		NEMA 4 no hub seal	Alternate Mount	Cast Iron	70	70000-EC6S	29
		NEMA 4X no hub seal	Alternate Mount	Cast Iron	70	70000-EC6T	29
		NEMA 4, with hub seal	End Mount	Cast Iron/Steel	70	70000-SS61	31
		NEMA 4,with hub seal	End Mount	Cast Iron	70	70000-SC61	31
		NEMA 4X with hub seal	End Mount	Cast Iron	70	70000-SC6W	31
		NEMA 4 with hub seal	Alternate Mount	Cast Iron/Steel	70	70000-SS6S	33
		NEMA 4 with hub seal	Alternate Mount	Cast Iron	70	70000-SC6S	33
		NEMA 4X with hub seal	Alternate Mount	Cast Iron	70	70000-SC6T	33
182TC through 256TC Diract	10-75	NEMA 2	End Mount	Cast Iron	70	70000-55	35
		NEMA 2	End Mount	Cast Iron/Steel	70	70000-97	35
		NEMA 4 no hub seal	End Mount	Cast Iron/Steel	70	70000-58	37
		NEMA 4 no hub seal	End Mount	Cast Iron	70	70000-100	37
		NEMA 4X no hub seal	End Mount	Cast Iron/Steel	70	70000-92	39
		NEMA 4 with hub seal	End Mount	Cast Iron/Steel	70	70000-102	41
		NEMA 4 with hub seal	End Mount	Cast Iron	70	70000-57	41
		NEMA 4X with hub seal	End Mount	Cast Iron	70	70000-94	43
		NEMA 2 Mark II Release	End Mount	Cast Iron	70	70000-89	45
		NEMA 2 Mark III Release	End Mount	Cast Iron	70	70000-56	45
		NEMA 4 no hub seal Mark II Release	End Mount	Cast Iron	70	70000-111	47
		NEMA 4 no hub seal Mark III Release	End Mount	Cast Iron	70	70000-109	47
		NEMA 4 with hub seal Mark II Release	End Mount	Cast Iron	70	70000-112	49
		NEMA 4 with hub seal Mark III Release	End Mount	Cast Iron	70	70000-110	49

Motor Frame Size	Torque (lb-ft)	Enclosure	Style	Construction	Brake Series	Basic Model #	Page #
182TC through 256TC8700 8700	10-105	NEMA 2	Double C Face	Cast Iron/Aluminum	70	70000-CE41/CE42	51
		NEMA 4	Double C Face	Cast Iron/Aluminum	70	70000-CE61/CE62	55
		NEMA 4X	Double C Face	Cast Iron/Aluminum	70	70000-CE63/CE64	55
182TC through 256TC 8700 Diract	10-75	NEMA 2	Double C Face	Cast Iron/Aluminum	70	70000-38	55
		NEMA 4	Double C Face	Cast Iron/Aluminum	70	70000-46	57
		NEMA 4X	Double C Face	Cast Iron/Aluminum	70	70000-105	57
Foot Mount Double Shaft 8700	10 - 75	NEMA 2 & NEMA 4	Foot Mount	Cast Iron/Aluminum	70	70000-DE41 / DE61	59
284TC and 286TC Diract	25 - 175	NEMA 2	End Mount	Cast Iron/Steel	80	80000-58	61
		NEMA 2	End Mount	Cast Iron/Aluminum		80000-28	63
		NEMA 4, no hub seal	End Mount	Cast Iron	80	80000-66	65
		NEMA 4 no hub seal	End Mount	Cast Iron 6 bolt cover	80	80000-32	67
		NEMA 4, with hub seal	End Mount	Cast Iron	80	80000-54	69
		NEMA 4 with hub seal	End Mount	Cast Iron 6 bolt cover	80	80000-29	71
		NEMA 2 Mark II Release	End Mount	Cast Iron	80	80000-62	73
		NEMA 2 Mark III Release	End Mount	Cast Iron	80	80000-30	73
		NEMA 4, no hub seal Mark II Release	End Mount	Cast Iron	80	80000-67	75
		NEMA 4 no hub seal Mark III Release	End Mount	Cast Iron	80	80000-46	75
		NEMA 4, with hub seal Mark II Release	End Mount	Cast Iron	80	80000-65	77
		NEMA 4 with hub seal Mark III Release	End Mount	Cast Iron	80	80000-45	77
324TC through 405TC	125-450	NEMA	End Mount	Cast Iron	90	90000-50	79
		NEMA 4 with hub seal	End Mount	Cast Iron	90	90000-51	81
		NEMA 4 no hub seal	End Mount	Cast Iron	90	90000-52	83
HAZARDOUS LOCATION							85
56C through 145TC	1.5 - 15	Hazardous Location	End Mount	Cast Iron	60	F8-60000-66B	87
182TC through 256TC	10 - 75	Hazardous Location	End Mount	Cast Iron	70	FR70000-9	91
56C through 405TC	1.5 - 450	Maritime Service	End Mount				91
182TC through 256TC	10 - 75	Naval Service	End Mount	Ductile Iron	70	70000-42	92
284TC and 286TC	25 - 180	Naval Service	End Mount	Ductile Iron	80	80000-27	92

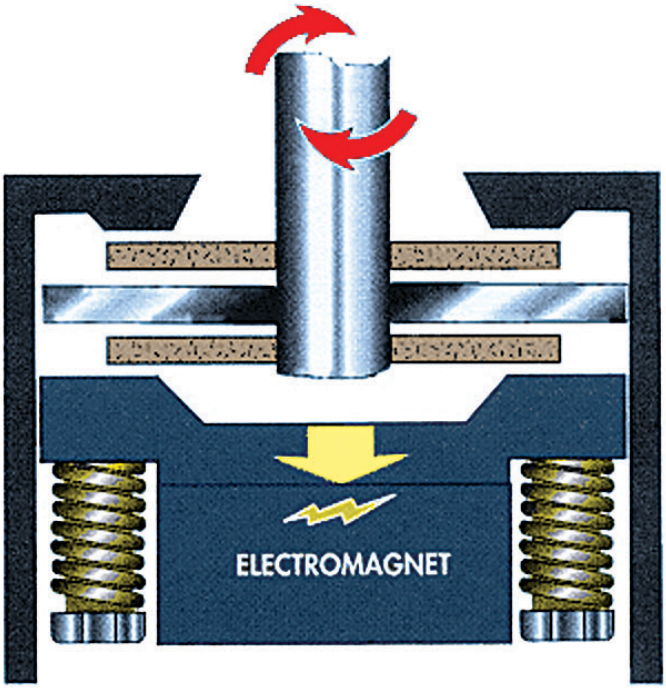
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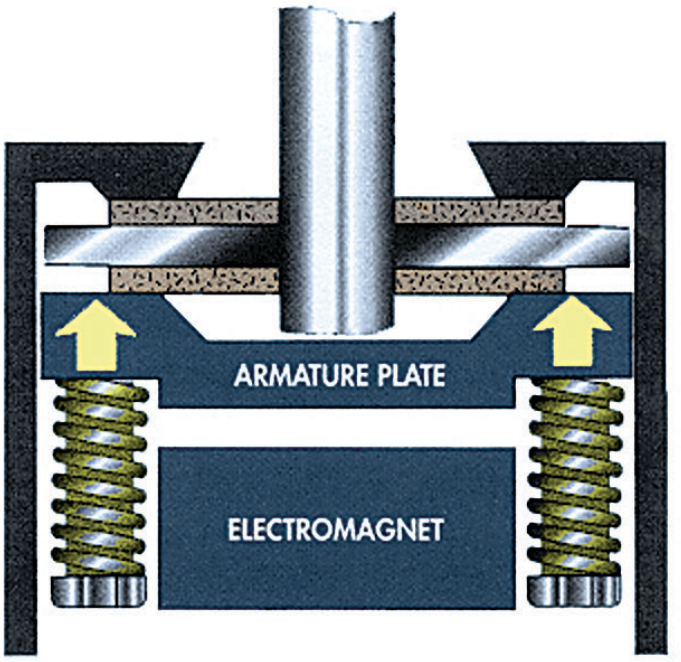
The Dings Direct-Acting Difference

When you need to stop and hold a motor quickly and reliably, you can count on a Dings Electromagnetic Spring-Set Brake to do the job. Dings' brakes are specifically engineered to provide you with years of trouble-free performance.

Simplicity of Design

Our brakes operate on a very simple principle: while the motor is running with power engaged, an electromagnet within the brake pulls back the pressure plate, allowing the friction discs and motor shaft to rotate freely. When power is cut to the motor, the electromagnet releases, instantly stopping the rotating discs and preventing the motor shaft from turning. This direct acting design has only one moving part with no complicated linkages to break or fail. You won't have to worry about your brake - leaving you more time for your other responsibilities





2D drawings and 3D electronic files are available at www.dingsbrakes.com

NEW!! See Dings brake operation on YouTube

Available in These Configurations

- End Mount
- Double C Face Coupler
- Double Shafted with Foot Mount
- NEMA 4X
- Hazardous Location
- Crane Duty
- Marine Duty
- Navy

Dings' Brakes are used in many applications, including:

- Tire presses
- Cranes and hoists
- Elevators and walkways
- Satellite positioning equipment
- Conveyors and palletizers
- Motors/speed reducers
- Food and packaging machinery
- And many more...

Brake Selection Guide

To effectively determine which brake is appropriate for your particular application, you must first calculate the amount of torque required by the system. There are two types of situations in which a brake may be used: Non-Overhauling load and Overhauling load.

In the case of a non-overhauling load, gravitational forces do not change the energy in the system and the internal friction of the system is sufficient to hold the load, i.e. an external means is not required to maintain system stability after it has stopped. Examples of this situation would include grinders, horizontal conveyors, etc.

To calculate the torque required in a non-overhauling load situation, refer to the formula and chart below. For overhauling loads, refer to Application Engineering at the end of the catalog.

To calculate torque for a non-overhauling application:

$$T_s = \frac{5252 \times P}{N} \times SF$$

Note: Brakes with a 1.0 Service Factor are not intended for critical holding applications.

Where

T_s = Static torque, lb-ft
P = Motor horsepower, hp
N = Motor full load speed, rpm
SF = Service Factor
5252 = Constant

Motor Hp	1.0 Service Factor							1.4 Service Factor							2.0 Service Factor						
	Speed (RPM)							Speed (RPM)							Speed (RPM)						
	720/750	900/1000	1200	1500	1800	3000	3600	720/750	900/1000	1200	1500	1800	3000	3600	720/750	900/1000	1200	1500	1800	3000	3600
	Static Torque Rating of Brake (lb-ft)																				
1/6	1.5	1.5	0.75	0.75	0.75	0.38	0.38	3	1.5	1.5	1.5	0.75	0.75	0.38	3	3	1.5	1.5	1.5	0.75	0.75
1/4	3	3	1.5	1.5	0.75	0.75	0.75	3	3	1.5	1.5	1.5	0.75	0.75	6	3	3	3	1.5	1.5	0.75
1/3	3	3	3	1.5	1.5	0.75	0.75	6	3	3	3	1.5	1.5	0.75	6	6	3	3	3	1.5	1.5
1/2	6	3	3	3	3	1.5	0.75	6	6	6	3	3	1.5	1.5	10	6	6	6	3	3	1.5
3/4	6	6	6	3	3	1.5	1.5	10	10	6	6	6	3	1.5	15	10	10	6	6	3	3
1	10	6	6	6	3	3	3	15	10	10	6	6	3	3	15	15	10	10	6	6	3
1 1/2	15	10	10	6	6	3	3	20	15	10	10	10	6	6	25	20	15	15	10	6	6
2	15	15	10	10	6	6	3	25	20	15	10	10	6	6	35	25	20	15	15	10	6
3	25	20	15	15	10	6	6	35	25	20	15	15	10	10	50	35	35	25	20	15	10
5	50	35	25	20	15	10	10	75	50	35	25	25	15	15	75	75	50	35	35	20	15
7 1/2	70	50	35	35	25	15	15	105	70	50	50	35	20	20	125	105	75	75	50	35	25
10	75	70	50	50	35	20	15	105	105	70	50	50	35	25	175	125	105	75	75	35	35
15	125	105	70	70	50	35	25	175	125	105	75	75	50	35	230	175	175	105	105	75	50
20	180	125	105	75	70	50	35	230	175	125	105	105	50	50	330	270	175	175	125	75	75
25	230	180	125		75	50	50	270	230	175	125	105	75	75	450	330	230	175	175		75
30	230	180	180	125	105	75	50	330	270	230	175	125	75	75	450	360	270	230	175		
40	330	270	180	180	125	75	75	450	330	270	230	175					360	330	270		
50	450	330	230	180	180		75		450	330	270	230					450	360	330		
60	450	360	270	230	180					450	330	270						450	360		
75		450	330	270	230						450	330							450		
100			450	360	330							450									
125				450	450																
150					450																

Selection by Frame Size

X= mounts directly, ①= reverse adaptor required, ②= adaptor required

Brake Series	Torque Ratings in lb-ft	Motor Frame Size										
		small/ fractional hp	48C	56C	143TC 145TC	182TC 184TC	213TC 215TC	254TC 256TC 254UC 256UC	284TC 286TC 284UC 286UC	**324/326TC 324/326UC 324/326TSC 324/326USC**	**364/365TC 364/365UC 364/365TSC 364/365USC**	**404/405TC 404/405UC 404/405TSC 404/405USC**
40	3/8 & 3/4	X										
50	1.5-6		X	②	②							
60	1.5-25		①	X	X	②	②	②	②			
1-70	1.5-25			①	①	X	X	X	②			
70	10-105			①	①	X	X	X	②			
80	25-175					①	①	①	X	②	②	②
90	125-450								①	X	X	X

40 Series End Mount

For Small AC and DC Motors
Torque Ratings: 3/8 and 3/4 lb-ft



Designed for Dayton®, Bison, Bodine® and Klauber (KMG) type motors and gearmotors.

Enclosure Type:
Dripproof Enclosure NEMA 2, IP40
Steel cover and mounting bracket

Specifications:

Reaction Time:	15-20 milliseconds (release and set)
Maximum RPM:	3600
CSA File:	#LR13814
Manual:	BK4042

Standard Hub Bore Sizes:

Suffix	Size	Keyway
A	8mm	None
B	3/8”	None
C	1/2”	None
D	5/8”	None

Maximum bore diameter is 5/8”

Design Features:
Selectable torque: Two rotating friction discs are used for 3/4 lb-ft torque and one friction disc is used for 3/8 lb-ft torque.

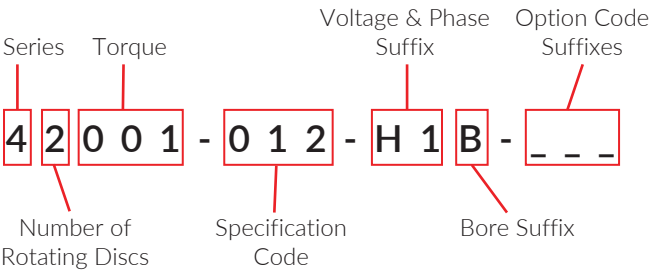
Retrofit to small AC and DC motors.

Plated internal parts - RoHS compliant.

Standard AC Voltages (single phase only):

Suffix	Voltage
H1	115V, 60Hz
M1	220/230V, 60 Hz

Brake Model Number Definition

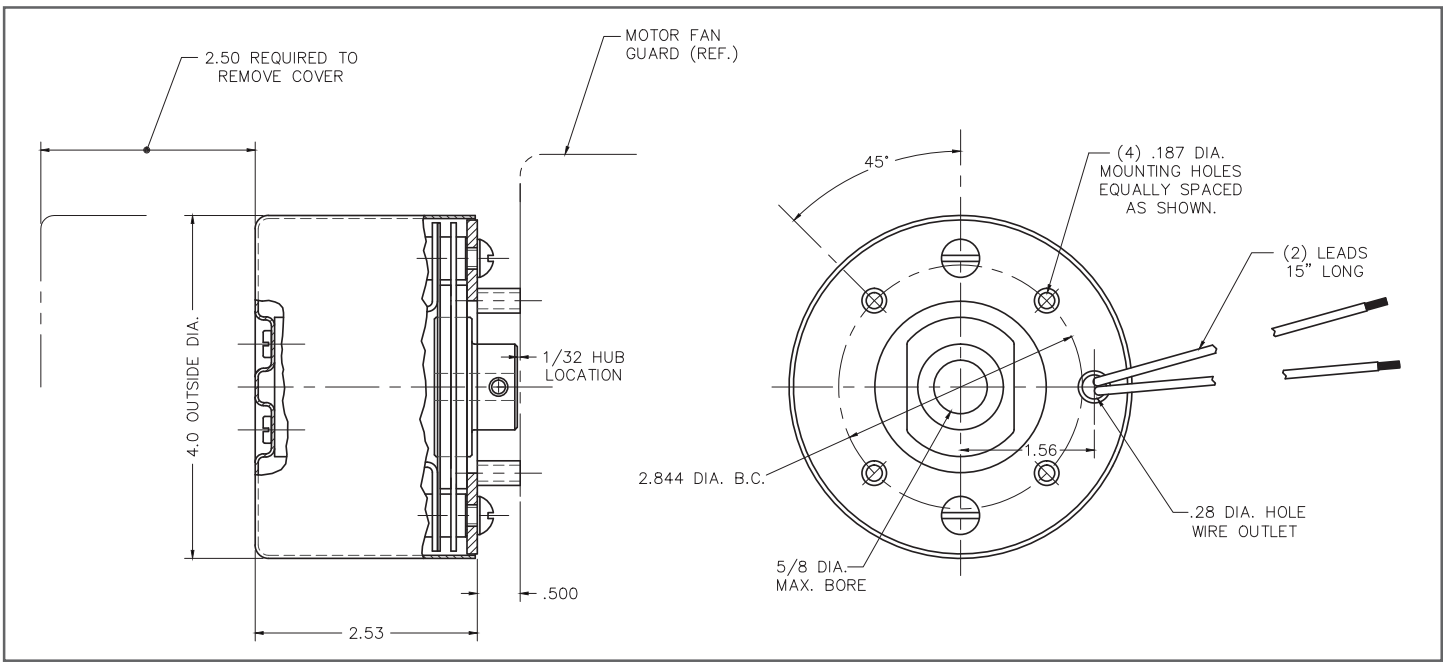


Available Options: Suffix

Class H Insulation — Q

Refer to: Page 100-105 for brake option

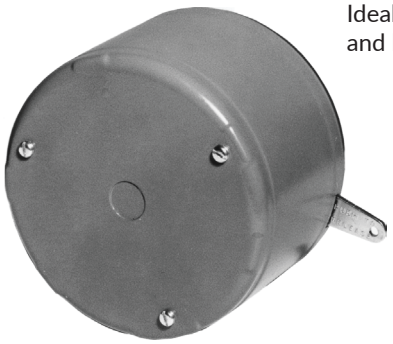
Model #	Torque lb-ft (lb-in)	Weight lbs	Inertia lb-ft²	Manual Release
42001-012	3/8 or 3/4 (4.5 or 9)	3	0.001	No
42001-013	3/8 or 3/4 (4.5 or 9)	3	0.001	Yes



Spec –012 Outline

50 Series End Mount

NEMA Frame Size 48C
Torque Ratings: 1.5 to 6 lb-ft



Ideal for OEM applications and brake kits

Enclosure Type:
Dripproof Enclosure NEMA 2, IP40
Steel cover and mounting bracket

Specifications:

Reaction Time:	15-20 milliseconds (release and set)
AK:	3.00” Register
AJ:	3.75” Bolt Circle
Thermal Capacity:	4 HPS/Min
Maximum RPM:	3600
CSA File:	#LR13814
Coil insulation:	Class B Standard, Class H Optional
Manual:	BK4618

Standard Hub Bore Sizes:

Suffix	Size	Keyway
D	5/8”	3/16” x 3/32”

Special bore sizes available

Design Features:
RoHS compliant
Torque adjustable for specific applications
Spring set, electrically released
Deadman release (Available without release)
Splined hub
Through shaft knockout standard, all models

Standard AC Voltages (single phase only):

Suffix	Voltage
Y1	110/220V, 50HZ
R1	115/230V, 60 Hz
T1	220/440V, 60 Hz
U1	230/460V, 60 Hz or 190/380V, 50 Hz
P1	575V, 60 Hz

Special voltages available

Brake Model Number Definition

Series	Torque		Voltage & Phase Suffix	Option Code Suffixes
5	1	0 0 1 - 0 5 0 -	U 1 D -	_ _ _
	Number of Rotating Discs		Specification Code	Bore Suffix

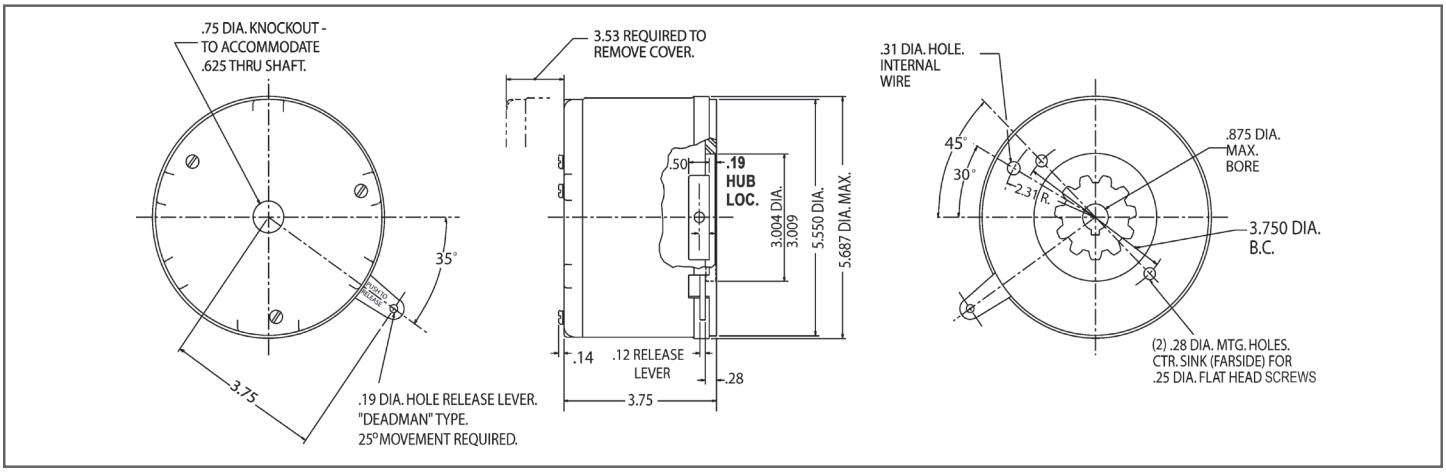
Available Options:

	Suffix
Adapter to Larger Frame Size(s)	A
Tropical Protection	P
Class H Insulation	Q

Refer to: Page 100-105 for brake option

Torque lb-ft	Model # Internal lead connection	Model # Internal/external lead connection	Weight lbs	Inertia lb-ft²	Manual Release*
1.5	51001-050	51001-080	7	0.002	Yes*
3	51003-050	51003-080	7	0.002	Yes*
6	51006-050	51006-080	7	0.002	Yes*

*For brakes without manual release, use model 5xxxx-05A or 5xxxx-08A.

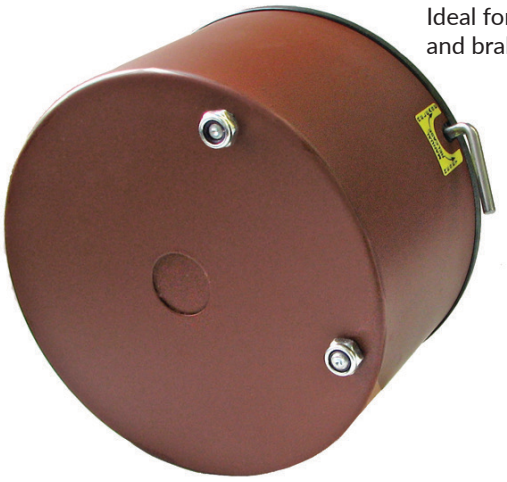


Spec –050 Outline

60 Series End Mount

5600 Style

NEMA Frame Sizes 56C, 143TC, 145TC
Torque Ratings: 1.5 to 25 lb-ft



Ideal for OEM applications and brake kits

Enclosure Type:

Dripproof Enclosure
NEMA 2, CSA 2, IP41
Stamped steel cover with steel bracket

Specifications:

Reaction Time:	15-20 milliseconds (release and set)
AK:	4.50" Register
AJ:	5.88" Bolt Circle
Thermal Capacity:	6 HPS/Min
Maximum RPM:	3600
CSA File:	#LR13814
Coil insulation:	Class B: 1.5 – 3 lb-ft (Class H Optional) Class H: 6 – 25 lb-ft
Mounting:	1.5 – 6 lb-ft are all-position mounting 10 – 25 lb-ft horizontal mounting only
Manual:	BK4684

Standard Hub Bore Sizes:

Suffix	Size	Keyway
D	5/8"	3/16" x 3/32"
F	7/8"	3/16" x 3/32"

Special bore sizes available

Design Features:

RoHS compliant
Direct acting design with no linkages to break
One moving part for longer life
Single point air gap adjustment
Through shaft knockout standard on all models
Splined hub
Spring set, electrically released
Manual release, automatic reset

Standard AC Voltages (single phase only):

Suffix	Voltage
Y1	110/220V, 50Hz
11	115/208-230V, 60 Hz
R1	115/230V, 60 Hz
51	208-230/460V, 60 Hz
T1	220/440V, 60 Hz
U1	230/460V, 60 Hz or 190/380V, 50 Hz
P1	575V, 60 Hz

Special voltages available

Brake Model Number Definition

Number of Rotating Discs	Torque Rating		Voltage & Phase Suffix		Option Code Suffixes	
6	1	0 0 6	- 5 6 0 1	-	U 1	D - _ _ _

Series

Hub Bore & Keyway Suffix

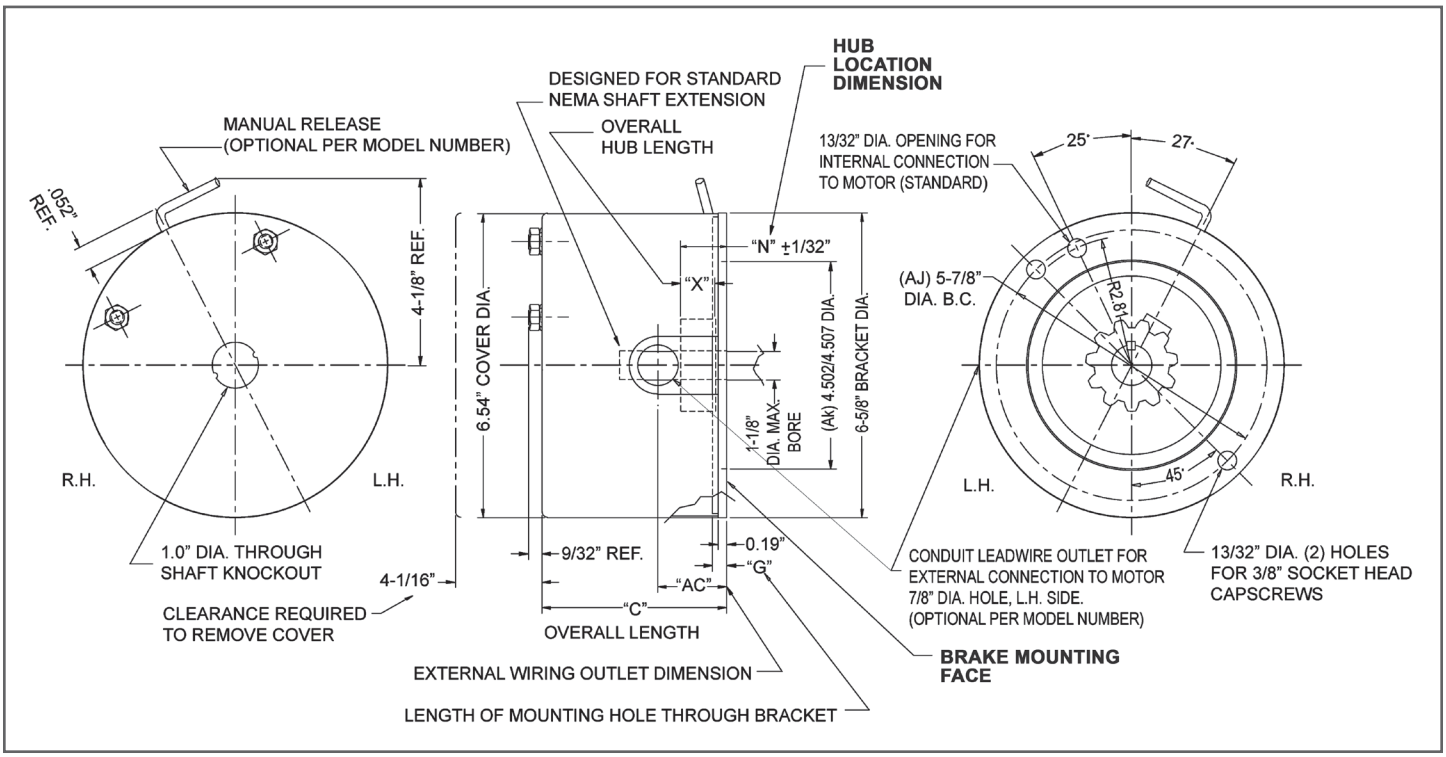
Manual release & leadwire options	
1	with release with external wire outlet
2	with release with external wire outlet
3	with release with external wire outlet
4	with release with external wire outlet

Available Options:

	Suffix
Adapter to Larger Frame Size(s)	A
Reverse Adapter	AB
Foot Mounting Bracket	F
Class H Insulation	Q

Refer to: Page 100-105 for brake option

Torque Rating lb-ft	Model #	Weight lb	Thermal Capacity HPS/Min	Inertia lb-ft^2	Dimensions in Inches				
					C	AC	G	X	N ± 1/32"
1.5	61001-560*	7	6	0.006	4.01	1.50	0.31	0.81	1.00
3	61003-560*	7	6	0.006	4.01	1.50	0.31	0.81	1.00
6	61006-560*	7	6	0.006	4.01	1.50	0.31	0.81	1.00
10	62010-560*	8	6	0.011	4.01	1.50	0.31	0.81	1.00
15	62015-560*	8	6	0.011	4.01	1.50	0.31	0.81	1.00
20	63020-560*	10	6	0.015	4.39	1.88	0.69	1.18	1.38
25	63025-560*	10	6	0.015	4.39	1.88	0.69	1.18	1.38



Spec –5601 Outline

60 Series End Mount

Flexmount

NEMA Frame Sizes 56C, 143TC, 145TC
Torque Ratings: 1.5 to 25 lb-ft

Dripproof NEMA 2, CSA 2, IP41



Ideal for OEM applications and brake kits

Enclosure Type:

Dripproof Enclosure
NEMA 2, CSA 2, IP41

Specifications:

Reaction Time:	15-20 milliseconds (release and set)
AK:	4.50" Register
AJ:	5.88" Bolt Circle
Thermal Capacity:	6 HPS/Min
Maximum RPM:	3600
CSA File:	#LR13814 (AC only)
Coil insulation:	AC= Class B : 1.5, 3, 6, 10 &15 lb-ft brakes Class H : 20 & 25 lb-ft brakes (Class H optional)
	DC= Class B Only

NEMA 2 Brake Specifications:

External paint:	Red primer
Lead wires:	Internal or conduit connections
Nameplate:	Thermally printed adhesive label (pre-masked)
Manual:	BK4655

Design Features:

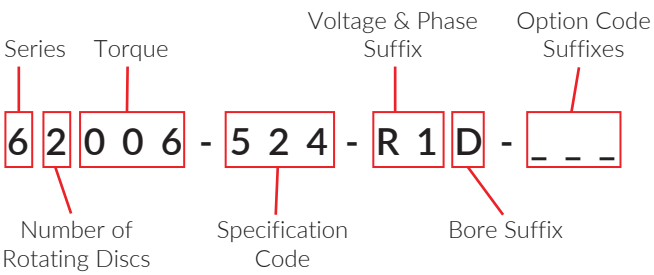
Direct acting design with no linkages to break
One moving part for longer life
Torque adjustable for specific applications
Splined hub
Spring set, electrically released
Manual release, automatic reset
Plated internal parts - RoHS compliant

Standard Hub Bore Sizes:

Suffix	Size	Keyway
D	5/8"	3/16" x 3/32"
F	7/8"	3/16" x 3/32"

Special bore sizes available

Brake Model Number Definition



Standard AC Voltages (single phase only):

Suffix	Voltage
Y1	110/220V, 50Hz
11	115/208-230V, 60 Hz
R1	115/230V, 60 Hz
51	208-230/460V, 60 Hz
T1	220/440V, 60 Hz
U1	230/460V, 60 Hz or 190/380V, 50 Hz
P1	575V, 60 Hz

Special voltages available

Optional DC Voltages:

Suffix	Voltage
A0	12
B0	24
C0	36
D0	48
70	76
E0	95
H0	115
M0	230

Special voltages available

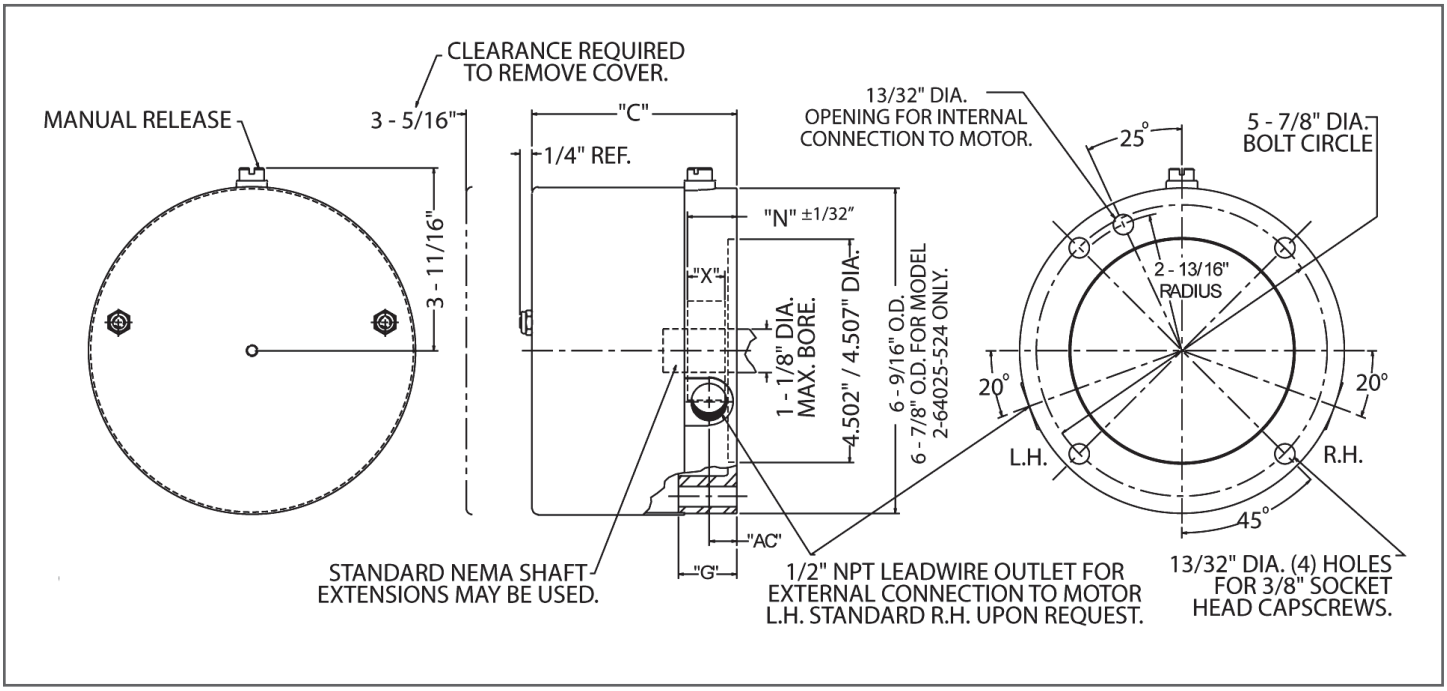
Available Options:

	Suffix
Adapter to Larger Frame Size(s)	A
Reverse Adapter	AB
Foot Mounting Bracket	F
Heavy-Duty Rotating Friction Disc(s) with Hardened Steel Hub	H
Marine/Maritime Duty with MIL-SPEC paint per TT-P-645 & MIL-DTL-15090	M
Marine/Maritime Duty	N
Tropical Protection	P
Internal Space Heater	R
Stainless Steel Stationary Disc(s)	S
Through Shaft	T
Class H Insulation	Q
Vertical Mounting, all positions	V
Vertical Over, or above motor	VO
Vertical Under, or below motor	VU
Micro-Switch Warning	XS

Refer to: Page 100-105 for brake option

NEMA 2 / IP41 Enclosure

Torque lb-ft	Model #	Construction	Weight lbs	Inertia lb-ft²	Dimensions in inches				
					C	N	X	AC	G
1.5	61001-524	Aluminum/Steel	8	0.006	4.13	1.13	0.88	0.59	1.19
3	61003-524	Aluminum/Steel	8	0.006	4.13	1.13	0.88	0.59	1.19
6	62006-524	Aluminum/Steel	8	0.010	4.13	1.13	0.88	0.59	1.19
10	62010-524	Aluminum/Steel	8	0.010	4.13	1.13	0.88	0.59	1.19
15	63015-524	Aluminum/Steel	9	0.015	4.50	1.44	1.19	0.59	1.56
20	63020-524	Aluminum/Steel	9	0.015	4.50	1.44	1.19	0.59	1.56
25	64025-524	Cast Iron/Steel	16	0.020	5.19	2.00	1.34	1.56	2.25



Spec –524 Outline

60 Series End Mount

Flexmount

NEMA Frame Sizes 56C, 143TC, 145TC
Torque Ratings: 1.5 to 25 lb-ft

NEMA 4, CSA 4, IP56
without hub seal for Non-TEFC applications



60 Series Specifications:

Reaction Time:		15-20 milliseconds (release and set)
AK:		4.50" Register
AJ:		5.88" Bolt Circle
Thermal Capacity:		6 HPS/Min
Maximum RPM:		3600
CSA File:		#LR13814 (AC only)
Coil insulation:	AC=	Class B : 1.5, 3, 6, 10 &15 lb-ft brakes (Class H optional) Class H : 20 & 25 lb-ft brakes
	DC=	Class B Only

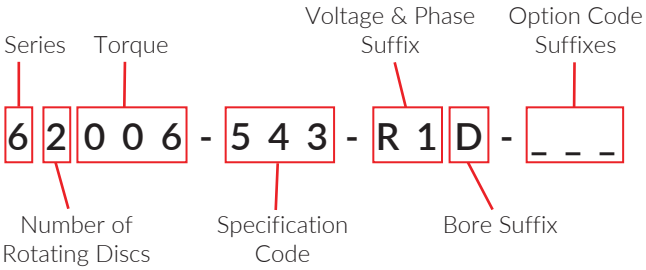
NEMA 4 TEFC Specifications:

External paint:	Red primer
Lead wires:	Conduit connections
Nameplate:	Aluminum/Steel brake: Thermally printed adhesive label (pre-masked) Cast iron brake: Riveted stamped stainless steel.
Manual:	Aluminum/Steel brake = BK4710 Cast iron brake = BK4660

Design Features:

Direct acting design with no linkages to break
One moving part for longer life
Torque adjustable for specific applications
Splined hub
Spring set, electrically released
Manual release, automatic reset
Plated internal parts - RoHS compliant

Brake Model Number Definition



Standard Hub Bore Sizes:

Suffix	Size	Keyway
D	5/8"	3/16" x 3/32"
F	7/8"	3/16" x 3/32"

Special bore sizes available

Standard AC Voltages (single phase only):

Suffix	Voltage
Y1	110/220V, 50Hz
11	115/208-230V, 60 Hz
R1	115/230V, 60 Hz
51	208-230/460V, 60 Hz
T1	220/440V, 60 Hz
U1	230/460V, 60 Hz or 190/380V, 50 Hz
P1	575V, 60 Hz

Special voltages available

Optional DC Voltages:

Suffix	Voltage
A0	12
B0	24
C0	36
D0	48
70	76
E0	95
H0	115
M0	230

Special voltages available

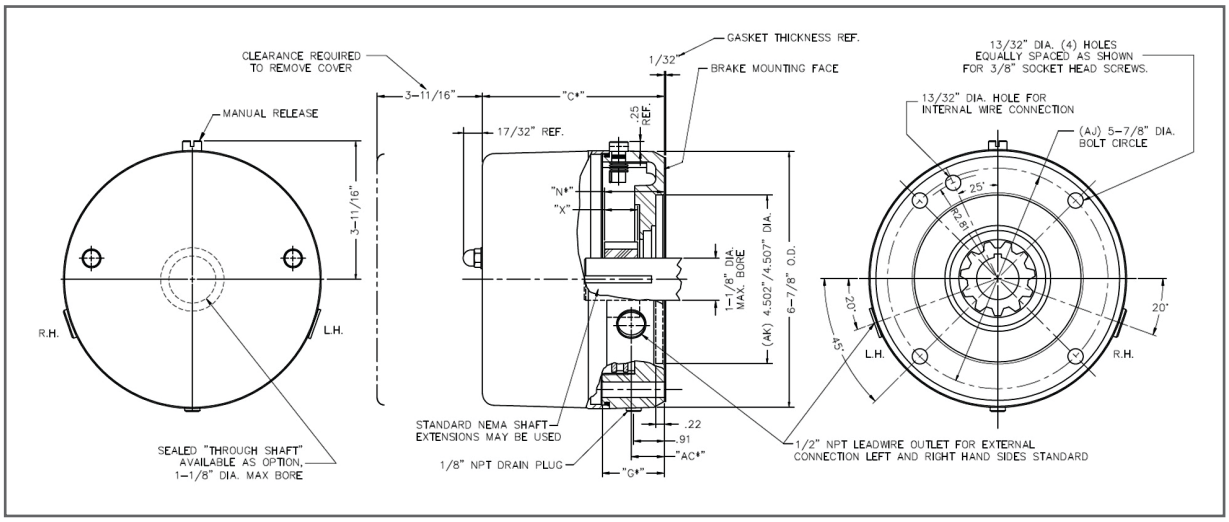
Available Options:

Available Options:	Suffix
Adapter to Larger Frame Size(s)	A
Reverse Adapter	AB
Foot Mounting Bracket	F
Heavy-Duty Rotating Friction Disc(s) with Hardened Steel Hub	H
Marine/Maritime Duty with MIL-SPEC paint per TT-P-645 & MIL-DTL-15090	M
Marine/Maritime Duty	N
Tropical Protection	P
Internal Space Heater	R
Stainless Steel Stationary Disc(s)	S
Through Shaft	T
Class H Insulation	Q
Vertical Mounting, all positions	V
Vertical Over, or above motor	VO
Vertical Under, or below motor	VU
Micro-Switch Warning	XS

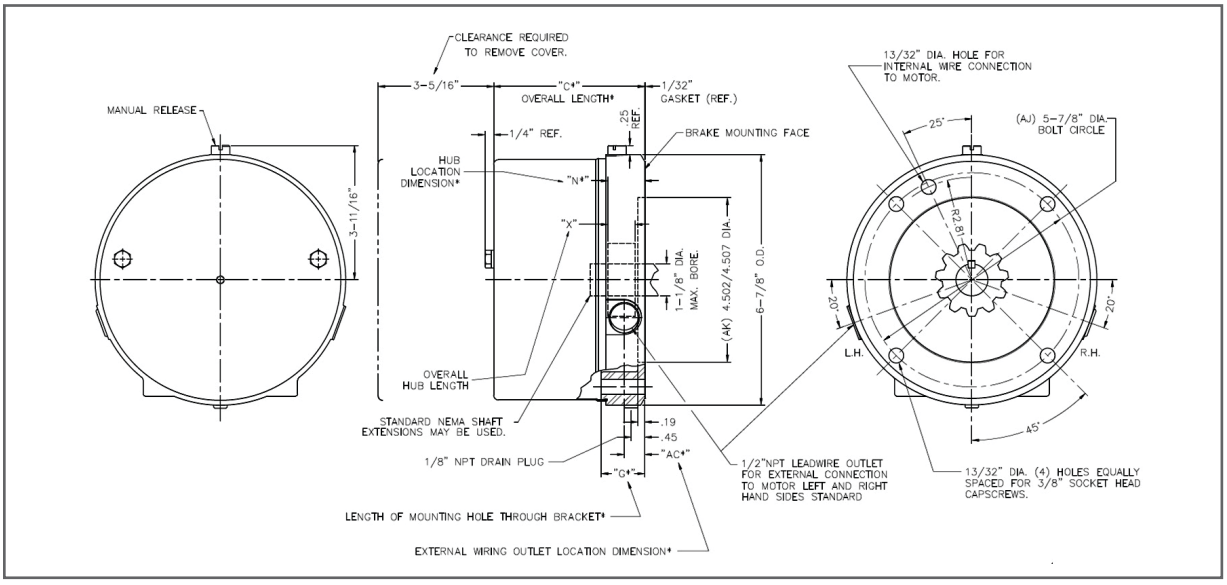
Refer to: Page 100-105 for brake option

NEMA 4 / IP56 Enclosure no hub seal

Torque lb-ft	Model #	Construction	Weight lbs	Inertia lb-ft²	Dimensions in inches				
					C	N	X	AC	G
1.5	61001-545	Aluminum/Steel	10	0.006	4.13	1.13	0.88	0.59	1.19
	61001-543	Cast Iron	16	0.006	4.81	1.59	0.88	0.94	1.63
3	61003-545	Aluminum/Steel	10	0.006	4.13	1.13	0.88	0.59	1.19
	61003-543	Cast Iron	16	0.006	4.81	1.59	0.88	0.94	1.63
6	62006-545	Aluminum/Steel	10	0.010	4.13	1.13	0.88	0.59	1.19
	62006-543	Cast Iron	17	0.010	4.81	1.59	0.88	0.94	1.63
10	62010-545	Aluminum/Steel	10	0.010	4.13	1.13	0.88	0.59	1.19
	62010-543	Cast Iron	17	0.010	4.81	1.59	0.88	0.94	1.63
15	63015-545	Aluminum/Steel	11	0.015	4.50	1.44	1.19	0.96	1.56
	63015-543	Cast Iron	18	0.015	5.13	1.90	1.19	1.25	1.94
20	63020-545	Aluminum/Steel	11	0.015	4.50	1.44	1.19	0.96	1.56
	63020-543	Cast Iron	18	0.015	5.13	1.90	1.19	1.25	1.94
25	64025-543	Cast Iron	19	0.020	5.44	2.05	1.34	1.56	2.25



Spec –543 Outline



Spec –545 Outline

60 Series End Mount

Flexmount

NEMA Frame Sizes 56C, 143TC, 145TC
Torque Ratings: 1.5 to 25 lb-ft

NEMA 4X, CSA 4, IP56
without hub seal for Non-TEFC applications



60 Series Specifications:

Reaction Time:		15-20 milliseconds (release and set)
AK:		4.50" Register
AJ:		5.88" Bolt Circle
Thermal Capacity:		6 HPS/Min
Maximum RPM:		3600
CSA File:		#LR13814 (AC only)
Coil insulation:	AC=	Class B : 1.5, 3, 6, 10 &15 lb-ft brakes (Class H optional)
		Class H : 20 & 25 lb-ft brakes
	DC=	Class B Only

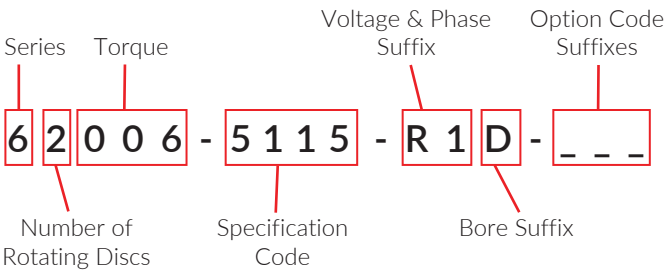
NEMA 4X TEFC Specifications:

External paint:	FDA approved white epoxy
Lead wires:	Conduit connections
Nameplate:	Riveted stamped stainless steel (pre-masked)
Manual:	Cast iron brake = BK4660

Design Features:

Direct acting design with no linkages to break
One moving part for longer life
Torque adjustable for specific applications
Splined hub
Spring set, electrically released
Manual release, automatic reset
Plated internal parts - RoHS compliant

Brake Model Number Definition



Standard Hub Bore Sizes:

Suffix	Size	Keyway
D	5/8"	3/16" x 3/32"
F	7/8"	3/16" x 3/32"

Special bore sizes available

Standard AC Voltages (single phase only):

Suffix	Voltage
Y1	110/220V, 50Hz
11	115/208-230V, 60 Hz
R1	115/230V, 60 Hz
51	208-230/460V, 60 Hz
T1	220/440V, 60 Hz
U1	230/460V, 60 Hz or 190/380V, 50 Hz
P1	575V, 60 Hz

Special voltages available

Optional DC Voltages:

Suffix	Voltage
A0	12
B0	24
C0	36
D0	48
70	76
E0	95
H0	115
M0	230

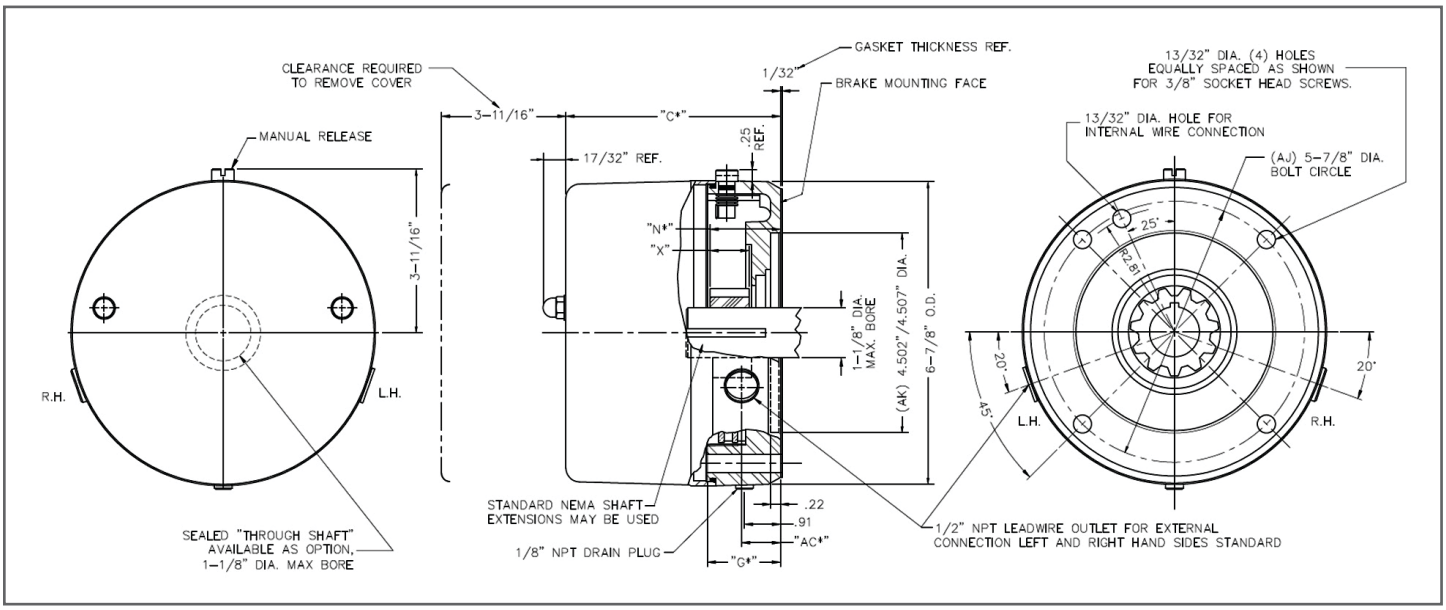
Special voltages available

Available Options:	Suffix
Adapter to Larger Frame Size(s)	A
Reverse Adapter	AB
Foot Mounting Bracket	F
Heavy-Duty Rotating Friction Disc(s) with Hardened Steel Hub	H
Marine/Maritime Duty with MIL-SPEC paint per TT-P-645 & MIL-DTL-15090	M
Marine/Maritime Duty	N
Tropical Protection	P
Internal Space Heater	R
Stainless Steel Stationary Disc(s)	S
Through Shaft	T
Class H Insulation	Q
Vertical Mounting, all positions	V
Vertical Over, or above motor	VO
Vertical Under, or below motor	VU
Micro-Switch Warning	XS

Refer to: Page 100-105 for brake option

WASHDOWN NEMA 4X / IP56 Enclosure no hub seal

Torque lb-ft	Model #	Construction	Weight lbs	Inertia lb-ft²	Dimensions in inches				
					C	N	X	AC	G
1.5	61001-5115	Cast Iron	16	0.006	4.81	1.59	0.88	0.94	1.63
3	61003-5115	Cast Iron	16	0.006	4.81	1.59	0.88	0.94	1.63
6	62006-5115	Cast Iron	17	0.010	4.81	1.59	0.88	0.94	1.63
10	62010-5115	Cast Iron	17	0.010	4.81	1.59	0.88	0.94	1.63
15	63015-5115	Cast Iron	18	0.015	5.13	1.90	1.19	1.25	1.94
20	63020-5115	Cast Iron	18	0.015	5.13	1.90	1.19	1.25	1.94
25	64025-5115	Cast Iron	19	0.020	5.44	2.05	1.34	1.56	2.25



Spec –5115 Outline

60 Series End Mount

Flexmount

NEMA Frame Sizes 56C, 143TC, 145TC
Torque Ratings: 1.5 to 25 lb-ft

NEMA 4, CSA 4, IP56*
with hub seal for TEFC applications

* To obtain full IP56 protection, the customer shaft, hub bore, key and keyway's mating surface(s) must be sealed to meet IP56. Considerations should be reviewed to appropriately seal mounting hardware as well. Contact factory for details and/or assistance.



60 Series Specifications:

Reaction Time:		15-20 milliseconds (release and set)
AK:		4.50" Register
AJ:		5.88" Bolt Circle
Thermal Capacity:		6 HPS/Min
Maximum RPM:		3600
CSA File:		#LR13814 (AC only)
Coil insulation:	AC=	Class B : 1.5, 3, 6, 10 &15 lb-ft brakes (Class H optional) Class H : 20 & 25 lb-ft brakes
	DC=	Class B Only

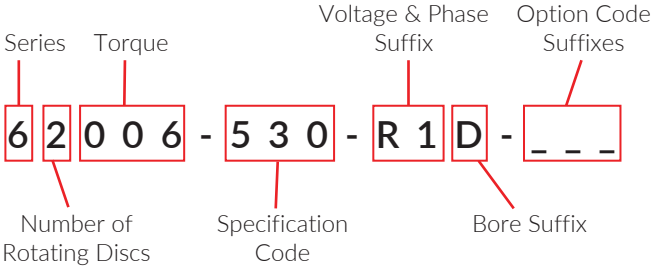
NEMA 4 TEFC Specifications:

External paint:	Red primer
Lead wires:	Conduit connections
Nameplate:	Aluminum/Steel brake: Thermally printed adhesive label (pre-masked) Cast iron brake: Riveted stamped stainless steel.
Manual:	Aluminum/Steel brake = BK4710 Cast iron brake = BK4660

Design Features:

Direct acting design with no linkages to break
One moving part for longer life
Torque adjustable for specific applications
Splined hub
Spring set, electrically released
Manual release, automatic reset
Plated internal parts - RoHS compliant

Brake Model Number Definition



Standard Hub Bore Sizes:

Suffix	Size	Keyway
D	5/8"	3/16" x 3/32"
F	7/8"	3/16" x 3/32"

Special bore sizes available

Standard AC Voltages (single phase only):

Suffix	Voltage
Y1	110/220V, 50Hz
11	115/208-230V, 60 Hz
R1	115/230V, 60 Hz
51	208-230/460V, 60 Hz
T1	220/440V, 60 Hz
U1	230/460V, 60 Hz or 190/380V, 50 Hz
P1	575V, 60 Hz

Special voltages available

Optional DC Voltages:

Suffix	Voltage
A0	12
B0	24
C0	36
D0	48
70	76
E0	95
H0	115
M0	230

Special voltages available

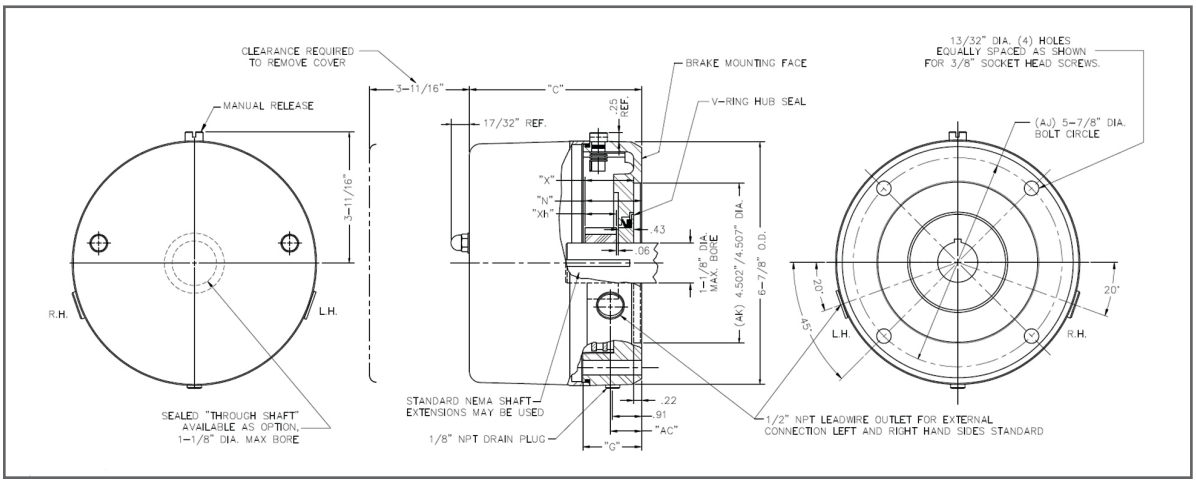
Available Options:

	Suffix
Adapter to Larger Frame Size(s)	A
Reverse Adapter	AB
Foot Mounting Bracket	F
Heavy-Duty Rotating Friction Disc(s) with Hardened Steel Hub	H
Marine/Maritime Duty with MIL-SPEC paint per TT-P-645 & MIL-DTL-15090	M
Marine/Maritime Duty	N
Tropical Protection	P
Internal Space Heater	R
Stainless Steel Stationary Disc(s)	S
Through Shaft	T
Class H Insulation	Q
Vertical Mounting, all positions	V
Vertical Over, or above motor	VO
Vertical Under, or below motor	VU
Micro-Switch Warning	XS

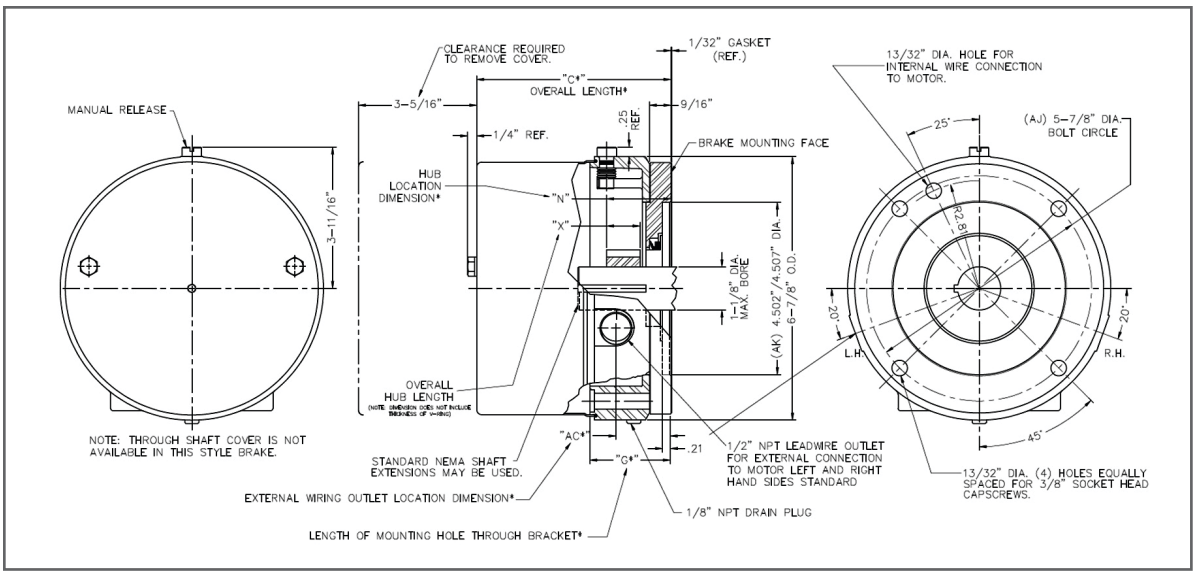
Refer to: Page 100-105 for brake option

NEMA 4 / IP56 Enclosure with hub seal

Torque lb-ft	Model #	Construction	Weight lbs	Inertia lb-ft²	Dimensions in inches					
					C	N	X Overall length of hub, gap, & V-ring	Xh Hub only length	AC	G
1.5	61001-535	Aluminum/Steel	10	0.008	4.72	1.68	1.47	.88	1.18	1.63
	61001-530	Cast Iron	16	0.008	4.81	1.59	1.37	.88	0.94	1.63
3	61003-535	Aluminum/Steel	10	0.008	4.72	1.68	1.47	.88	1.18	1.63
	61003-530	Cast Iron	16	0.008	4.81	1.59	1.37	.88	0.94	1.63
6	62006-535	Aluminum/Steel	10	0.013	4.72	1.68	1.47	.88	1.18	1.63
	62006-530	Cast Iron	17	0.013	4.81	1.59	1.37	.88	0.94	1.63
10	62010-535	Aluminum/Steel	10	0.013	4.72	1.68	1.47	.88	1.18	1.63
	62010-530	Cast Iron	17	0.013	4.81	1.59	1.37	.88	0.94	1.63
15	63015-535	Aluminum/Steel	11	0.019	5.10	2.00	1.78	1.19	1.18	1.94
	63015-530	Cast Iron	18	0.019	5.13	1.90	1.93	1.19	0.94	1.94
20	63020-535	Aluminum/Steel	11	0.019	5.10	2.00	1.78	1.19	1.18	1.94
	63020-530	Cast Iron	18	0.019	5.13	1.90	1.93	1.19	0.94	1.94
25	64025-530	Cast Iron	19	0.024	5.44	2.05	1.83	1.34	1.56	2.25



Spec –530 Outline



Spec –535 Outline

60 Series End Mount

Flexmount

NEMA Frame Sizes 56C, 143TC, 145TC
Torque Ratings: 1.5 to 25 lb-ft

NEMA 4X, CSA 4, IP56*
with hub seal for TEFC applications

* To obtain full IP56 protection, the customer shaft, hub bore, key and keyway's mating surface(s) must be sealed to meet IP56. Considerations should be reviewed to appropriately seal mounting hardware as well. Contact factory for details and/or assistance.



60 Series Specifications:

Reaction Time:		15-20 milliseconds (release and set)
AK:		4.50" Register
AJ:		5.88" Bolt Circle
Thermal Capacity:		6 HPS/Min
Maximum RPM:		3600
CSA File:		#LR13814 (AC only)
Coil insulation:	AC=	Class B : 1.5, 3, 6, 10 &15 lb-ft brakes (Class H optional) Class H : 20 & 25 lb-ft brakes
	DC=	Class B Only

NEMA 4X TEFC Specifications:

External paint:	FDA approved white epoxy
Lead wires:	Conduit connections
Nameplate:	Riveted stamped stainless steel (pre-masked)
Manual:	BK4660

Standard Hub Bore Sizes:

Suffix	Size	Keyway
D	5/8"	3/16" x 3/32"
F	7/8"	3/16" x 3/32"

Special bore sizes available

Standard AC Voltages (single phase only):

Suffix	Voltage
Y1	110/220V, 50Hz
11	115/208-230V, 60 Hz
R1	115/230V, 60 Hz
51	208-230/460V, 60 Hz
T1	220/440V, 60 Hz
U1	230/460V, 60 Hz or 190/380V, 50 Hz
P1	575V, 60 Hz

Special voltages available

Optional DC Voltages:

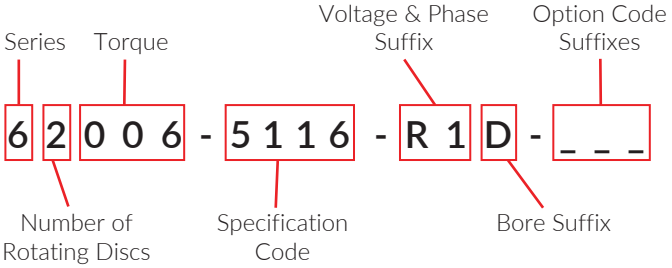
Suffix	Voltage
A0	12
B0	24
C0	36
D0	48
70	76
E0	95
H0	115
M0	230

Special voltages available

Design Features:

Direct acting design with no linkages to break
One moving part for longer life
Torque adjustable for specific applications
Splined hub
Spring set, electrically released
Manual release, automatic reset
Plated internal parts - RoHS compliant

Brake Model Number Definition



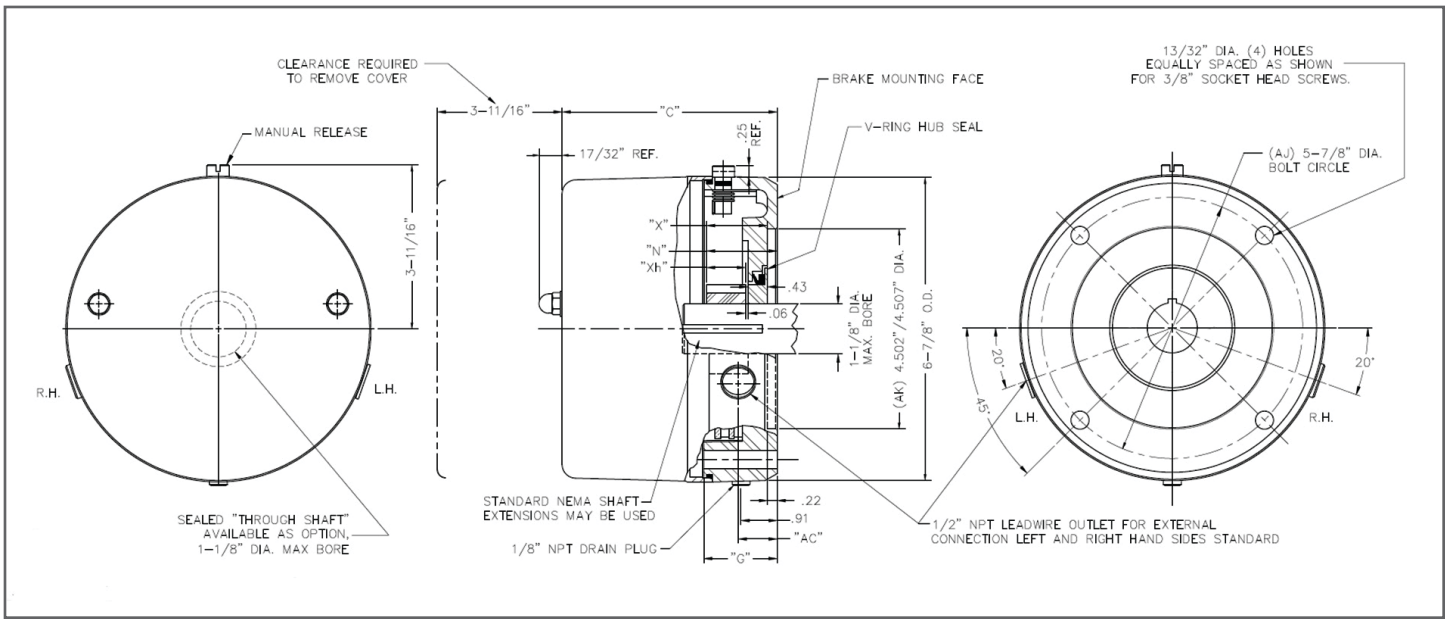
Available Options:

	Suffix
Adapter to Larger Frame Size(s)	A
Reverse Adapter	AB
Foot Mounting Bracket	F
Heavy-Duty Rotating Friction Disc(s) with Hardened Steel Hub	H
Marine/Maritime Duty with MIL-SPEC paint per TT-P-645 & MIL-DTL-15090	M
Marine/Maritime Duty	N
Tropical Protection	P
Internal Space Heater	R
Stainless Steel Stationary Disc(s)	S
Through Shaft	T
Class H Insulation	Q
Vertical Mounting, all positions	V
Vertical Over, or above motor	VO
Vertical Under, or below motor	VU
Micro-Switch Warning	XS

Refer to: Page 100-105 for brake option

WASHDOWN NEMA 4X / IP56 Enclosure with hub seal

Torque lb-ft	Model #	Construction	Weight lbs	Inertia lb-ft²	Dimensions in inches					
					C	N	X Overall length of hub, gap, & V-ring	Xh Hub only length	AC	G
1.5	61001-5116	Cast Iron	16	0.008	4.81	1.59	1.37	.88	0.94	1.63
3	61003-5116	Cast Iron	16	0.008	4.81	1.59	1.37	.88	0.94	1.63
6	62006-5116	Cast Iron	16	0.013	4.81	1.59	1.37	.88	0.94	1.63
10	62010-5116	Cast Iron	17	0.013	4.81	1.59	1.37	.88	0.94	1.63
15	63015-5116	Cast Iron	18	0.019	5.13	1.90	1.93	1.19	0.94	1.94
20	63020-5116	Cast Iron	18	0.019	5.13	1.90	1.93	1.19	0.94	1.94
25	64025-5116	Cast Iron	19	0.022	5.44	2.05	1.83	1.34	1.56	2.25

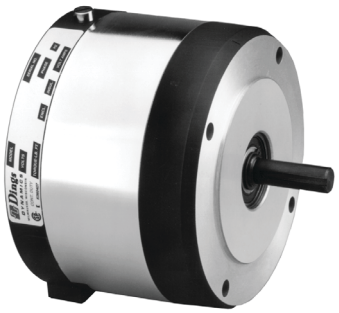


Spec –5116 Outline

60 Series Double C Face

Flexmount

NEMA Frame Sizes 56C, 143TC, 145TC
Torque Ratings: 1.5 to 20 lb-ft



Enclosure Types:

Dripproof Enclosure: NEMA 2, CSA 2, IP41
Aluminum bracket & housing with steel wrap cover
Exterior Paint: Gray enamel
Nameplate: Thermally printed adhesive label

Specifications:

Reaction Time: 15-20 milliseconds (release and set)
AK: 4.50" Register
AJ: 5.88" Bolt Circle
Thermal Capacity: 6 HPS/Min
Maximum RPM: 3600
CSA File: #LR13814 (AC only)
Coil insulation: AC= Class B : 1.5, 3, 6, 10 &15 lb-ft brakes (Class H optional)
Class H : 20 lb-ft brakes
DC= Class B Only
Manual: BK4650

Design Features:

Direct acting design with no linkages to break
One moving part for longer life
Torque adjustable for specific applications
Splined hub
Plated internal parts - RoHS compliant
Spring set, electrically released
Lead wires for internal or conduit connections
Manual release, automatic reset
All position brake available

Standard Hub Bore & Shaft Sizes:

Suffix	Bore	Shaft	Keyway
DD	5/8"	5/8"	3/16" x 3/32"
FF	7/8"	7/8"	3/16" x 3/32"

Special bore sizes available

Standard Voltages AC (single phase only):

Suffix	Voltage
Y1	110/220V, 50Hz
11	115/208-230V, 60 Hz
R1	115/230V, 60 Hz
51	208-230/460V, 60 Hz
T1	220/440V, 60 Hz
U1	230/460V, 60 Hz or 190/380V, 50 Hz
P1	575V, 60 Hz

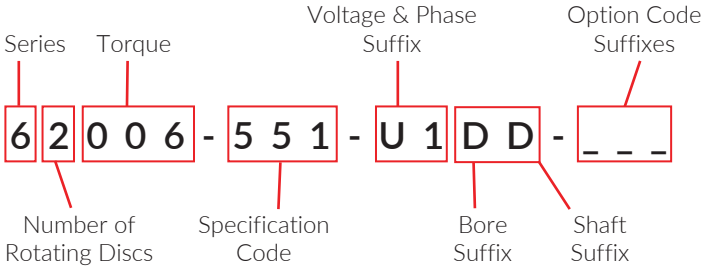
Special voltages available

Optional DC Voltages:

Suffix	Voltage
A0	12
B0	24
C0	36
D0	48
70	76
E0	95
H0	115
M0	230

Special voltages available

Brake Model Number Definition



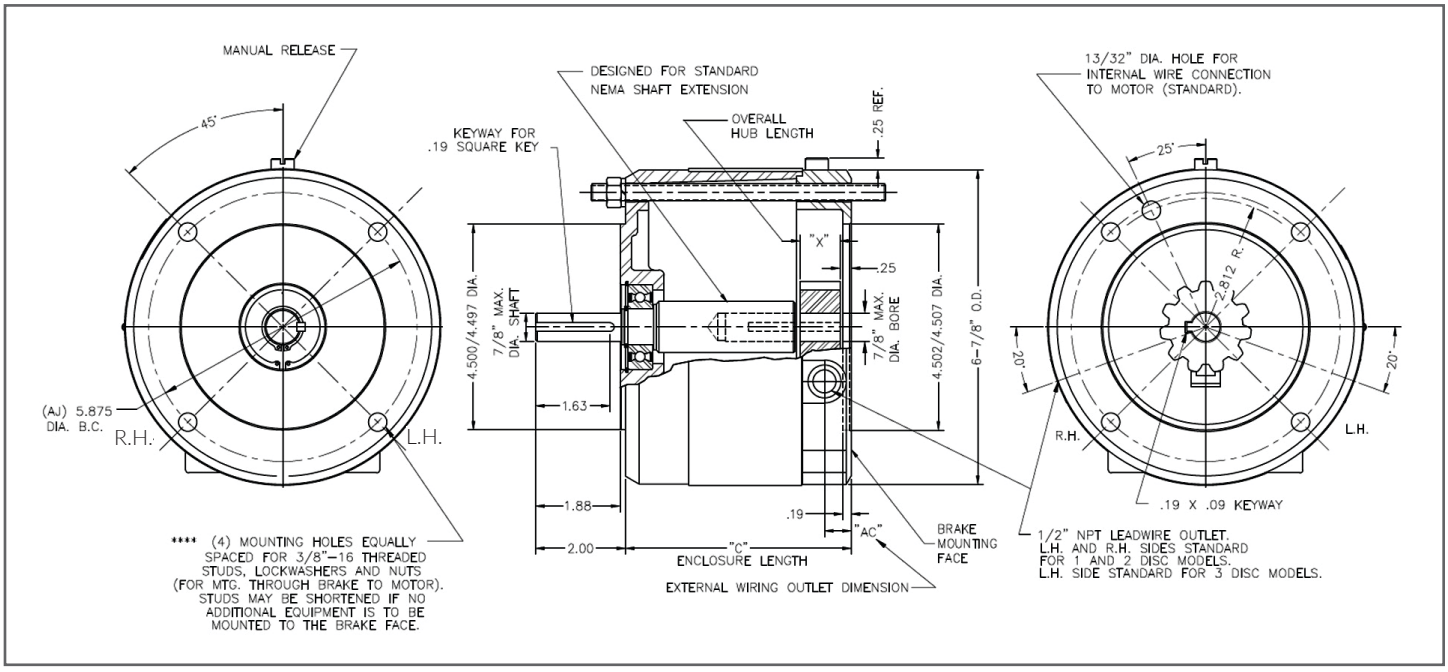
Available Options:

	Suffix
Foot Mounting Bracket	F
Heavy-Duty Rotating Friction Disc(s) with Hardened Steel Hub (when applicable)	H
Marine/Maritime Duty with MIL-SPEC paint per TT-P-645 & MIL-DTL-15090	M
Marine/Maritime Duty	N
Tropical Protection	P
Internal Space Heater	R
Stainless Steel Stationary Disc(s)	S
Class H Insulation	Q
Vertical Mounting, all position	V
Vertical Over, or above motor	VO
Vertical Under, or below motor	VU
Micro-Switch Warning	XS

Refer to: Page 100-105 for brake option Description

Torque lb-ft	Model #	Enclosure	Construction	Weight Lbs	Inertia lb-ft^2	Dimensions in inches			
						C	X		AC
							1-Piece Shaft*	2-Piece Shaft*	
1.5	61001-551	NEMA 2	Cast Aluminum	11	0.006	4.94	0.81	0.88	0.59
3	61003-551	NEMA 2	Cast Aluminum	11	0.006	4.94	0.81	0.88	0.59
6	62006-551	NEMA 2	Cast Aluminum	12	0.010	4.94	0.81	0.88	0.59
10	62010-551	NEMA 2	Cast Aluminum	12	0.010	4.94	0.81	–	0.59
15	63015-551	NEMA 2	Cast Aluminum	13	0.014	5.31	1.19	–	0.87
20	63020-551	NEMA 2	Cast Aluminum	13	0.014	5.31	1.19	–	0.87

*Brakes rated 1.5 through 6 lb-ft include “2-piece shaft” as standard. This includes a separate hub and shaft.
The “1-piece” hub and shaft is available as a modification.
Brakes rated 10 through 20 lb-ft have a 1-piece hub and shaft.

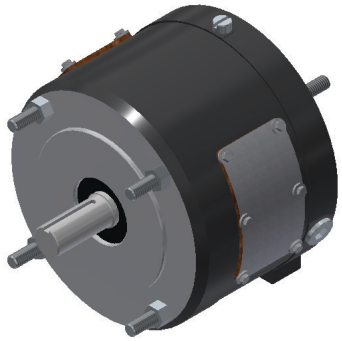


Spec –551 Outline

60 Series Double C Face

Flexmount

NEMA Frame Sizes 56C, 143TC, 145TC
Torque Ratings: 1.5 to 20 lb-ft



Enclosure Types:

Waterproof/Dusttight Enclosure NEMA 4, CSA 4, IP56
Aluminum bracket and housing with stainless steel caps
Exterior Paint: Gray enamel
Nameplate: Stainless steel

Washdown Enclosure NEMA 4X, CSA 4, IP56 WHITE BISSC
Aluminum bracket and housing with stainless steel caps and FDA Approved white epoxy paint
Nameplate: Stainless steel

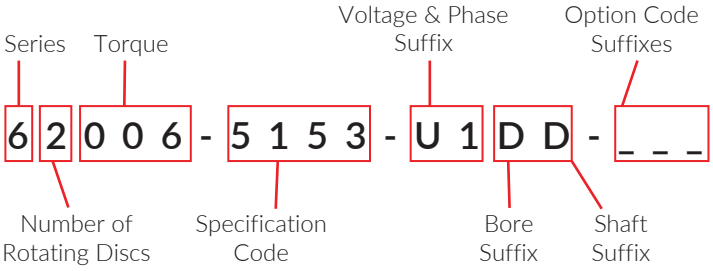
Specifications:

Reaction Time: 15-20 milliseconds (release and set)
AK: 4.50" Register
AJ: 5.88" Bolt Circle
Thermal Capacity: 6 HPS/Min
Maximum RPM: 3600
CSA File: #LR13814 (AC only)
Coil insulation: AC= Class B : 1.5, 3, 6, 10 &15 lb-ft brakes (Class H optional)
Class H : 20 lb-ft brakes
DC= Class B Only
Manual: NEMA 4=BK4652
NEMA 4X=BK4646

Design Features:

Direct acting design with no linkages to break
One moving part for longer life
Torque adjustable for specific applications
Splined hub
Plated internal parts - RoHS compliant
Spring set, electrically released
Lead wires for internal or conduit connections
Manual release, automatic reset
All position brake available

Brake Model Number Definition



Standard Hub Bore & Shaft Sizes:

Suffix	Bore	Shaft	Keyway
DD	5/8"	5/8"	3/16" x 3/32"
FF	7/8"	7/8"	3/16" x 3/32"

Special bore sizes available

Standard AC Voltages (single phase only):

Suffix	Voltage
Y1	110/220V, 50Hz
11	115/208-230V, 60 Hz
R1	115/230V, 60 Hz
51	208-230/460V, 60 Hz
T1	220/440V, 60 Hz
U1	230/460V, 60 Hz or 190/380V, 50 Hz
P1	575V, 60 Hz

Special voltages available

Optional DC Voltages:

Suffix	Voltage
A0	12
B0	24
C0	36
D0	48
70	76
E0	95
H0	115
M0	230

Special voltages available

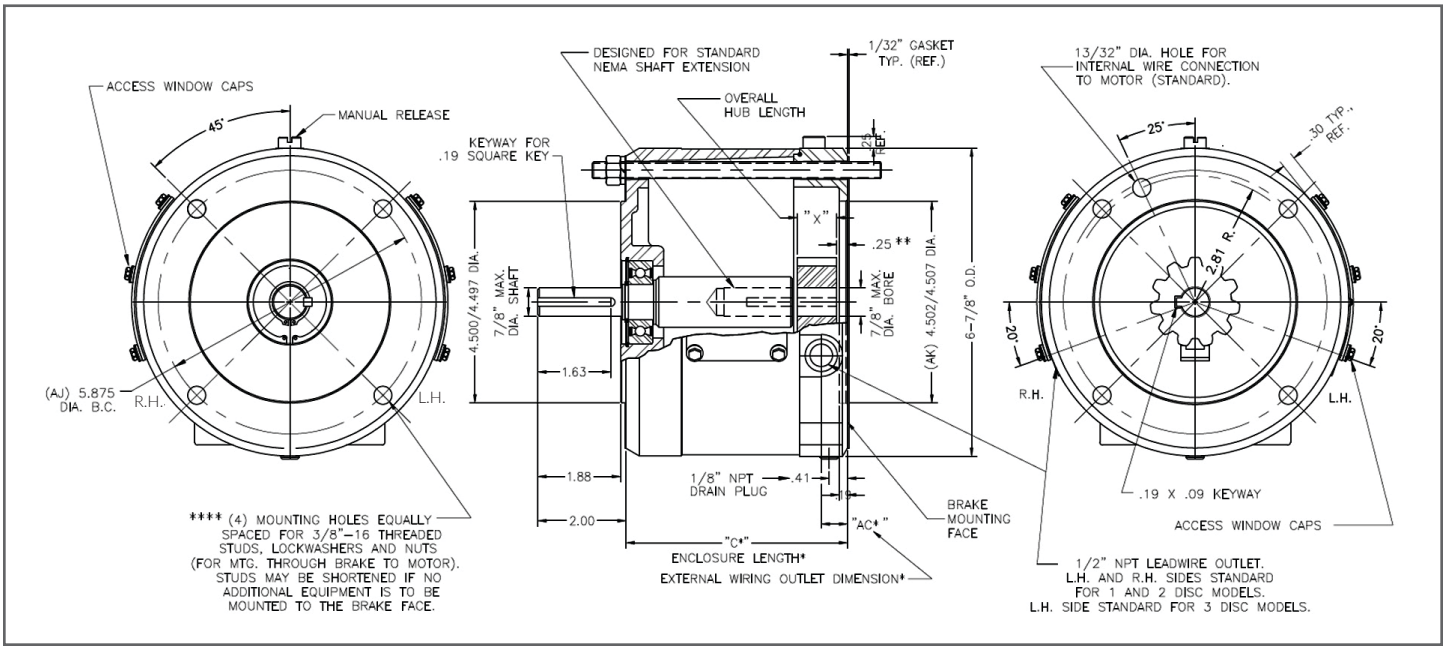
Available Options:

	Suffix
Foot Mounting Bracket	F
Heavy-Duty Rotating Friction Disc(s) with Hardened Steel Hub (when applicable)	H
Marine/Maritime Duty with MIL-SPEC paint per TT-P-645 & MIL-DTL-15090	M
Marine/Maritime Duty	N
Tropical Protection	P
Internal Space Heater	R
Stainless Steel Stationary Disc(s)	S
Class H Insulation	Q
Vertical Mounting, all position	V
Vertical Over, or above motor	VO
Vertical Under, or below motor	VU
Micro-Switch Warning	XS

Refer to: Page 100-105 for brake option Description

Torque lb-ft	Model #	Enclosure	Construction	Weight lbs	Inertia lb-ft²	Dimensions in inches			
						C	X		AC
							1-Piece Shaft*	2-Piece Shaft*	
1.5	61001-5153	NEMA 4	Cast Aluminum	11	0.006	4.94	0.81	0.88	0.59
	61001-5155	NEMA 4X	Cast Aluminum	11	0.006	4.94	0.81	0.88	0.59
3	61003-5153	NEMA 4	Cast Aluminum	11	0.006	4.94	0.81	0.88	0.59
	61003-5155	NEMA 4X	Cast Aluminum	11	0.006	4.94	0.81	0.88	0.59
6	62006-5153	NEMA 4	Cast Aluminum	11	0.010	4.94	0.81	0.88	0.59
	62006-5155	NEMA 4X	Cast Aluminum	11	0.010	4.94	0.81	0.88	0.59
10	62010-5153	NEMA 4	Cast Aluminum	12	0.010	4.94	0.81	–	0.59
	62010-5155	NEMA 4X	Cast Aluminum	12	0.010	4.94	0.81	–	0.59
15	63015-5153	NEMA 4	Cast Aluminum	13	0.014	5.31	1.19	–	0.87
	63015-5155	NEMA 4X	Cast Aluminum	13	0.014	5.31	1.19	–	0.87
20	63020-5153	NEMA 4	Cast Aluminum	13	0.014	5.31	1.19	–	0.87
	63020-5155	NEMA 4X	Cast Aluminum	13	0.014	5.31	1.19	–	0.87

*Brakes rated 1.5 through 6 lb-ft include “2-piece shaft” as standard. This includes a separate hub and shaft. The “1-piece” hub and shaft is available as a modification.
Brakes rated 10 through 20 lb-ft have a 1-piece hub and shaft.



Specs –5153 and –5155 Outline

1-70 Series End Mount

Flexmount

NEMA Frame Sizes 182TC through 256TC/UC
Torque Ratings: 1.5 to 25 lb-ft



Enclosure Types:

Dripproof Enclosure: NEMA 2, CSA 2, IP41
Stamped steel cover with aluminum:
bracket & cast iron adapter, 1.5 - 20 lb-ft
Stamped steel cover with cast iron:
bracket & adaptor, 25 lb-ft
External paint: Red primer
Nameplate: Thermally printed adhesive label (pre-masked)

Specifications:

Reaction Time: 15-20 milliseconds (release and set)
AK: 8.50" Register
AJ: 7.25" Bolt Circle
Thermal Capacity: 6 HPS/Min
Maximum RPM: 3600
CSA File: #LR13814
Coil insulation: AC= Class B: 1.5 – 15 lb-ft (Class H Optional)
Class H: 20 & 25 lb-ft
DC= Class B Only
Manual: BK4755 (AC only)

Standard AC Voltages (single phase only):

Suffix	Voltage
Y1	110/220V, 50Hz
11	115/208-230V, 60 Hz
R1	115/230V, 60 Hz
51	208-230/460V, 60 Hz
T1	220/440V, 60 Hz
U1	230/460V, 60 Hz or 190/380V, 50 Hz
P1	575V, 60 Hz

Special voltages available

Design Features:

Direct acting design with no linkages to break
One moving part for longer life
Torque adjustable for specific applications
Splined hub
Plated internal parts - RoHS compliant
Spring set, electrically released
Lead wires for internal or conduit connections
Manual release, automatic reset

Optional DC Voltages:

Suffix	Voltage
A0	12
B0	24
C0	36
D0	48
70	76
E0	95
H0	115
M0	230

Special voltages available

Standard Hub Bore Sizes:

Suffix	Size	Keyway
D	5/8"	3/16" x 3/32"
F	7/8"	3/16" x 3/32"

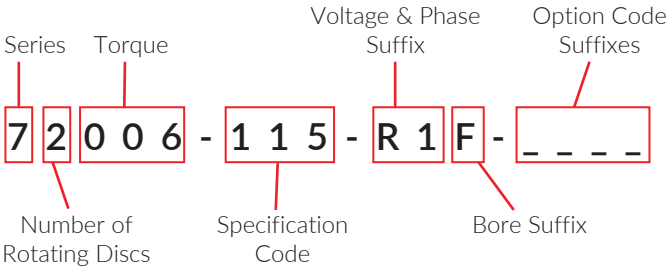
Special bore sizes available

Available Options:

	Suffix
Heavy-Duty Rotating Friction Disc(s) with Hardened Steel Hub	H
Marine/Maritime Duty with MIL-SPEC paint per TT-P-645 & MIL-DTL-15090	M
Marine/Maritime Duty	N
Tropical Protection	P
Internal Space Heater	R
Stainless Steel Stationary Disc(s)	S
Through Shaft	T
Class H Insulation	Q
Vertical Mounting, all positions	V
Vertical Over, or above motor	VO
Vertical Under, or below motor	VU
Micro-Switch Warning	XS

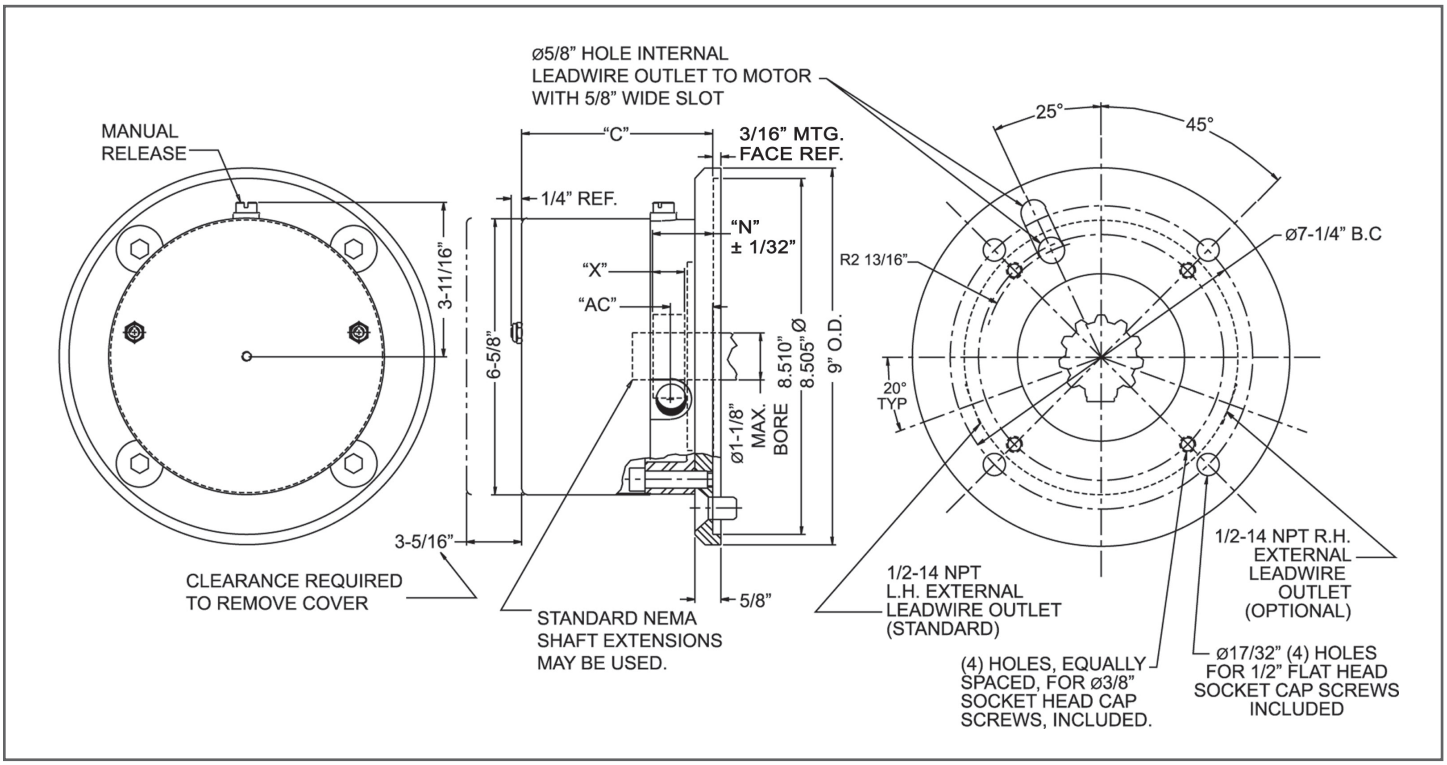
Refer to: Page 100-105 for brake option Description

Brake Model Number Definition



NEMA 2 / IP41Enclosure

Torque lb-ft	Model #	Enclosure	Construction	Weight lbs	Inertia lb-ft^2	Dimensions in inches			
						C	N	X	AC
1.5	71001-115	NEMA 2	Aluminum/Steel	10	0.006	4.57	1.69	0.88	1.21
3	71003-115	NEMA 2	Aluminum/Steel	10	0.006	4.57	1.69	0.88	1.21
6	72006-115	NEMA 2	Aluminum/Steel	10	0.010	4.57	1.69	0.88	1.21
10	72010-115	NEMA 2	Aluminum/Steel	10	0.010	4.94	1.87	1.19	1.50
15	73015-115	NEMA 2	Aluminum/Steel	11	0.015	4.94	1.87	1.19	1.50
20	73020-115	NEMA 2	Aluminum/Steel	11	0.015	4.94	1.87	1.19	1.50
25	74025-115	NEMA 2	Cast Iron/Steel	18	0.020	5.63	2.44	1.34	2.19



Spec –115 Outline

70 Series End Mount

8700 Style (Dings Standard Hub)

NEMA Frame Sizes 182TC through 256TC/UC
Torque Ratings: 10 to 105 lb-ft

Dripproof NEMA 2, CSA 2, IP43



No Disassembly Required for Mounting

70 Series Specifications:

Reaction Time:	20-25 milliseconds (release and set)
AK:	8.50" Register
AJ:	7.25" Bolt Circle
Maximum RPM:	3600
CSA File:	#LR13814
Coil insulation:	Class H standard
External paint:	Red primer
Lead wires:	Internal or conduit connections
Nameplate:	Thermally printed adhesive label (pre-masked)
Manual:	BK4772

Design Features:

RoHS compliant
No disassembly required for mounting
Direct acting design with no linkages to break
Torque adjustable for specific applications
External manual release with automatic reset
One moving part for longer life
Splined hub
Spring set, electrically released

Standard Hub Bore Sizes:

Suffix	Size	Keyway
F	7/8"	3/16" x 3/32"
H	1 1/8"	1/4" x 1/8"
K	1 3/8"	5/16" x 5/32"
M	1 5/8"	3/8" x 3/16"

Special bore sizes available

Standard AC Voltages (single or three phase):

Suffix	Voltage
Y1	110/220V, 50Hz (single phase only)
11	115/208-230V, 60 Hz (single phase only)
R1	115/230V, 60 Hz (single phase only)
51 or 53	208-230/460V, 60 Hz
T1 or T3	220/440V, 60 Hz
U1 or U3	230/460V, 60 Hz or 190/380V, 50 Hz
P1 or P3	575V, 60 Hz

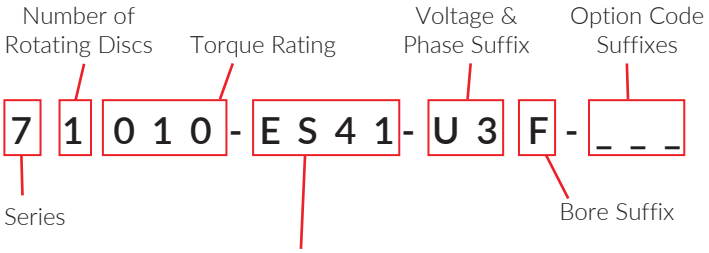
Special voltages available

Available Options:

	Suffix
Adapter to Larger Frame Size(s)	A
Reverse Adapter	AB
Foot Mounting Bracket	F
Heavy-Duty Rotating Friction Disc(s) with Hardened Steel Hub	H
Marine/Maritime Duty with MIL-SPEC paint per TT-P-645 & MIL-DTL-15090	M
Marine/Maritime Duty	N
Tropical Protection	P
Internal Space Heater	R
Stainless Steel Stationary Disc(s)	S
Through Shaft	T
Vertical Mounting, all positions	V
Vertical Mounting, over motor	VO
Vertical Mounting, under motor	VU
Micro-Switch Warning	XS

Refer to: Page 100-105 for brake option Description

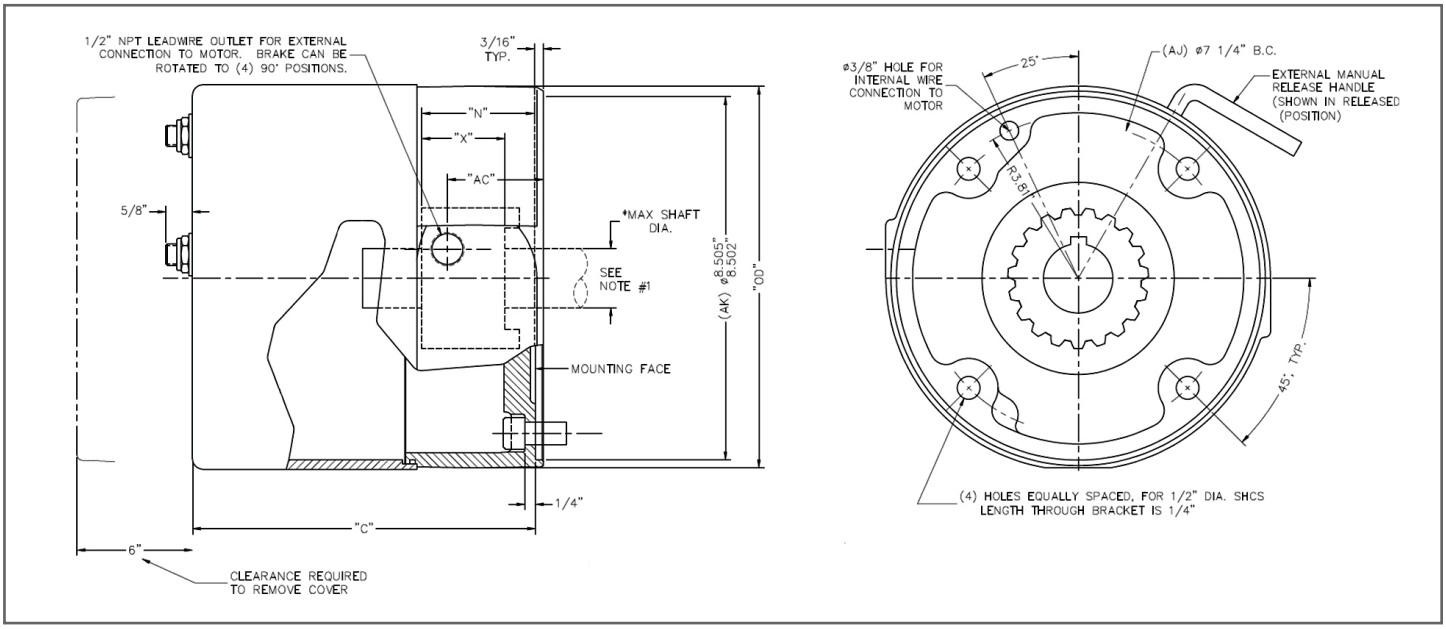
Brake Model Number Definition



Enclosure Type	Material	Spec.
NEMA 2 / IP43	Cast Iron/Steel	ES41
NEMA 2 / IP43	Cast Iron	EC41

NEMA 2 / IP43 Enclosure – DINGS STANDARD Hub Configuration

Torque lb-ft	Model #	Construction	Weight lbs	Thermal Capacity HPS/Min	Inertia lb-ft^2	Dimensions in inches			
						C	"N" Hub Location	"X" Hub Length	AC
10	71010-ES41	Cast Iron/Steel	30	10	.047	6.91	1.50	1.00	1.13
	71010-EC41	Cast Iron	41	10	.047	6.91	1.50	1.00	1.13
15	71015-ES41	Cast Iron/Steel	30	10	.047	6.91	1.50	1.00	1.13
	71015-EC41	Cast Iron	41	10	.047	6.91	1.50	1.00	1.13
25	72025-ES41	Cast Iron/Steel	32	11	.075	6.91	2.00	1.50	1.13
	72025-EC41	Cast Iron	43	11	.075	6.91	2.00	1.50	1.13
35	72035-ES41	Cast Iron/Steel	32	11	.075	6.91	2.00	1.50	1.13
	72035-EC41	Cast Iron	43	11	.075	6.91	2.00	1.50	1.13
50	73050-ES41	Cast Iron/Steel	37	12	.103	7.47	2.50	2.00	1.69
	73050-EC41	Cast Iron	48	12	.103	7.47	2.50	2.00	1.69
75	74075-ES41	Cast Iron/Steel	42	13	.131	8.03	3.00	2.50	2.25
	74075-EC41	Cast Iron	53	13	.131	8.03	3.00	2.50	2.25
105	74105-ES41	Cast Iron/Steel	42	13	.131	8.03	3.00	2.50	2.25
	74105-EC41	Cast Iron	53	13	.131	8.03	3.00	2.50	2.25



Specs –ES41 and –EC41 Outline

70 Series End Mount

8700 Style (Alternate Hub Configuration)

NEMA Frame Sizes 182TC through 256TC/UC
Torque Ratings: 10 to 105 lb-ft

Dripproof NEMA 2, CSA 2, IP43



No Disassembly Required for Mounting

70 Series Specifications:

Reaction Time:	20-25 milliseconds (release and set)
AK:	8.50" Register
AJ:	7.25" Bolt Circle
Maximum RPM:	3600
CSA File:	#LR13814
Coil insulation:	Class H standard
External paint:	Red primer
Lead wires:	Internal or conduit connections
Nameplate:	Thermally printed adhesive label (pre-masked)
Manual:	BK4772S

Design Features:

RoHS compliant
No disassembly required for mounting
Direct acting design with no linkages to break
Torque adjustable for specific applications
External manual release with automatic reset
One moving part for longer life
Splined hub
Spring set, electrically released

Standard AC Voltages (single or three phase):

Suffix	Voltage
Y1	110/220V, 50Hz (single phase only)
11	115/208-230V, 60 Hz (single phase only)
R1	115/230V, 60 Hz (single phase only)
51 or 53	208-230/460V, 60 Hz
T1 or T3	220/440V, 60 Hz
U1 or U3	230/460V, 60 Hz or 190/380V, 50 Hz
P1 or P3	575V, 60 Hz

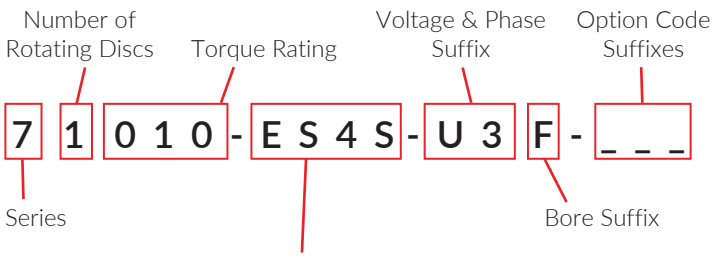
Special voltages available

Standard Hub Bore Sizes:

Suffix	Size	Keyway
F	7/8"	3/16" x 3/32"
H	1 1/8"	1/4" x 1/8"
K	1 3/8"	5/16" x 5/32"
M	1 5/8"	3/8" x 3/16"

Special bore sizes available

Brake Model Number Definition



Enclosure Type	Material	Spec.
NEMA 2 / IP43	Cast Iron/Steel	ES4S
NEMA 2 / IP43	Cast Iron	EC4S

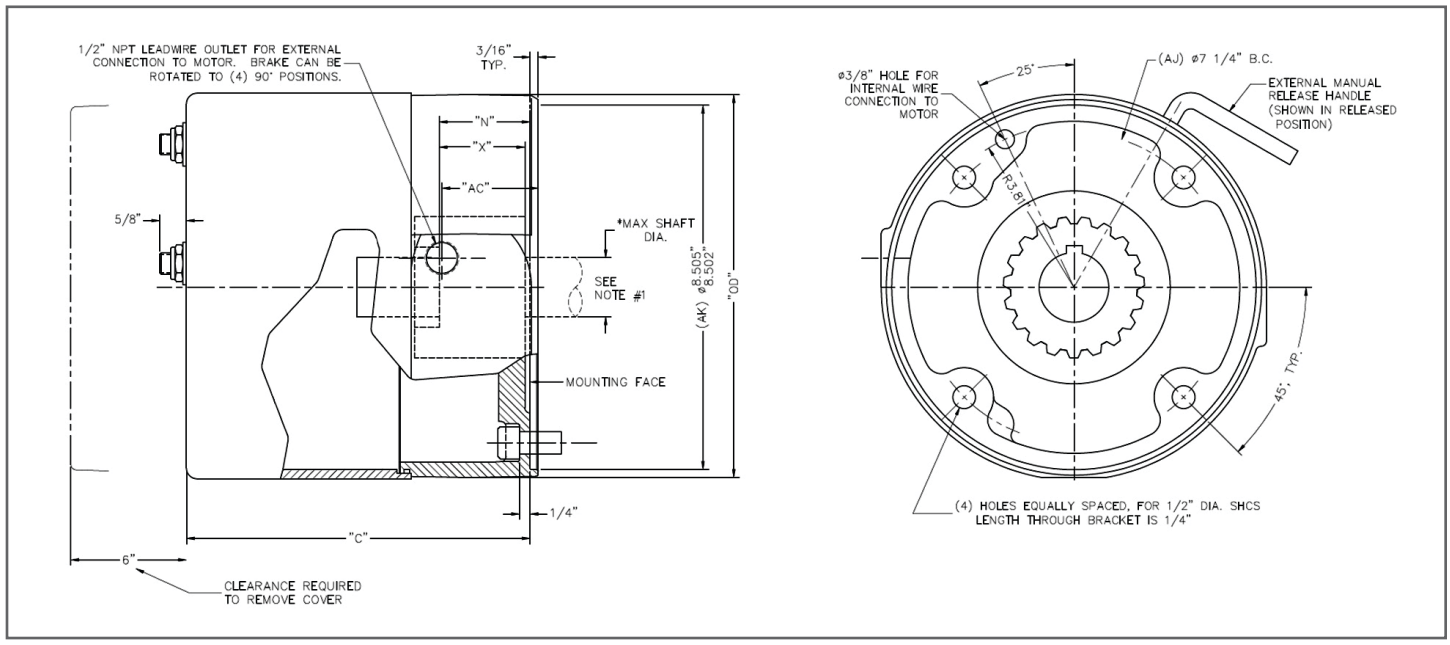
Available Options:

	Suffix
Adapter to Larger Frame Size(s)	A
Reverse Adapter	AB
Foot Mounting Bracket	F
Heavy-Duty Rotating Friction Disc(s) with Hardened Steel Hub	H
Marine/Maritime Duty with MIL-SPEC paint per TT-P-645 & MIL-DTL-15090	M
Marine/Maritime Duty	N
Tropical Protection	P
Internal Space Heater	R
Stainless Steel Stationary Disc(s)	S
Through Shaft	T
Vertical Mounting, all position	V
Vertical Mounting, over motor	VO
Vertical Mounting, under motor	VU
Micro-Switch Warning	XS

Refer to: Page 100-105 for brake option Description

NEMA 2 / IP43 Enclosure – Alternate Hub Configuration

Torque lb-ft	Model #	Construction	Weight lbs.	Thermal Capacity HPS/Min	Inertia lb-ft^2	Dimensions in inches			
						C	"N" Hub Location	"X" Hub Length	AC
10	71010-ES4S	Cast Iron/Steel	30	10	.045	6.91	1.13	1.00	1.13
	71010-EC4S	Cast Iron	41	10	.045	6.91	1.13	1.00	1.13
15	71015-ES4S	Cast Iron/Steel	30	10	.045	6.91	1.13	1.00	1.13
	71015-EC4S	Cast Iron	41	10	.045	6.91	1.13	1.00	1.13
25	71025-ES4S	Cast Iron/Steel	30	10	.045	6.91	1.13	1.00	1.13
	71025-EC4S	Cast Iron	41	10	.045	6.91	1.13	1.00	1.13
35	72035-ES4S	Cast Iron/Steel	32	11	.074	6.91	1.13	1.00	1.13
	72035-EC4S	Cast Iron	43	11	.074	6.91	1.13	1.00	1.13
50	72050-ES4S	Cast Iron/Steel	32	12	.074	6.91	1.63	1.50	1.13
	72050-EC4S	Cast Iron	43	12	.074	6.91	1.63	1.50	1.13
75	73075-ES4S	Cast Iron/Steel	37	13	.077	7.47	1.63	1.50	1.69
	73075-EC4S	Cast Iron	48	13	.077	7.47	1.63	1.50	1.69
105	74105-ES4S	Cast Iron/Steel	42	13	.136	8.03	2.13	2.00	2.25
	74105-EC4S	Cast Iron	53	13	.136	8.03	2.13	2.00	2.25



Specs –ES4S and –EC4S Outline

70 Series End Mount

8700 Style (Dings Standard Hub)

NEMA Frame Sizes 182TC through 256TC/UC
Torque Ratings: 10 to 105 lb-ft

NEMA 4 / 4X, CSA 4, IP56
without hub seal for Non-TEFC applications



No Disassembly Required for Mounting

NEMA 4 / 4X Non-TEFC Specifications:

Reaction Time:	20-25 milliseconds (release and set)
AK:	8.50" Register
AJ:	7.25" Bolt Circle
Maximum RPM:	3600
CSA File:	#LR13814
Coil insulation:	Class H standard
Enclosure:	Cast iron
External paint:	NEMA 4, Red primer NEMA 4X, FDA approved white epoxy
Lead wires:	Internal or conduit connections
Nameplate:	Stamped stainless steel
Manual:	NEMA 4=BK4773 NEMA 4X=BK4774

Design Features:

RoHS compliant
No disassembly required for mounting
Direct acting design with no linkages to break
Torque adjustable for specific applications
External manual release with automatic reset
One moving part for longer life
Splined hub
Spring set, electrically released

Standard AC Voltages (single or three phase):

Suffix	Voltage
Y1	110/220V, 50Hz (single phase only)
11	115/208-230V, 60 Hz (single phase only)
R1	115/230V, 60 Hz (single phase only)
51 or 53	208-230/460V, 60 Hz
T1 or T3	220/440V, 60 Hz
U1 or U3	230/460V, 60 Hz or 190/380V, 50 Hz
P1 or P3	575V, 60 Hz

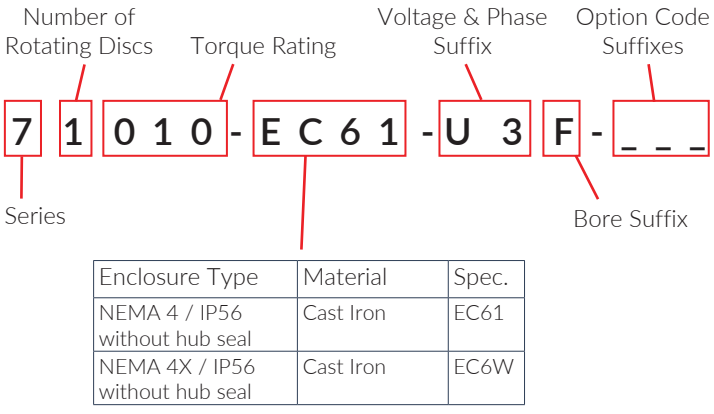
Special voltages available

Standard Hub Bore Sizes:

Suffix	Size	Keyway
F	7/8"	3/16" x 3/32"
H	1 1/8"	1/4" x 1/8"
K	1 3/8"	5/16" x 5/32"
M	1 5/8"	3/8" x 3/16"

Special bore sizes available

Brake Model Number Definition



Enclosure Type	Material	Spec.
NEMA 4 / IP56 without hub seal	Cast Iron	EC61
NEMA 4X / IP56 without hub seal	Cast Iron	EC6W

Available Options:

	Suffix
Adapter to Larger Frame Size(s)	A
Reverse Adapter	AB
Foot Mounting Bracket	F
Heavy-Duty Rotating Friction Disc(s) with Hardened Steel Hub	H
Marine/Maritime Duty with MIL-SPEC paint per TT-P-645 & MIL-DTL-15090	M
Marine/Maritime Duty	N
Tropical Protection	P
Internal Space Heater	R
Stainless Steel Stationary Disc(s)	S
Through Shaft	T
Vertical Mounting, all positions	V
Vertical Mounting, over motor	VO
Vertical Mounting, under motor	VU
Micro-Switch Warning	XS

Refer to: Page 100-105 for brake option Description

NEMA 4 / IP56 Enclosure without hub seal – DINGS STANDARD Hub Configuration

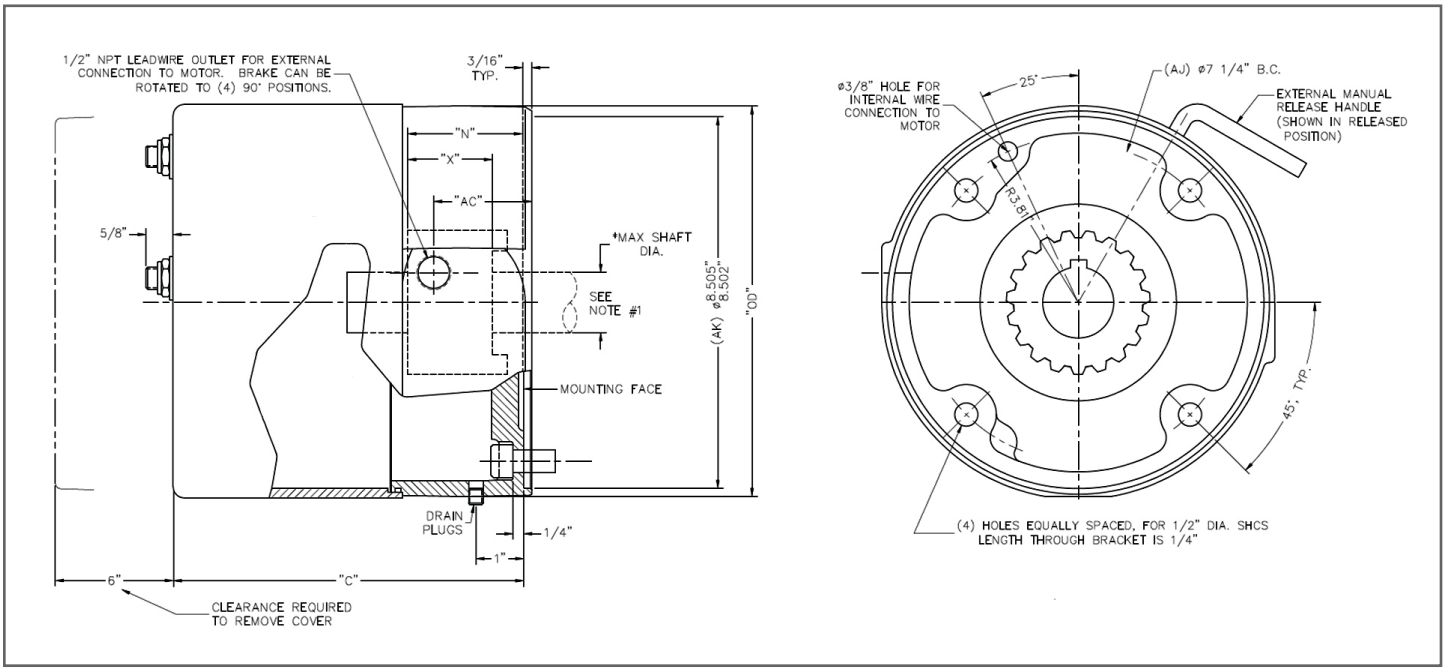
Cast Iron Construction

Torque lb-ft	Model #	Weight lbs	Thermal Capacity HPS/Min	Inertia lb-ft²	Dimensions in inches			
					C	"N" Hub Location	"X" Hub Length	AC
10	71010-EC61	41	10	.047	6.91	1.50	1.00	1.13
15	71015-EC61	41	10	.047	6.91	1.50	1.00	1.13
25	72025-EC61	43	11	.075	6.91	2.00	1.50	1.13
35	72035-EC61	43	11	.075	6.91	2.00	1.50	1.13
50	73050-EC61	48	12	.103	7.47	2.50	2.00	1.69
75	74075-EC61	53	13	.130	8.03	3.00	2.50	2.25
105	74105-EC61	53	13	.130	8.03	3.00	2.50	2.25

WASHDOWN NEMA 4X / IP56 Enclosure without hub seal – DINGS STANDARD Hub Configuration

Cast Iron Construction

Torque lb-ft	Model #	Weight lbs	Thermal Capacity HPS/Min	Inertia lb-ft²	Dimensions in inches			
					C	"N" Hub Location	"X" Hub Length	AC
10	71010-EC6W	41	10	.047	6.91	1.50	1.00	1.13
15	71015-EC6W	41	10	.047	6.91	1.50	1.00	1.13
25	72025-EC6W	43	11	.075	6.91	2.00	1.50	1.13
35	72035-EC6W	43	11	.075	6.91	2.00	1.50	1.13
50	73050-EC6W	48	12	.103	7.47	2.50	2.00	1.69
75	74075-EC6W	53	13	.130	8.03	3.00	2.50	2.25
105	74105-EC6W	53	13	.130	8.03	3.00	2.50	2.25



Specs –EC61 and –EC6W Outline

70 Series End Mount

8700 Style (Alternate Hub Configuration)

NEMA Frame Sizes 182TC through 256TC/UC
Torque Ratings: 10 to 105 lb-ft

NEMA 4 / 4X, CSA 4, IP56
without hub seal for Non-TEFC applications



No Disassembly Required for Mounting

NEMA 4 / 4X Non-TEFC Specifications:

Reaction Time:	20-25 milliseconds (release and set)
AK:	8.50" Register
AJ:	7.25" Bolt Circle
Maximum RPM:	3600
CSA File:	#LR13814
Coil insulation:	Class H standard
Enclosure:	Cast iron
External paint:	Red primer
Lead wires:	Conduit connections
Nameplate:	Stamped stainless steel
Manual:	NEMA 4 = BK4773S NEMA 4X = BK4774S

Design Features:

RoHS compliant
No disassembly required for mounting
Direct acting design with no linkages to break
Torque adjustable for specific applications
External manual release with automatic reset
One moving part for longer life
Splined hub
Spring set, electrically released

Standard Hub Bore Sizes:

Suffix	Size	Keyway
F	7/8"	3/16" x 3/32"
H	1 1/8"	1/4" x 1/8"
J	1 1/4"	1/4" x 1/8"
K	1 3/8"	5/16" x 5/32"
M	1 5/8"	3/8" x 3/16"

Special bore sizes available

Standard AC Voltages (single or three phase):

Suffix	Voltage
Y1	110/220V, 50Hz (single phase only)
11	115/208-230V, 60 Hz (single phase only)
R1	115/230V, 60 Hz (single phase only)
51 or 53	208-230/460V, 60 Hz
T1 or T3	220/440V, 60 Hz
U1 or U3	230/460V, 60 Hz or 190/380V, 50 Hz
P1 or P3	575V, 60 Hz

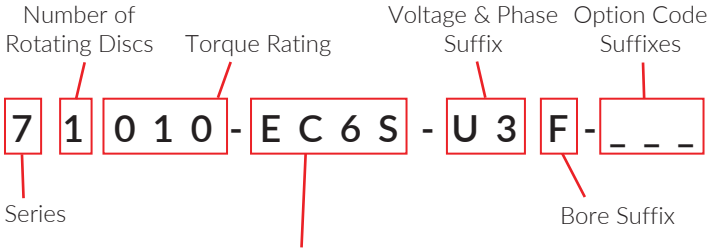
Special voltages available

Available Options:

	Suffix
Adapter to Larger Frame Size(s)	A
Reverse Adapter	AB
Foot Mounting Bracket	F
Heavy-Duty Rotating Friction Disc(s) with Hardened Steel Hub	H
Marine/Maritime Duty with MIL-SPEC paint per TT-P-645 & MIL-DTL-15090	M
Marine/Maritime Duty	N
Tropical Protection	P
Internal Space Heater	R
Stainless Steel Stationary Disc(s)	S
Through Shaft	T
Vertical Mounting, all positions	V
Vertical Mounting, over motor	VO
Vertical Mounting, under motor	VU
Micro-Switch Warning	XS

Refer to: Page 100-105 for brake option Description

Brake Model Number Definition

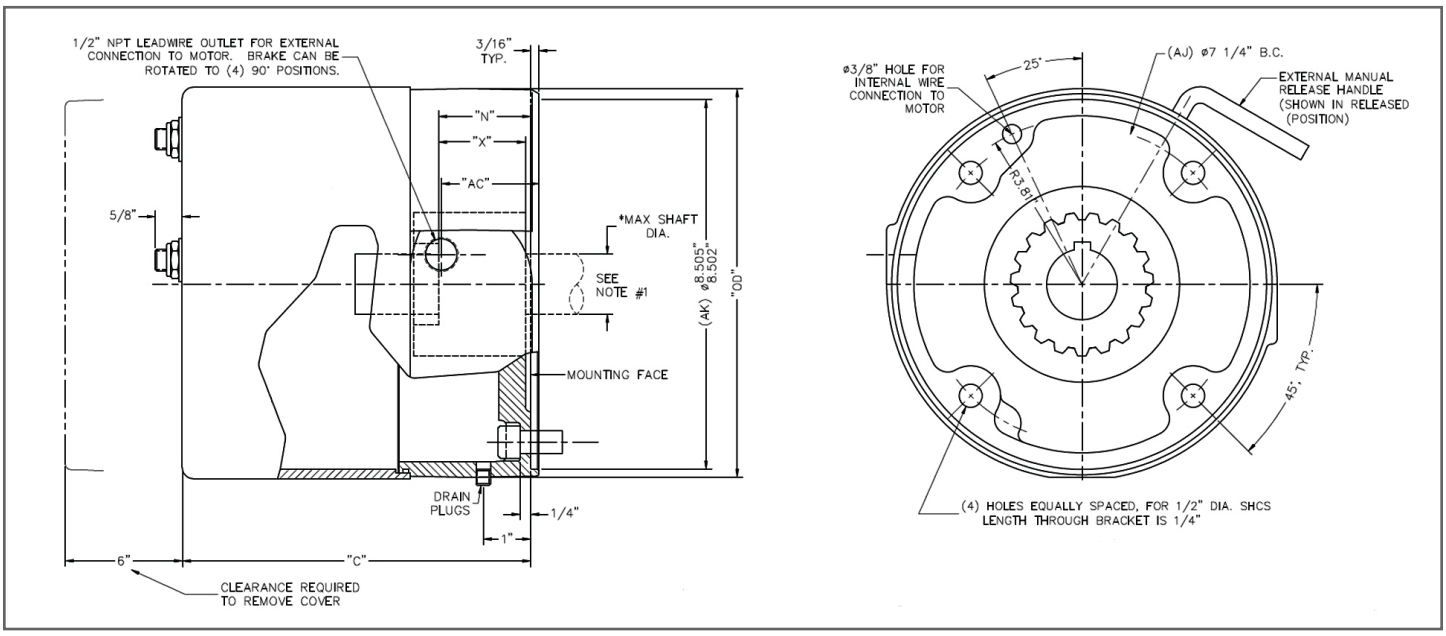


Enclosure Type	Material	Spec.
NEMA 4 / 4X / IP56 without hub seal	Cast Iron	EC6S
NEMA 4X / IP56 without hub seal	Cast Iron	EC6T

NEMA 4 / IP56 Enclosure without hub seal - Alternate hub configuration

Cast Iron Construction

Torque lb-ft	Model #	Weight lbs	Thermal Capacity HPS/Min	Inertia lb-ft^2	Dimensions in inches			
					C	"N" Hub Location	"X" Hub Length	AC
10	71010-EC6S	41	10	.047	6.91	1.13	1.00	1.13
	71010-EC6T	41	10	.047	6.91	1.13	1.00	1.13
15	71015-EC6S	41	10	.047	6.91	1.13	1.00	1.13
	71015-EC6T	41	10	.047	6.91	1.13	1.00	1.13
25	71025-EC6S	43	10	.075	6.91	1.13	1.00	1.13
	71025-EC6T	43	10	.075	6.91	1.13	1.00	1.13
35	72035-EC6S	43	11	.075	6.91	1.13	1.00	1.13
	72035-EC6T	43	11	.075	6.91	1.13	1.00	1.13
50	72050-EC6S	48	11	.075	7.47	1.63	1.50	1.69
	72050-EC6T	48	11	.075	7.47	1.63	1.50	1.69
75	73075-EC6S	53	12	.103	8.03	1.63	1.50	2.25
	73075-EC6T	53	12	.103	8.03	1.63	1.50	2.25
105	74105-EC6S	53	13	.130	8.03	2.13	2.00	2.25
	74105-EC6T	53	13	.130	8.03	2.13	2.00	2.25



Specs –EC6S and –EC6T Outline

70 Series End Mount

8700 Style (Dings Standard Hub)

NEMA Frame Sizes 182TC through 256TC/UC
Torque Ratings: 10 to 105 lb-ft

NEMA 4, CSA 4, IP56*
with hub seal for TECF Applications



No Disassembly Required for Mounting

* To obtain full IP56 protection, the customer shaft, hub bore, key and keyway's mating surface(s) must be sealed to meet IP56. Considerations should be reviewed to appropriately seal mounting hardware as well. Contact factory for details and/or assistance.

NEMA 4 TEFC Specifications:

Reaction Time:	20-25 milliseconds (release and set)
AK:	8.50" Register
AJ:	7.25" Bolt Circle
Maximum RPM:	3600
CSA File:	#LR13814
Coil insulation:	Class H standard
Enclosure:	Cast iron
External paint:	Red primer
Lead wires:	Conduit connections
Nameplate:	Stamped stainless steel
Manual:	NEMA 4 = BK4773 NEMA 4X = BK4774

Design Features:

RoHS compliant
No disassembly required for mounting
Direct acting design with no linkages to break
Torque adjustable for specific applications
External manual release with automatic reset
One moving part for longer life
Splined hub
Spring set, electrically released

Standard AC Voltages (single or three phase):

Suffix	Voltage
Y1	110/220V, 50Hz (single phase only)
11	115/208-230V, 60 Hz (single phase only)
R1	115/230V, 60 Hz (single phase only)
51 or 53	208-230/460V, 60 Hz
T1 or T3	220/440V, 60 Hz
U1 or U3	230/460V, 60 Hz or 190/380V, 50 Hz
P1 or P3	575V, 60 Hz

Special voltages available

Standard Hub Bore Sizes:

Suffix	Size	Keyway
F	7/8"	3/16" x 3/32"
H	1 1/8"	1/4" x 1/8"
J	1 1/4"	1/4" x 1/8"
K	1 3/8"	5/16" x 5/32"
M	1 5/8"	3/8" x 3/16"

Special bore sizes available

Available Options:

Available Options:	Suffix
Adapter to Larger Frame Size(s)	A
Reverse Adapter	AB
Foot Mounting Bracket	F
Heavy-Duty Rotating Friction Disc(s) with Hardened Steel Hub	H
Marine/Maritime Duty with MIL-SPEC paint per TT-P-645 & MIL-DTL-15090	M
Marine/Maritime Duty	N
Tropical Protection	P
Internal Space Heater	R
Stainless Steel Stationary Disc(s)	S
Through Shaft	T
Vertical Mounting, all positions	V
Vertical Mounting, over motor	VO
Vertical Mounting, under motor	VU
Micro-Switch Warning	XS

Refer to: Page 100-105 for brake option Description

Brake Model Number Definition

Number of Rotating Discs		Torque Rating			Voltage & Phase Suffix		Option Code Suffixes		
7	1	0	1	0	- S C 6 1	- U 3	F	-	_ _ _
Series							Bore Suffix		

Enclosure Type	Material	Spec.
NEMA 4 / IP56	Cast Iron/Steel	SS61
NEMA 4 /IP56 with hub seal	Cast Iron	SC61
NEMA 4X / IP56 with hub seal	Cast Iron	SC6W

NEMA 4 / IP56 Enclosure with hub seal – DINGS STANDARD Hub Configuration

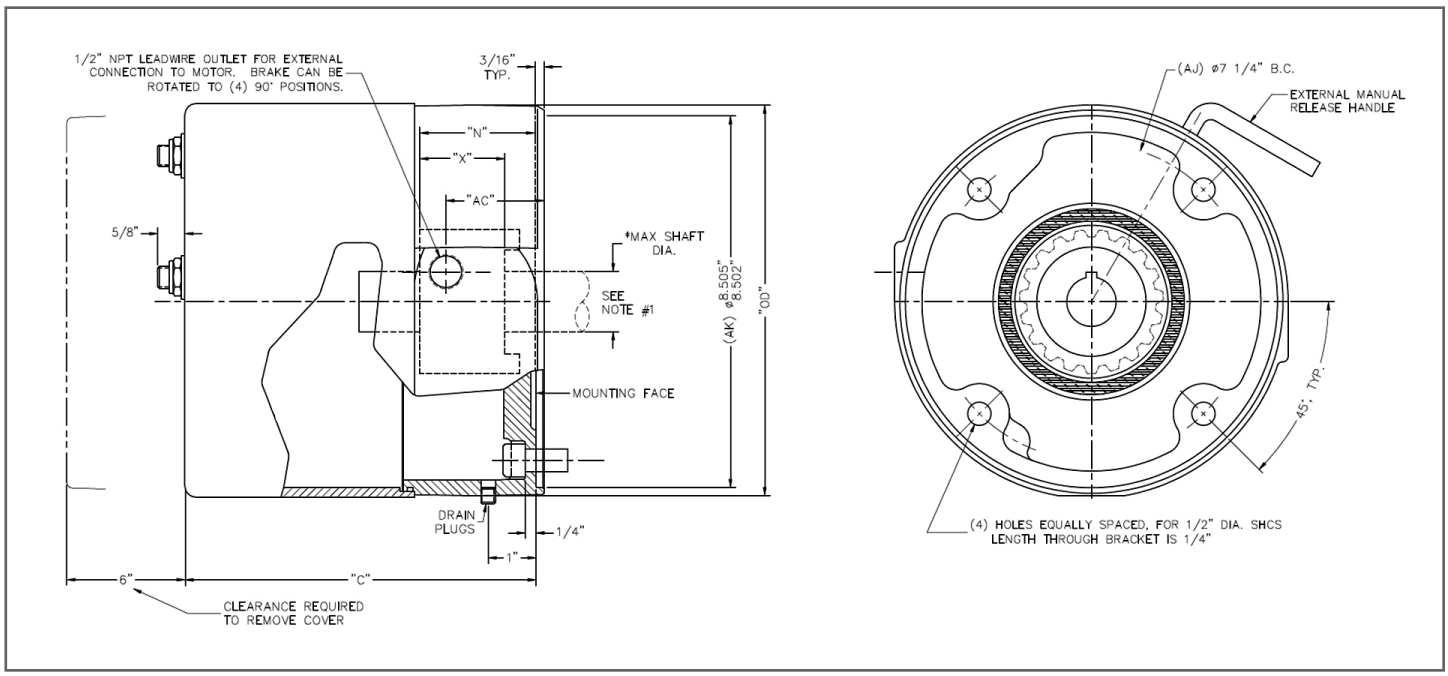
Cast Iron Construction

Torque lb-ft	Model #	Weight lbs	Thermal Capacity HPS/Min	Inertia lb-ft²	Dimensions in inches			
					C	"N" Hub Location	"X" Hub Length	AC
10	71010-SC61	41	10	.047	6.91	1.50	1.00	1.13
15	71015-SC61	41	10	.047	6.91	1.50	1.00	1.13
25	72025-SC61	43	11	.075	6.91	2.00	1.50	1.13
35	72035-SC61	43	11	.075	6.91	2.00	1.50	1.13
50	73050-SC61	48	12	.103	7.47	2.50	2.00	1.69
75	74075-SC61	53	13	.130	8.03	3.00	2.50	2.25
105	74105-SC61	53	13	.130	8.03	3.00	2.50	2.25

WASHDOWN NEMA 4 / IP56 Enclosure with hub seal – DINGS STANDARD Hub Configuration

Cast Iron Construction

Torque lb-ft	Model #	Weight lbs	Thermal Capacity HPS/Min	Inertia lb-ft²	Dimensions in inches			
					C	"N" Hub Location	"X" Hub Length	AC
10	71010-SC6W	41	10	.047	6.91	1.50	1.00	1.13
15	71015-SC6W	41	10	.047	6.91	1.50	1.00	1.13
25	72025-SC6W	43	11	.047	6.91	2.00	1.50	1.13
35	72035-SC6W	43	11	.075	6.91	2.00	1.50	1.13
50	73050-SC6W	48	12	.075	7.47	2.50	2.00	1.69
75	74075-SC6W	53	13	.103	8.03	3.00	2.50	2.25
105	74105-SC6W	53	13	.131	8.03	3.00	2.50	2.25



Specs –SC61 and –SC6W Outline

70 Series End Mount

8700 Style (Alternate Hub Configuration)

NEMA Frame Sizes 182TC through 256TC/UC
Torque Ratings: 10 to 105 lb-ft

NEMA 4, CSA 4, IP56*
with hub seal for TEFC applications



No Disassembly Required for Mounting

* To obtain full IP56 protection, the customer shaft, hub bore, key and keyway's mating surface(s) must be sealed to meet IP56. Considerations should be reviewed to appropriately seal mounting hardware as well. Contact factory for details and/or assistance.

NEMA 4 TEFC Specifications:

Reaction Time:	20-25 milliseconds (release and set)
AK:	8.50" Register
AJ:	7.25" Bolt Circle
Maximum RPM:	3600
CSA File:	#LR13814
Coil insulation:	Class H standard
Enclosure:	Cast iron
External paint:	FDA approved white epoxy
Lead wires:	Conduit connections
Nameplate:	Stamped stainless steel
Manual;	NEMA 4 = BK4773S
	NEMA 4X = BK4774S

Design Features:

RoHS compliant
No disassembly required for mounting
Direct acting design with no linkages to break
Torque adjustable for specific applications
External manual release with automatic reset
One moving part for longer life
Splined hub
Spring set, electrically released

Standard AC Voltages (single or three phase):

Suffix	Voltage
Y1	110/220V, 50Hz (single phase only)
11	115/208-230V, 60 Hz (single phase only)
R1	115/230V, 60 Hz (single phase only)
51 or 53	208-230/460V, 60 Hz
T1 or T3	220/440V, 60 Hz
U1 or U3	230/460V, 60 Hz or 190/380V, 50 Hz
P1 or P3	575V, 60 Hz

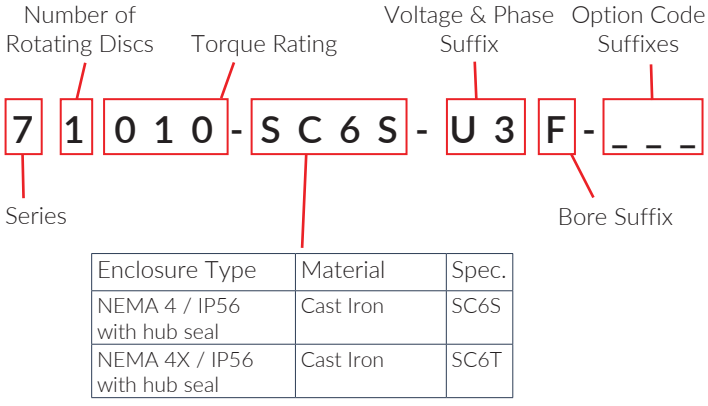
Special voltages available

Standard Hub Bore Sizes:

Suffix	Size	Keyway
F	7/8"	3/16" x 3/32"
H	1 1/8"	1/4" x 1/8"
K	1 3/8"	5/16" x 5/32"
M	1 5/8"	3/8" x 3/16"

Special bore sizes available

Brake Model Number Definition



Enclosure Type	Material	Spec.
NEMA 4 / IP56 with hub seal	Cast Iron	SC6S
NEMA 4X / IP56 with hub seal	Cast Iron	SC6T

Available Options:

	Suffix
Adapter to Larger Frame Size(s)	A
Reverse Adapter	AB
Foot Mounting Bracket	F
Heavy-Duty Rotating Friction Disc(s) with Hardened Steel Hub	H
Marine/Maritime Duty with MIL-SPEC paint per TT-P-645 & MIL-DTL-15090	M
Marine/Maritime Duty	N
Tropical Protection	P
Internal Space Heater	R
Stainless Steel Stationary Disc(s)	S
Through Shaft	T
Vertical Mounting, all positions	V
Vertical Mounting, over motor	VO
Vertical Mounting, under motor	VU
Micro-Switch Warning	XS

Refer to: Page 100-105 for brake option Description

NEMA 4 / IP56 Enclosure with hub seal - Alternate Hub Configuration

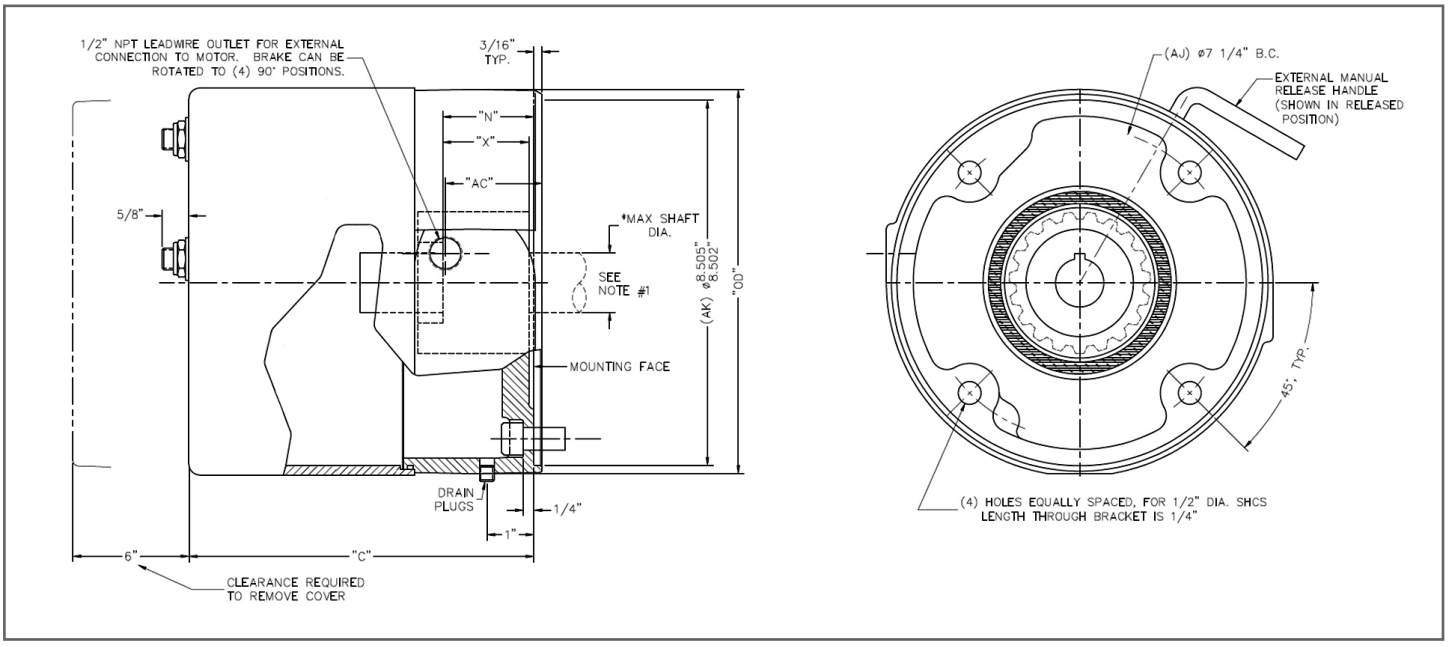
Cast Iron Construction

Torque lb-ft	Model #	Weight lbs	Thermal Capacity HPS/Min	Inertia lb-ft²	Dimensions in inches			
					C	"N" Hub Location	"X" Hub Length	AC
10	71010-SC6S	41	10	.045	6.91	1.13	1.00	1.13
15	71015-SC6S	41	10	.045	6.91	1.13	1.00	1.13
25	71025-SC6S	41	11	.045	6.91	1.13	1.00	1.13
35	72035-SC6S	43	11	.074	6.91	1.13	1.00	1.13
50	72050-SC6S	43	12	.077	6.91	1.63	1.50	1.13
75	73075-SC6S	48	13	.105	7.47	1.63	1.50	1.69
105	74105-SC6S	53	13	.136	8.03	2.13	2.00	2.25

WASHDOWN NEMA 4X / IP56 Enclosure with hub seal Alternate Hub Configuration

Cast Iron Construction

Torque lb-ft	Model #	Weight lbs	Thermal Capacity HPS/Min	Inertia lb-ft²	Dimensions in inches			
					C	"N" Hub Location	"X" Hub Length	AC
10	71010-SC6T	41	10	.045	6.91	1.13	1.00	1.13
15	71015-SC6T	41	10	.045	6.91	1.13	1.00	1.13
25	71025-SC6T	41	11	.045	6.91	1.13	1.00	1.13
35	72035-SC6T	43	11	.074	6.91	1.13	1.00	1.13
50	72050-SC6T	43	12	.077	6.91	1.63	1.50	1.13
75	73075-SC6T	48	13	.105	7.47	1.63	1.50	1.69
105	74105-SC6T	53	13	.136	8.03	2.13	2.00	2.25



Specs –SC6S and –SC6T Outline

70 Series End Mount

Diract
Heavy Duty 4 Post
NEMA Frame Sizes 182TC through 256TC
Torque Ratings: 10 to 75 lb-ft



No Disassembly Required for Mounting

Enclosure Types:
Dripproof Enclosure: NEMA 2, CSA 2, IP41
Stamped steel cover with cast iron bracket (70000-97)
Same with Cast Iron Cover (70000-55)

Specifications:

Reaction Time:	20-25 milliseconds (release and set)
AK:	8.50" Register
AJ:	7.25" Bolt Circle
Maximum RPM:	3600
CSA File:	#LR13814
Coil insulation:	Class B standard, Class H Optional
Lead wires:	Conduit connections (Internal connection available)
Manual:	Cast Iron/Steel = BK4705 Cast Iron = BK4605

Standard Hub Bore Sizes:

Suffix	Size	Keyway
F	7/8"	3/16" x 3/32"
H	1 1/8"	1/4" x 1/8"
K	1 3/8"	5/16" x 5/32"
M	1 5/8"	3/8" x 3/16"

Special bore sizes available

* When using single phase brakes on NEMA frames 254TC and 256TC, motor shaft must be shortened to dimension "N"

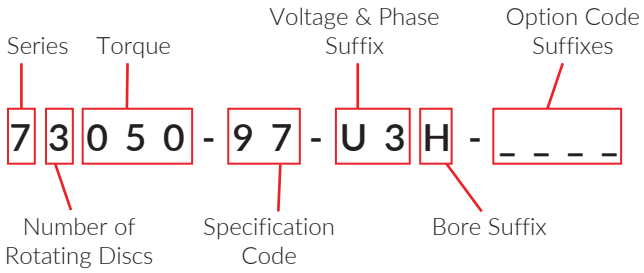
Design Features:
No disassembly required for mounting
Direct acting design with no linkages to break
One moving part for longer life
Torque adjustable for specific applications
Splined hub
Spring set, electrically released
Manual release with automatic reset
RoHS Compliant

Standard AC Voltages (single or three phase):

Suffix	Voltage
Y1	110/220V, 50Hz (single phase only)
R1	115/230V, 60 Hz (single phase only)
T1 or T3	220/440V, 60 Hz
U1 or U3	230/460V, 60 Hz or 190/380V, 50 Hz
P1 or P3	575V, 60 Hz

Special voltages available

Brake Model Number Definition



Available Options:

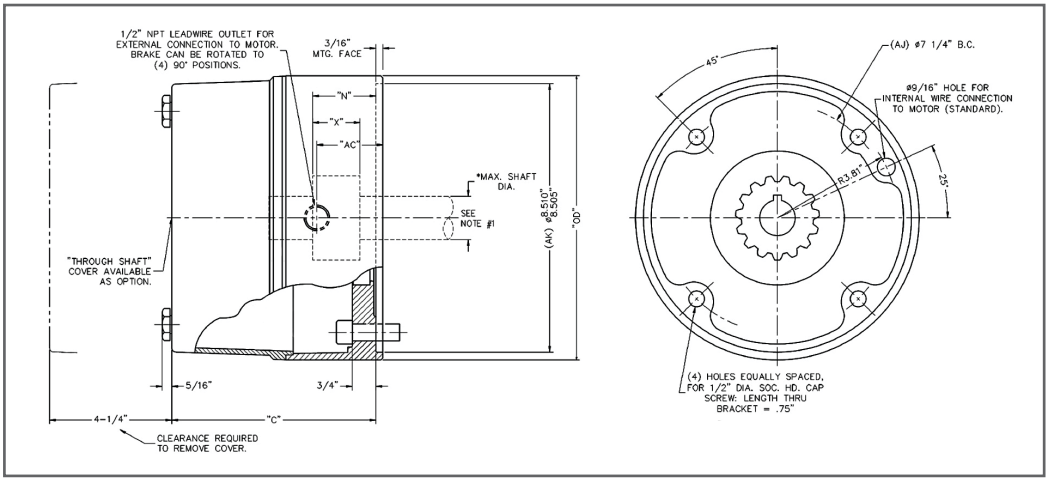
	Suffix
Adapter to Larger Frame Size(s)	A
Reverse Adapter	AB
Ductile Iron Stationary Disc(s)	E
Foot Mounting Bracket	F
Heavy-Duty Rotating Friction Disc(s) with Hardened Steel Hub	H
Marine/Maritime Duty with MIL-SPEC paint per TT-P-645 & MIL-DTL-15090	M
Marine/Maritime Duty	N
Tropical Protection	P
Internal Space Heater	R
Stainless Steel Stationary Disc(s)	S
Through Shaft	T
Class H Insulation	Q
Verticle Mounting, all positions	V
Vertical Mounting, over motor	VO
Vertical Mounting, under motor	VU
Micro-Switch Warning	XS

Refer to: Page 100-105 for brake option Description

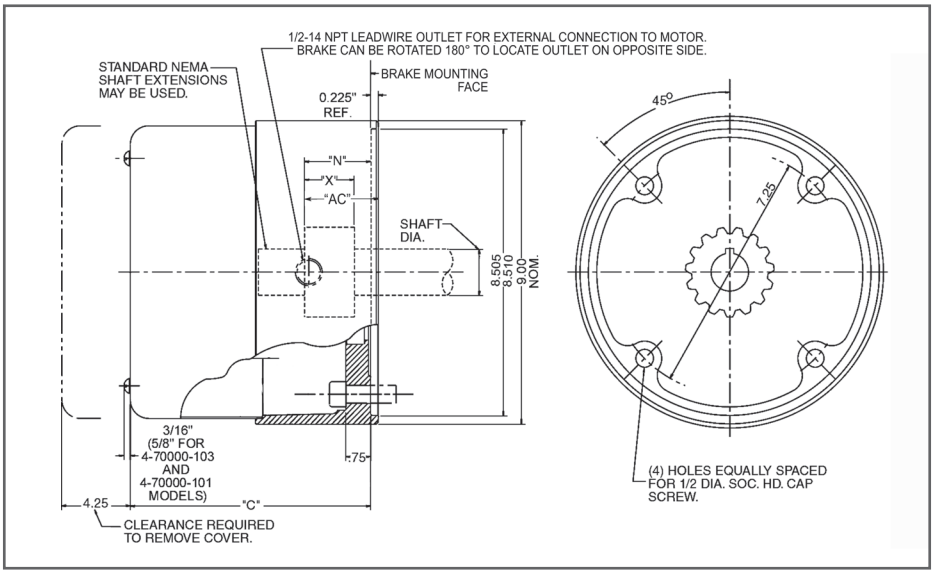
NEMA 2

Torque lb-ft	Model #	Enclosure	Construction	Weight lbs	Thermal Capacity HPS/Min	Inertia lb-ft^2	Dimensions in inches			
							C	N	X	AC
10	71010-97	NEMA 2	Cast Iron/Steel	37	10	0.028	5.95	1.50	1.00	1.48
	71010-55	NEMA 2	Cast Iron	45	10	0.028	5.86	1.50	1.00	1.48
15	71015-97	NEMA 2	Cast Iron/Steel	37	10	0.028	5.95	1.50	1.00	1.48
	71015-55	NEMA 2	Cast Iron	45	10	0.028	5.86	1.50	1.00	1.48
25	72025-97	NEMA 2	Cast Iron/Steel	41	11	0.051	6.58	2.00	1.50	2.10
	72025-55	NEMA 2	Cast Iron	49	11	0.051	6.48	2.00	1.50	2.10
35	72035-97	NEMA 2	Cast Iron/Steel	41	11	0.051	6.58	2.00	1.50	2.10
	72035-55	NEMA 2	Cast Iron	49	11	0.051	6.48	2.00	1.50	2.10
50	73050-97	NEMA 2	Cast Iron/Steel	45	12	0.075	7.20	2.50	2.00	2.73
	73050-55	NEMA 2	Cast Iron	53	12	0.075	7.11	2.50	2.00	2.73
75	74075-97	NEMA 2	Cast Iron/Steel	50	13	0.099	7.83	3.00	2.50	3.35
	74075-55	NEMA 2	Cast Iron	58	13	0.099	7.63	3.00	2.50	3.35

* When using single phase brakes on NEMA frames 254TC and 256TC, motor shaft must be shortened to dimension “N”



Spec –55 Outline



Spec –97 Outline

70 Series End Mount

Diract
Heavy Duty 4 Post
NEMA Frame Sizes 182TC through 256TC
Torque Ratings: 10 to 75 lb-ft



No Disassembly Required for Mounting

Enclosure Types:

Waterproof/Dusttight Enclosure: NEMA 4, CSA 4, IP56
Cast iron cover and bracket
Without hub seal for non-TEFC applications
(70000-58)

Waterproof/Dusttight Enclosure: NEMA 4, CSA 4, IP56
Stamped steel cover with cast iron bracket
Without hub seal for non-TEFC applications
(70000-100)

Standard Hub Bore Sizes:

Suffix	Size	Keyway
F	7/8”	3/16” x 3/32”
H	1 1/8”	1/4” x 1/8”
K	1 3/8”	5/16” x 5/32”
M	1 5/8”	3/8” x 3/16”

Special bore sizes available

* When using single phase brakes on NEMA frames 254TC and 256TC, motor shaft must be shortened to dimension “N”

Specifications:

Reaction Time:	20-25 milliseconds (release and set)
AK:	8.50” Register
AJ:	7.25” Bolt Circle
Maximum RPM:	3600
CSA File:	#LR13814
Coil insulation:	Class B standard, Class H Optional
Lead wires:	Conduit connections (Internal connection available)
Manual:	Cast Iron/Steel = BK4715 Cast Iron = BK4605

Standard AC Voltages (single or three phase):

Suffix	Voltage
Y1	110/220V, 50Hz (single phase only)
R1	115/230V, 60 Hz (single phase only)
T1 or T3	220/440V, 60 Hz
U1 or U3	230/460V, 60 Hz or 190/380V, 50 Hz
P1 or P3	575V, 60 Hz

Special voltages available

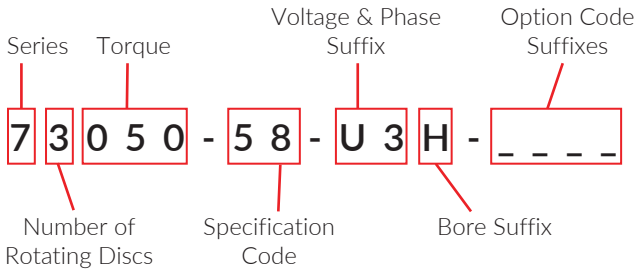
Design Features:
No disassembly required for mounting
Direct acting design with no linkages to break
One moving part for longer life
Torque adjustable for specific applications
Splined hub
Spring set, electrically released
Manual release with automatic reset
RoHS Compliant

Available Options:

	Suffix
Adapter to Larger Frame Size(s)	A
Reverse Adapter	AB
Ductile Iron Stationary Disc(s)	E
Foot Mounting Bracket	F
Heavy-Duty Rotating Friction Disc(s) with Hardened Steel Hub	H
Marine/Maritime Duty with MIL-SPEC paint per TT-P-645 & MIL-DTL-15090	M
Marine/Maritime Duty	N
Tropical Protection	P
Internal Space Heater	R
Stainless Steel Stationary Disc(s)	S
Through Shaft	T
Class H Insulation	Q
Verticle Mounting, all positions	V
Vertical Mounting, over motor	VO
Vertical Mounting, under motor	VU
Micro-Switch Warning	XS

Refer to: Page 100-105 for brake option Description

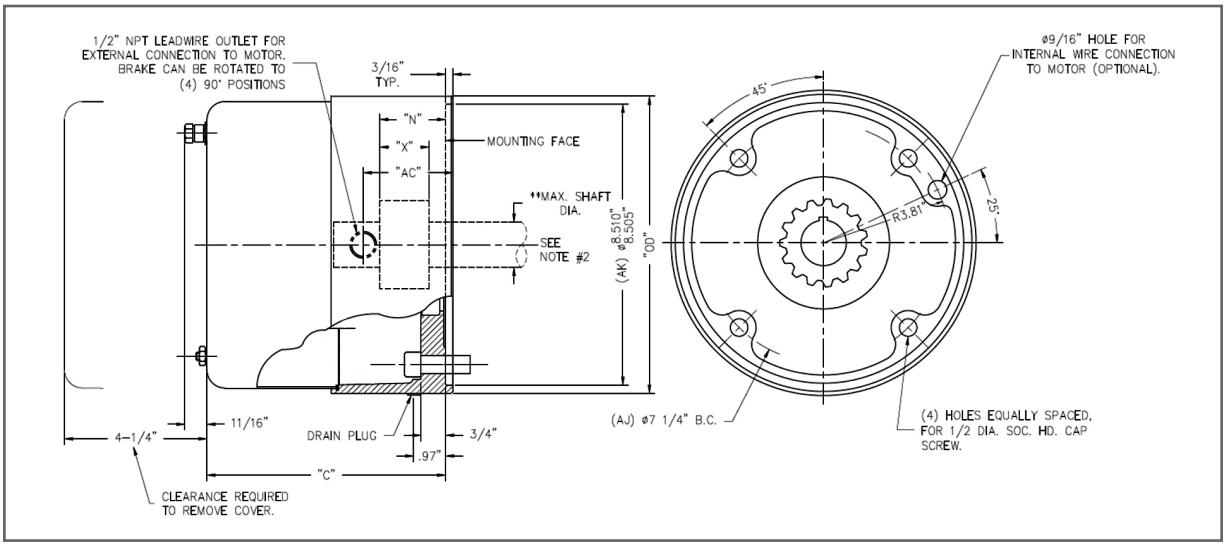
Brake Model Number Definition



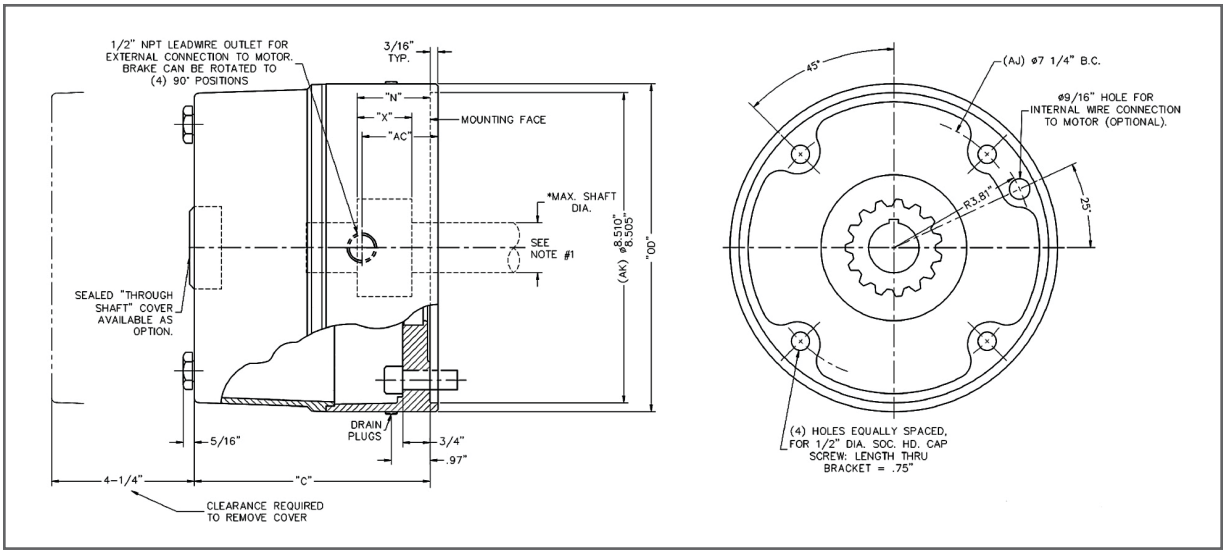
NEMA 4 / IP56 Enclosure no hub seal

Torque lb-ft	Model #	Enclosure	Construction	Weight lbs	Thermal Capacity HPS/Min	Inertia lb-ft²	Dimensions in inches			
							C	N	X	AC
10	71010-100	NEMA 4	Cast Iron/Steel	37	10	0.028	5.95	1.50	1.00	1.48
	71010-58	NEMA 4	Cast Iron	45	10	0.028	5.86	1.50	1.00	1.48
15	71015-100	NEMA 4	Cast Iron/Steel	37	10	0.028	5.95	1.50	1.00	1.48
	71015-58	NEMA 4	Cast Iron	45	10	0.028	5.86	1.50	1.00	1.48
25	72025-100	NEMA 4	Cast Iron/Steel	41	11	0.051	6.58	2.00	1.50	2.10
	72025-58	NEMA 4	Cast Iron	49	11	0.051	6.48	2.00	1.50	2.10
35	72035-100	NEMA 4	Cast Iron/Steel	41	11	0.051	6.58	2.00	1.50	2.10
	72035-58	NEMA 4	Cast Iron	49	11	0.051	6.48	2.00	1.50	2.10
50	73050-100	NEMA 4	Cast Iron/Steel	45	12	0.075	7.20	2.50	2.00	2.73
	73050-58	NEMA 4	Cast Iron	53	12	0.075	7.11	2.50	2.00	2.73
75	74075-100	NEMA 4	Cast Iron/Steel	50	13	0.099	7.83	3.00	2.50	3.35
	74075-58	NEMA 4	Cast Iron	58	13	0.099	7.63	3.00	2.50	3.35

* When using single phase brakes on NEMA frames 254TC and 256TC, motor shaft must be shortened to dimension “N”



Spec –100 Outline



Spec –58 Outline

70 Series End Mount

Diract
Heavy Duty 4 Post
NEMA Frame Sizes 182TC through 256TC
Torque Ratings: 10 to 75 lb-ft



No Disassembly Required for Mounting

Enclosure Types:

Washdown Enclosure: NEMA 4X, CSA 4, IP56
Cast iron cover and bracket with FDA
Approved white epoxy paint
Without hub seal for non-TEFC applications
(70000-92)

Specifications:

Reaction Time:	20-25 milliseconds (release and set)
AK:	8.50" Register
AJ:	7.25" Bolt Circle
Maximum RPM:	3600
CSA File:	#LR13814
Coil insulation:	Class B standard, Class H Optional
Lead wires:	Conduit connections
	(Internal connection available)
Manual:	BK4629

Standard Hub Bore Sizes:

Suffix	Size	Keyway
F	7/8"	3/16" x 3/32"
H	1 1/8"	1/4" x 1/8"
K	1 3/8"	5/16" x 5/32"
M	1 5/8"	3/8" x 3/16"

Special bore sizes available

* When using single phase brakes on NEMA frames 254TC and 256TC, motor shaft must be shortened to dimension "N"

Design Features:

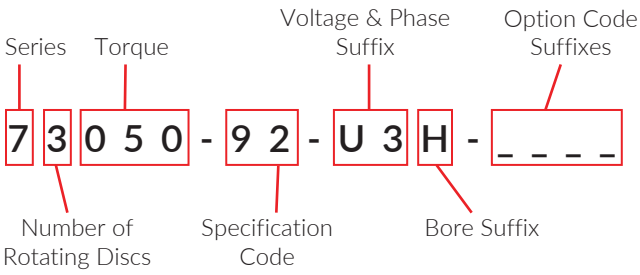
No disassembly required for mounting
Direct acting design with no linkages to break
One moving part for longer life
Torque adjustable for specific applications
Splined hub
Spring set, electrically released
Manual release with automatic reset
RoHS Compliant

Standard AC Voltages (single or three phase):

Suffix	Voltage
Y1	110/220V, 50Hz (single phase only)
R1	115/230V, 60 Hz (single phase only)
T1 or T3	220/440V, 60 Hz
U1 or U3	230/460V, 60 Hz or 190/380V, 50 Hz
P1 or P3	575V, 60 Hz

Special voltages available

Brake Model Number Definition



Available Options:

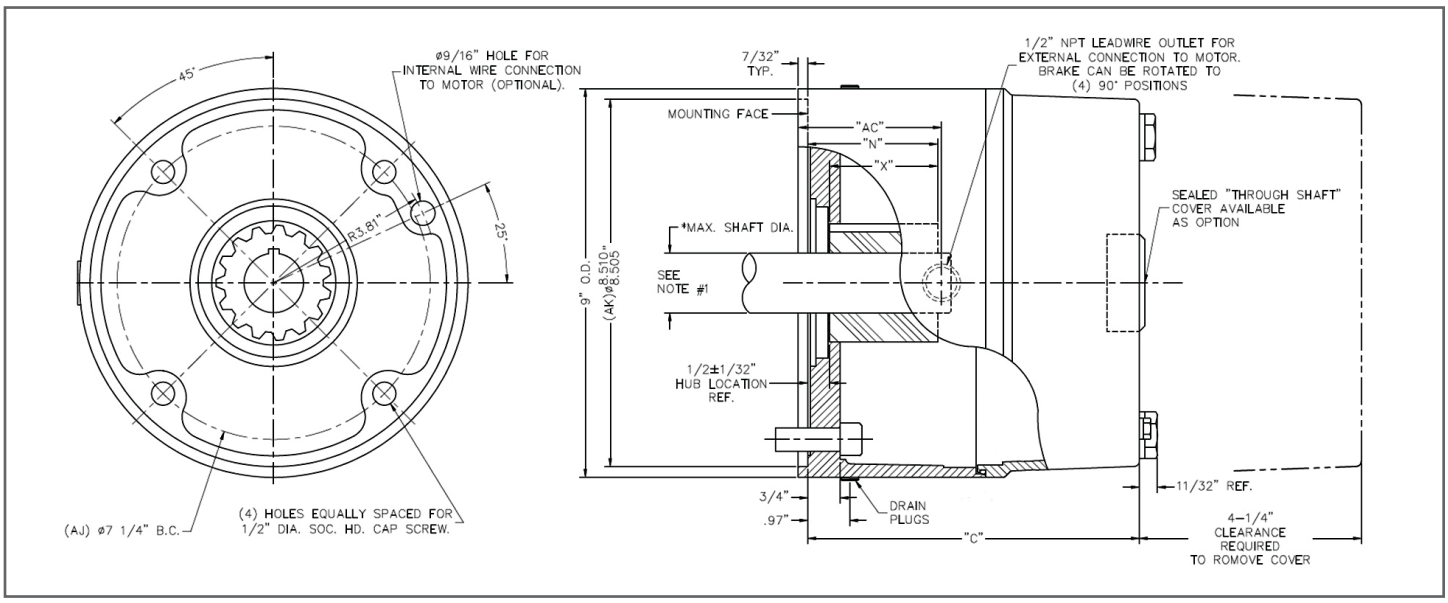
	Suffix
Adapter to Larger Frame Size(s)	A
Reverse Adapter	AB
Ductile Iron Stationary Disc(s)	E
Foot Mounting Bracket	F
Heavy-Duty Rotating Friction Disc(s) with Hardened Steel Hub	H
Marine/Maritime Duty with MIL-SPEC paint per TT-P-645 & MIL-DTL-15090	M
Marine/Maritime Duty	N
Tropical Protection	P
Internal Space Heater	R
Stainless Steel Stationary Disc(s)	S
Through Shaft	T
Class H Insulation	Q
Verticle Mounting, all positions	V
Vertical Mounting, over motor	VO
Vertical Mounting, under motor	VU
Micro-Switch Warning	XS

Refer to: Page 100-105 for brake option Description

NEMA 4X / IP56 Enclosure no hub seal

Torque lb-ft	Model #	Enclosure	Construction	Weight lbs	Thermal Capacity HPS/Min	Inertia lb-ft^2	Dimensions in inches			
							C	N	X	AC
10	71010-92	NEMA 4X	Cast Iron	37	10	0.028	5.95	1.50	1.00	1.48
15	71015-92	NEMA 4X	Cast Iron	37	10	0.028	5.95	1.50	1.00	1.48
25	72025-92	NEMA 4X	Cast Iron	41	11	0.051	6.58	2.00	1.50	2.10
35	72035-92	NEMA 4X	Cast Iron	41	11	0.051	6.58	2.00	1.50	2.10
50	73050-92	NEMA 4X	Cast Iron	45	12	0.075	7.20	2.50	2.00	2.73
75	74075-92	NEMA 4X	Cast Iron	50	13	0.099	7.83	3.00	2.50	3.35

* When using single phase brakes on NEMA frames 254TC and 256TC, motor shaft must be shortened to dimension “N”



Spec –92 Outline

70 Series End Mount

Diract
Heavy Duty 4 Post
NEMA Frame Sizes 182TC through 256TC
Torque Ratings: 10 to 75 lb-ft



No Disassembly Required for Mounting

Enclosure Types:

Waterproof/Dusttight Enclosure: NEMA 4, CSA 4, IP56**
Cast iron cover and bracket
With hub seal for TEFC applications
(70000-57)

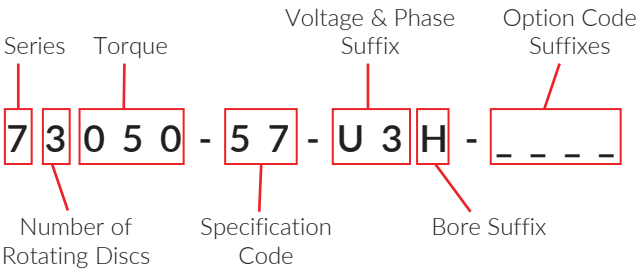
Waterproof/Dusttight Enclosure: NEMA 4, CSA 4, IP56**
Stamped steel cover with cast iron bracket
With hub seal for TEFC applications
(70000-102)

Specifications:

Reaction Time:	20-25 milliseconds (release and set)
AK:	8.50" Register
AJ:	7.25" Bolt Circle
Maximum RPM:	3600
CSA File:	#LR13814
Coil insulation:	Class B standard, Class H Optional
Lead wires:	Conduit connections (Internal connection available)
Manual:	Cast Iron/Steel: BK4715 Cast Iron: BK4605

Design Features:
No disassembly required for mounting
Direct acting design with no linkages to break
One moving part for longer life
Torque adjustable for specific applications
Splined hub
Spring set, electrically released
Manual release with automatic reset
RoHS Compliant

Brake Model Number Definition



Standard Hub Bore Sizes:

Suffix	Size	Keyway
F	7/8"	3/16" x 3/32"
H	1 1/8"	1/4" x 1/8"
K	1 3/8"	5/16" x 5/32"
M	1 5/8"	3/8" x 3/16"

Special bore sizes available

* When using single phase brakes on NEMA frames 254TC and 256TC, motor shaft must be shortened to dimension "N"

** To obtain full IP56 protection, the customer shaft, hub bore, key and keyway's mating surface(s) must be sealed to meet IP56. Considerations should be reviewed to appropriately seal mounting hardware as well. Contact factory for details and/or assistance.

Standard AC Voltages (single or three phase):

Suffix	Voltage
Y1	110/220V, 50Hz (single phase only)
R1	115/230V, 60 Hz (single phase only)
T1 or T3	220/440V, 60 Hz
U1 or U3	230/460V, 60 Hz or 190/380V, 50 Hz
P1 or P3	575V, 60 Hz

Special voltages available

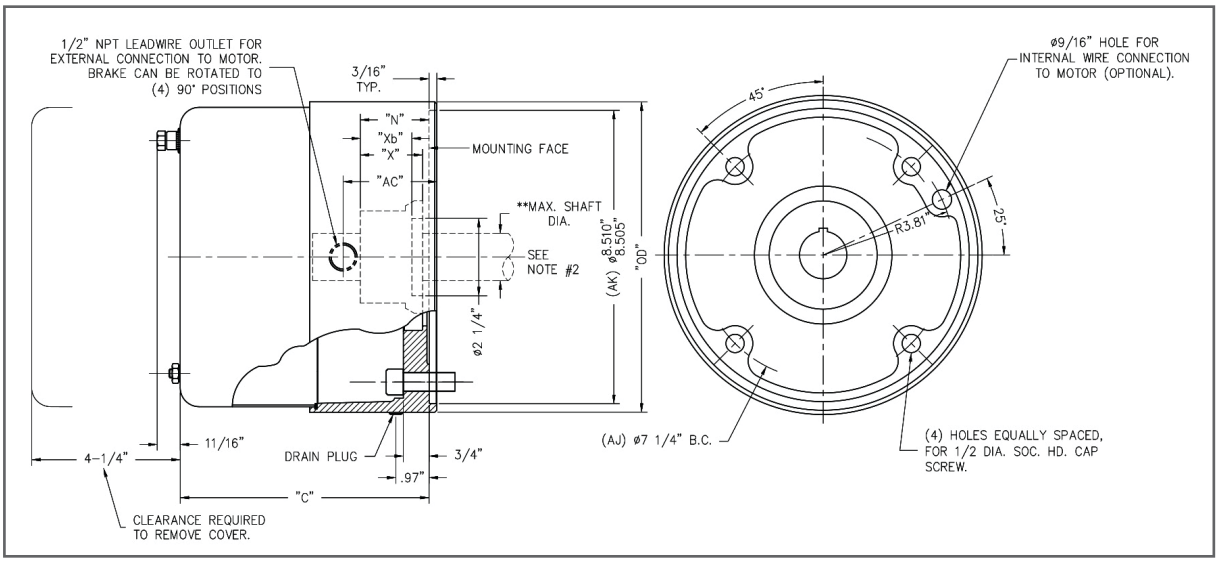
Available Options:	Suffix
Adapter to Larger Frame Size(s)	A
Reverse Adapter	AB
Ductile Iron Stationary Disc(s)	E
Foot Mounting Bracket	F
Heavy-Duty Rotating Friction Disc(s) with Hardened Steel Hub	H
Marine/Maritime Duty with MIL-SPEC paint per TT-P-645 & MIL-DTL-15090	M
Marine/Maritime Duty	N
Tropical Protection	P
Internal Space Heater	R
Stainless Steel Stationary Disc(s)	S
Through Shaft	T
Class H Insulation	Q
Verticle Mounting, all positions	V
Vertical Mounting, over motor	VO
Vertical Mounting, under motor	VU
Micro-Switch Warning	XS

Refer to: Page 100-105 for brake option Description

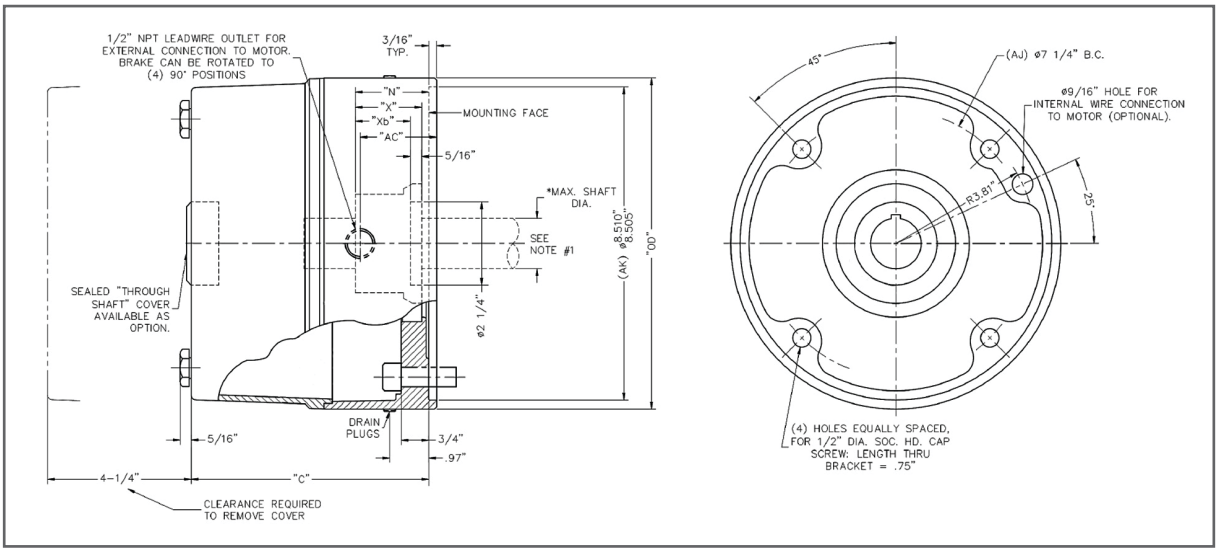
NEMA 4 / IP56 Enclosure with hub seal

Torque lb-ft	Model #	Enclosure	Construction	Weight lbs	Thermal Capacity HPS/Min	Inertia lb-ft²	Dimensions in inches				
							C	N	X	XB	AC
10	71010-102	NEMA 4	Cast Iron/Steel	38	10	0.036	5.98	1.50	1.31	1.00	1.48
	71010-57	NEMA 4	Cast Iron	45	10	0.036	5.86	1.50	1.31	1.00	1.48
15	71015-102	NEMA 4	Cast Iron/Steel	38	10	0.036	5.98	1.50	1.31	1.00	1.48
	71015-57	NEMA 4	Cast Iron	45	10	0.036	5.86	1.50	1.31	1.00	1.48
25	72025-102	NEMA 4	Cast Iron/Steel	42	11	0.059	6.61	2.00	1.81	1.50	2.10
	72025-57	NEMA 4	Cast Iron	49	11	0.059	6.48	2.00	1.81	1.50	2.10
35	72035-102	NEMA 4	Cast Iron/Steel	42	11	0.059	6.61	2.00	1.81	1.50	2.10
	72035-57	NEMA 4	Cast Iron	49	11	0.059	6.48	2.00	1.81	1.50	2.10
50	73050-102	NEMA 4	Cast Iron/Steel	46	12	0.083	7.23	2.50	2.31	2.00	2.73
	73050-57	NEMA 4	Cast Iron	53	12	0.083	7.11	2.50	2.31	2.00	2.73
75	74075-102	NEMA 4	Cast Iron/Steel	51	13	0.107	7.86	3.00	2.81	2.50	3.35
	74075-57	NEMA 4	Cast Iron	58	13	0.107	7.63	3.00	2.81	2.50	3.35

* When using single phase brakes on NEMA frames 254TC and 256TC, motor shaft must be shortened to dimension “N”



Spec –102 Outline



Spec –57 Outline

70 Series End Mount

Diract
Heavy Duty 4 Post
NEMA Frame Sizes 182TC through 256TC
Torque Ratings: 10 to 75 lb-ft



No Disassembly Required for Mounting

Enclosure Types:

Washdown Enclosure: NEMA 4X, CSA 4, IP56**
Cast iron cover and bracket with FDA Approved white epoxy paint
With hub seal for TEFC applications (70000-94)

Specifications:

Reaction Time:	20-25 milliseconds (release and set)
AK:	8.50” Register
AJ:	7.25” Bolt Circle
Maximum RPM:	3600
CSA File:	#LR13814
Coil insulation:	Class B standard, Class H Optional
Lead wires:	Conduit connections (Internal connection available)
Manual:	BK4629

Standard Hub Bore Sizes:

Suffix	Size	Keyway
F	7/8”	3/16” x 3/32”
H	1 1/8”	1/4” x 1/8”
K	1 3/8”	5/16” x 5/32”
M	1 5/8”	3/8” x 3/16”

Special bore sizes available

* When using single phase brakes on NEMA frames 254TC and 256TC, motor shaft must be shortened to dimension “N”

** To obtain full IP56 protection, the customer shaft, hub bore, key and keyway’s mating surface(s) must be sealed to meet IP56. Considerations should be reviewed to appropriately seal mounting hardware as well. Contact factory for details and/or assistance.

Design Features:

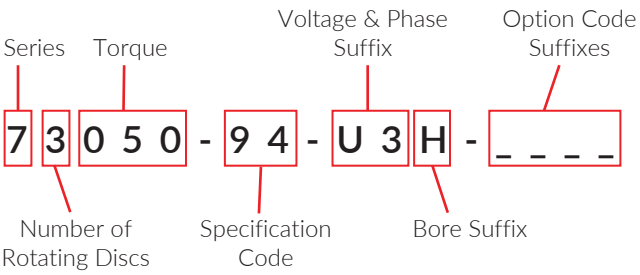
No disassembly required for mounting
Direct acting design with no linkages to break
One moving part for longer life
Torque adjustable for specific applications
Splined hub
Spring set, electrically released
Manual release with automatic reset
RoHS Compliant

Standard AC Voltages (single or three phase):

Suffix	Voltage
Y1	110/220V, 50Hz (single phase only)
R1	115/230V, 60 Hz (single phase only)
T1 or T3	220/440V, 60 Hz
U1 or U3	230/460V, 60 Hz or 190/380V, 50 Hz
P1 or P3	575V, 60 Hz

Special voltages available

Brake Model Number Definition



Available Options:

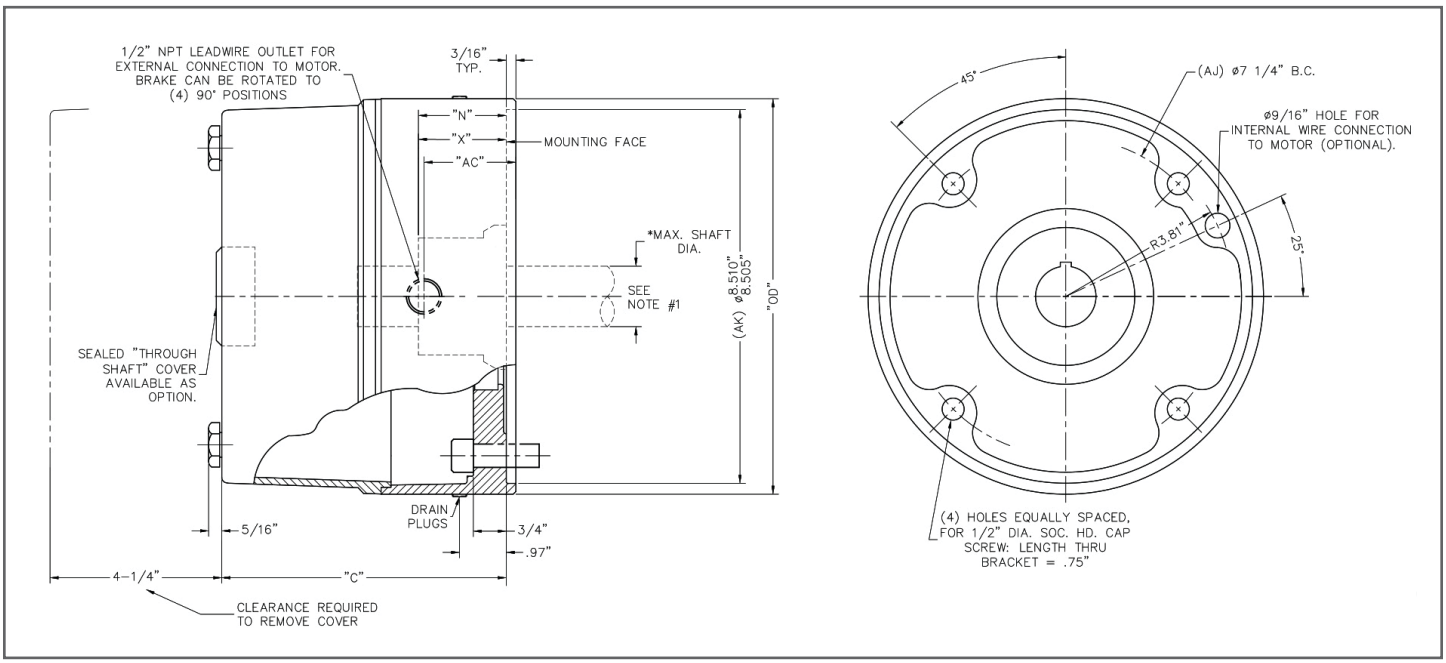
	Suffix
Adapter to Larger Frame Size(s)	A
Reverse Adapter	AB
Ductile Iron Stationary Disc(s)	E
Foot Mounting Bracket	F
Heavy-Duty Rotating Friction Disc(s) with Hardened Steel Hub	H
Marine/Maritime Duty with MIL-SPEC paint per TT-P-645 & MIL-DTL-15090	M
Marine/Maritime Duty	N
Tropical Protection	P
Internal Space Heater	R
Stainless Steel Stationary Disc(s)	S
Through Shaft	T
Class H Insulation	Q
Verticle Mounting, all positions	V
Vertical Mounting, over motor	VO
Vertical Mounting, under motor	VU
Micro-Switch Warning	XS

Refer to: Page 100-105 for brake option Description

NEMA 4X / IP56 Enclosure with hub seal

Torque lb-ft	Model #	Enclosure	Construction	Weight lbs	Thermal Capacity HPS/Min	Inertia lb-ft²	Dimensions in inches			
							C	N	X	AC
10	71010-94	NEMA 4X	Cast Iron	37	10	0.036	5.95	1.50	1.50	1.48
15	71015-94	NEMA 4X	Cast Iron	37	10	0.036	5.95	1.50	1.50	1.48
25	72025-94	NEMA 4X	Cast Iron	41	11	0.059	6.58	2.00	2.00	2.10
35	72035-94	NEMA 4X	Cast Iron	41	11	0.059	6.58	2.00	2.00	2.10
50	73050-94	NEMA 4X	Cast Iron	45	12	0.083	7.20	2.50	2.50	2.73
75	74075-94	NEMA 4X	Cast Iron	50	13	0.107	7.83	3.00	3.00	3.35

* When using single phase brakes on NEMA frames 254TC and 256TC, motor shaft must be shortened to dimension “N”



Spec –94 Outline

Diract
Heavy Duty 4 Post

NEMA Frame Sizes 182TC through 256TC
Torque Ratings: 10 to 75 lb-ft





No Disassembly Required for Mounting

Enclosure Types:

Dripproof Enclosure:	NEMA 2, CSA 2, IP41, Mark II Cast Iron cover and bracket (70000-89)
Dripproof Enclosure:	NEMA 2, CSA 2, IP41, Mark III Cast Iron cover and bracket (70000-56)

Mark II Release:	Single point, hand activated, external release lever. Manually set / automatically reset by manually deactivating or energizing the brake. Available on brakes with cast covers only
Mark III Release:	Dual, hand activated, external release knobs. Manually set/automatically reset by manually deactivating or energizing the brake. Available on brakes with cast covers only.

Standard Hub Bore Sizes:

Suffix	Size	Keyway
F	7/8”	3/16” x 3/32”
H	1 1/8”	1/4” x 1/8”
K	1 3/8”	5/16” x 5/32”
M	1 5/8”	3/8” x 3/16”

Special bore sizes available

* When using single phase brakes on NEMA frames 254TC and 256TC, motor shaft must be shortened to dimension “N”

Specifications:

Reaction Time:	20-25 milliseconds (release and set)
AK:	8.50” Register
AJ:	7.25” Bolt Circle
Maximum RPM:	3600
CSA File:	#LR13814
Coil insulation:	Class B standard, Class H Optional
Lead wires:	Conduit connections (Internal connection available)
Manual:	Mark II=BK4785 Mark III=BK4786

Standard AC Voltages (single or three phase):

Suffix	Voltage
Y1	110/220V, 50Hz (single phase only)
R1	115/230V, 60 Hz (single phase only)
T1 or T3	220/440V, 60 Hz
U1 or U3	230/460V, 60 Hz or 190/380V, 50 Hz
P1 or P3	575V, 60 Hz

Special voltages available

Design Features:

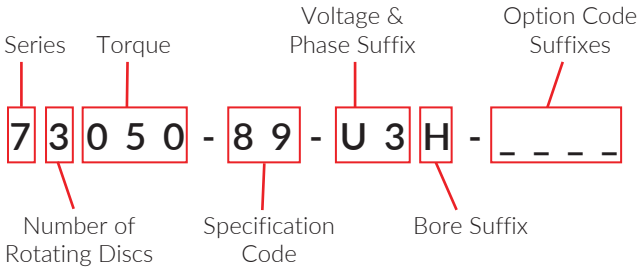
No disassembly required for mounting
Direct acting design with no linkages to break
One moving part for longer life
Torque adjustable for specific applications
Splined hub
Spring set, electrically released
Manual release with automatic reset
RoHS Compliant

Available Options:

	Suffix
Adapter to Larger Frame Size(s)	A
Reverse Adapter	AB
Ductile Iron Stationary Disc(s)	E
Foot Mounting Bracket	F
Heavy-Duty Rotating Friction Disc(s) with Hardened Steel Hub	H
Marine/Maritime Duty with MIL-SPEC paint per TT-P-645 & MIL-DTL-15090	M
Marine/Maritime Duty	N
Tropical Protection	P
Internal Space Heater	R
Stainless Steel Stationary Disc(s)	S
Through Shaft	T
Class H Insulation	Q
Verticle Mounting, all positions	V
Vertical Mounting, over motor	VO
Vertical Mounting, under motor	VU
Micro-Switch Warning	XS

Refer to: Page 100-105 for brake option Description

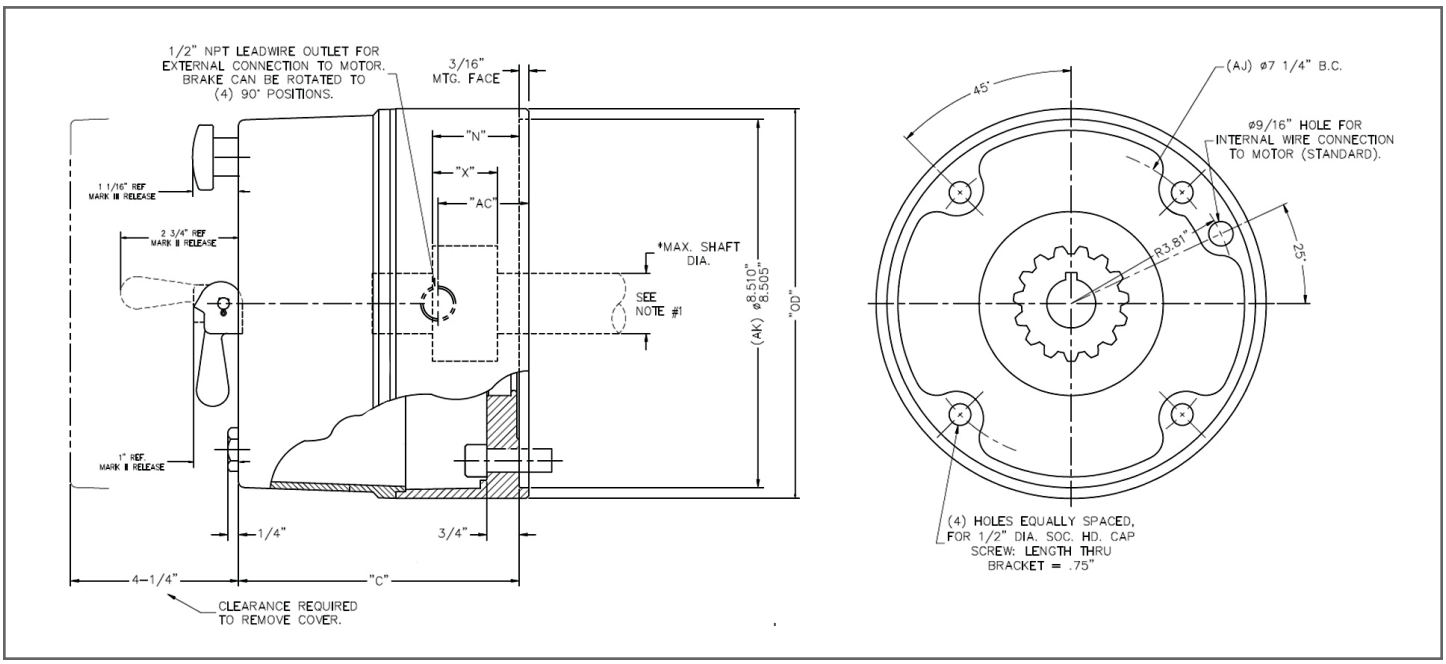
Brake Model Number Definition



NEMA 2 / IP41 Enclosure no hub seal

Torque lb-ft	Model #	Design	Construction	Weight lbs	Thermal Capacity HPS/Min	Inertia lb-ft^2	Dimensions in inches			
							C	N	X	AC
10	71010-89	Mark II	Cast Iron	37	10	0.028	5.75	1.50	1.00	1.44
	71010-56	Mark III	Cast Iron	37	10	0.028	5.75	1.50	1.00	1.44
15	71015-89	Mark II	Cast Iron	37	10	0.028	5.75	1.50	1.00	1.44
	71015-56	Mark III	Cast Iron	37	10	0.028	5.75	1.50	1.00	1.44
25	72025-89	Mark II	Cast Iron	41	11	0.051	6.37	2.00	1.50	2.07
	72025-56	Mark III	Cast Iron	41	11	0.051	6.37	2.00	1.50	2.07
35	72035-89	Mark II	Cast Iron	41	11	0.051	6.37	2.00	1.50	2.07
	72035-56	Mark III	Cast Iron	41	11	0.051	6.37	2.00	1.50	2.07
50	73050-89	Mark II	Cast Iron	45	12	0.075	7.00	2.50	2.00	2.69
	73050-56	Mark III	Cast Iron	45	12	0.075	7.00	2.50	2.00	2.69
75	74075-89	Mark II	Cast Iron	50	13	0.099	7.62	3.00	2.50	3.31
	74075-56	Mark III	Cast Iron	50	13	0.099	7.62	3.00	2.50	3.31

* When using single phase brakes on NEMA frames 254TC and 256TC, motor shaft must be shortened to dimension “N”



Specs –89 and –56 Outline

Diract
Heavy Duty 4 Post

NEMA Frame Sizes 182TC through 256TC
Torque Ratings: 10 to 75 lb-ft

Enclosure Types:

Waterproof/Dusttight Enclosure: NEMA 4, CSA 4, IP56, Mark II
Cast iron cover and bracket
Without hub seal for non-TEFC applications
(70000-111)

Waterproof/Dusttight Enclosure: NEMA 4, CSA 4, IP56, Mark III
Cast iron cover and bracket
Without hub seal for non-TEFC applications
(70000-109)

Mark II Release: Single point, hand activated, external release lever. Manually set / automatically reset by manually deactivating or energizing the brake. Available on brakes with cast covers only

Mark III Release: Dual, hand activated, external release knobs. Manually set/automatically reset by manually deactivating or energizing the brake. Available on brakes with cast covers only.

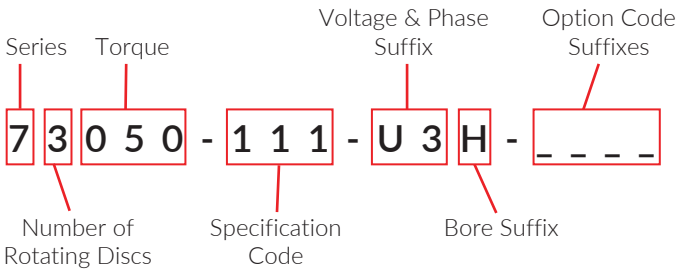
Specifications:

Reaction Time:	20-25 milliseconds (release and set)
AK:	8.5” Register
AJ:	7.25” Bolt Circle
Maximum RPM:	3600
CSA File:	#LR13814
Coil insulation:	Class B standard, Class H Optional
Lead wires:	Conduit connections (Internal connection available)
Manual:	Mark II=BK4785 Mark III=BK4786

Design Features:

No disassembly required for mounting
Direct acting design with no linkages to break
One moving part for longer life
Torque adjustable for specific applications
Splined hub
Spring set, electrically released
Manual release with automatic reset
RoHS Compliant

Brake Model Number Definition





No Disassembly Required for Mounting

Standard Hub Bore Sizes:

Suffix	Size	Keyway
F	7/8”	3/16” x 3/32”
H	1 1/8”	1/4” x 1/8”
K	1 3/8”	5/16” x 5/32”
M	1 5/8”	3/8” x 3/16”

Special bore sizes available

* When using single phase brakes on NEMA frames 254TC and 256TC, motor shaft must be shortened to dimension “N”

Standard AC Voltages (single or three phase):

Suffix	Voltage
Y1	110/220V, 50Hz (single phase only)
R1	115/230V, 60 Hz (single phase only)
T1 or T3	220/440V, 60 Hz
U1 or U3	230/460V, 60 Hz or 190/380V, 50 Hz
P1 or P3	575V, 60 Hz

Special voltages available

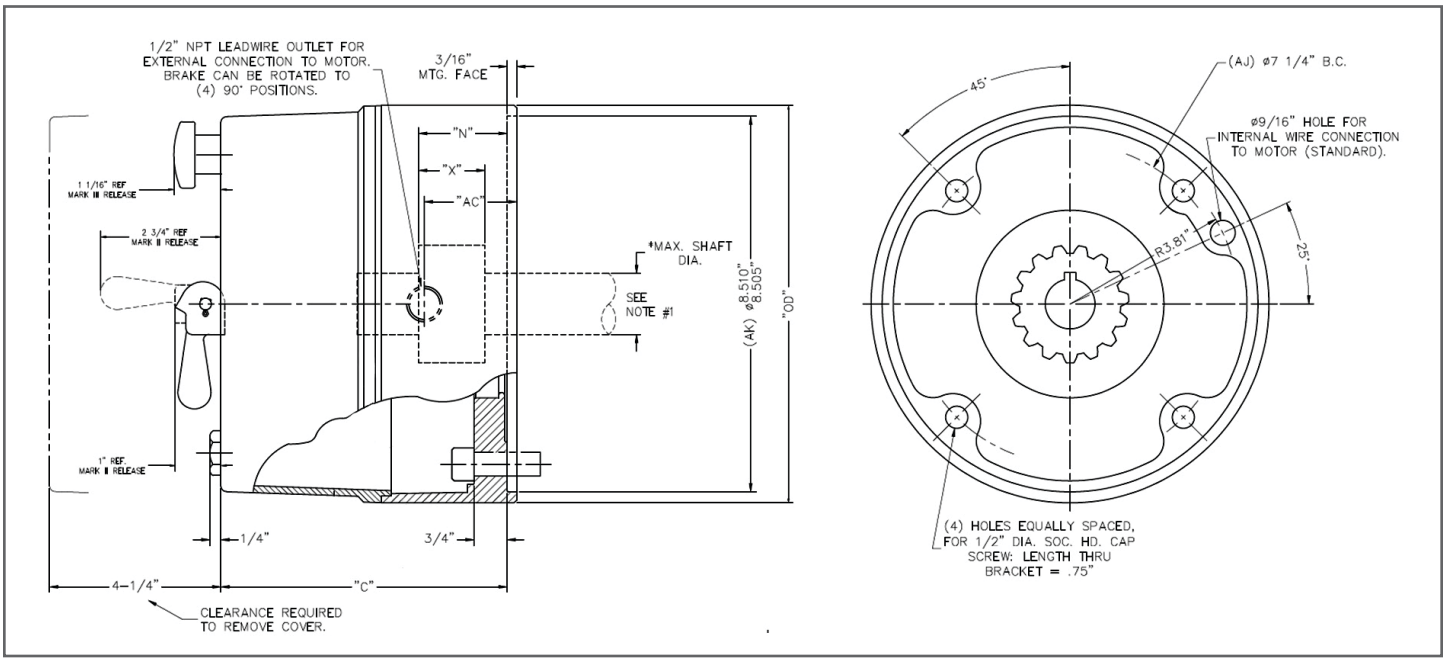
Available Options:	Suffix
Adapter to Larger Frame Size(s)	A
Reverse Adapter	AB
Ductile Iron Stationary Disc(s)	E
Foot Mounting Bracket	F
Heavy-Duty Rotating Friction Disc(s) with Hardened Steel Hub	H
Marine/Maritime Duty with MIL-SPEC paint per TT-P-645 & MIL-DTL-15090	M
Marine/Maritime Duty	N
Tropical Protection	P
Internal Space Heater	R
Stainless Steel Stationary Disc(s)	S
Through Shaft	T
Class H Insulation	Q
Verticle Mounting, all positions	V
Vertical Mounting, over motor	VO
Vertical Mounting, under motor	VU
Micro-Switch Warning	XS

Refer to: Page 100-105 for brake option Description

NEMA 4 / IP56 Enclosure no hub seal

Torque lb-ft	Model #	Design	Construction	Weight lbs.	Thermal Capacity HPS/Min	Inertia lb-ft²	Dimensions in inches			
							C	N	X	AC
10	71010-111	Mark II	Cast Iron	37	10	0.028	5.75	1.50	1.00	1.44
	71010-109	Mark III	Cast Iron	37	10	0.028	5.75	1.50	1.00	1.44
15	71015-111	Mark II	Cast Iron	37	10	0.028	5.75	1.50	1.00	1.44
	71015-109	Mark III	Cast Iron	37	10	0.028	5.75	1.50	1.00	1.44
25	72025-111	Mark II	Cast Iron	41	11	0.051	6.37	2.00	1.50	2.07
	72025-109	Mark III	Cast Iron	41	11	0.051	6.37	2.00	1.50	2.07
35	72035-111	Mark II	Cast Iron	41	11	0.051	6.37	2.00	1.50	2.07
	72035-109	Mark III	Cast Iron	41	11	0.051	6.37	2.00	1.50	2.07
50	73050-111	Mark II	Cast Iron	45	12	0.075	7.00	2.50	2.00	2.69
	73050-109	Mark III	Cast Iron	45	12	0.075	7.00	2.50	2.00	2.69
75	74075-111	Mark II	Cast Iron	50	13	0.099	7.62	3.00	2.50	3.31
	74075-109	Mark III	Cast Iron	50	13	0.099	7.62	3.00	2.50	3.31

* When using single phase brakes on NEMA frames 254TC and 256TC, motor shaft must be shortened to dimension “N”



Specs –111 and –109 Outline

Diract
Heavy Duty 4 Post

NEMA Frame Sizes 182TC through 256TC
Torque Ratings: 10 to 75 lb-ft





No Disassembly Required for Mounting

Enclosure Types:

Waterproof/Dusttight Enclosure: NEMA 4, CSA 4, IP56, Mark II
Stamped steel cover with cast iron bracket
With hub seal for TEFC applications
(70000-112)

Waterproof/Dusttight Enclosure: NEMA 4, CSA 4, IP56, Mark III
Cast iron cover and bracket
With hub seal for TEFC applications
(70000-110)

Mark II Release: Single point, hand activated, external release lever. Manually set / automatically reset by manually deactivating or energizing the brake. Available on brakes with cast covers only

Mark III Release: Dual, hand activated, external release knobs. Manually set/automatically reset by manually deactivating or energizing the brake. Available on brakes with cast covers only.

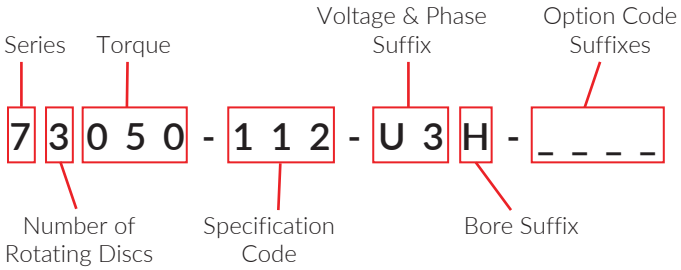
Specifications:

Reaction Time:	20-25 milliseconds (release and set)
AK:	8.50" Register
AJ:	7.25" Bolt Circle
Maximum RPM:	3600
CSA File:	#LR13814
Coil insulation:	Class B standard, Class H Optional
Lead wires:	Conduit connections (Internal connection available)
Manual:	Mark II=BK4785 Mark III=BK4786

Design Features:

No disassembly required for mounting
Direct acting design with no linkages to break
One moving part for longer life
Torque adjustable for specific applications
Splined hub
Spring set, electrically released
Manual release with automatic reset
RoHS Compliant

Brake Model Number Definition



Standard Hub Bore Sizes:

Suffix	Size	Keyway
F	7/8"	3/16" x 3/32"
H	1 1/8"	1/4" x 1/8"
K	1 3/8"	5/16" x 5/32"
M	1 5/8"	3/8" x 3/16"

Special bore sizes available

* When using single phase brakes on NEMA frames 254TC and 256TC, motor shaft must be shortened to dimension "N"

Standard AC Voltages (single or three phase):

Suffix	Voltage
Y1	110/220V, 50Hz (single phase only)
R1	115/230V, 60 Hz (single phase only)
T1 or T3	220/440V, 60 Hz
U1 or U3	230/460V, 60 Hz or 190/380V, 50 Hz
P1 or P3	575V, 60 Hz

Special voltages available

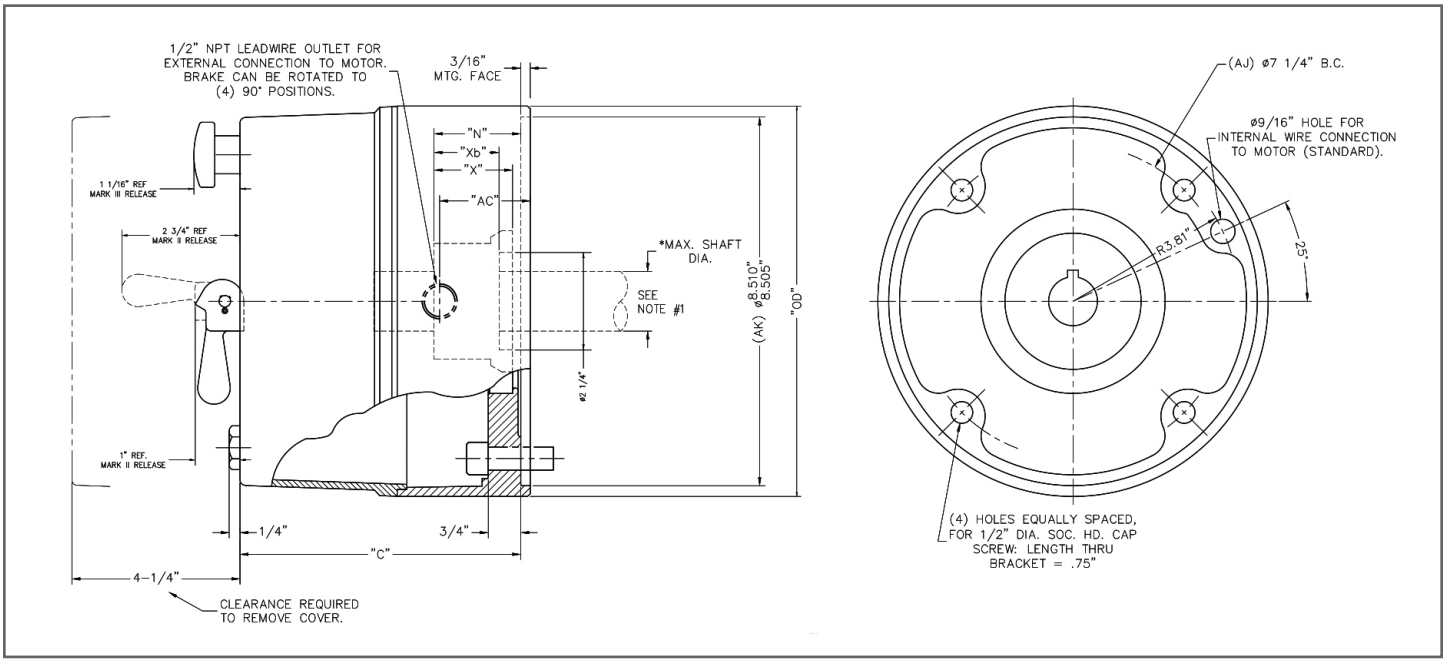
Available Options:	Suffix
Adapter to Larger Frame Size(s)	A
Reverse Adapter	AB
Ductile Iron Stationary Disc(s)	E
Foot Mounting Bracket	F
Heavy-Duty Rotating Friction Disc(s) with Hardened Steel Hub	H
Marine/Maritime Duty with MIL-SPEC paint per TT-P-645 & MIL-DTL-15090	M
Marine/Maritime Duty	N
Tropical Protection	P
Internal Space Heater	R
Stainless Steel Stationary Disc(s)	S
Through Shaft	T
Class H Insulation	Q
Verticle Mounting, all positions	V
Vertical Mounting, over motor	VO
Vertical Mounting, under motor	VU
Micro-Switch Warning	XS

Refer to: Page 100-105 for brake option Description

NEMA 4 / IP56 Enclosure with hub seal

Torque lb-ft	Model #	Design	Construction	Weight lbs	Thermal Capacity HPS/Min	Inertia lb-ft²	Dimensions in inches				
							C	N	X	XB	AC
10	71010-112	Mark II	Cast Iron	37	10	0.036	5.75	1.50	1.31	1.00	1.44
	71010-110	Mark III	Cast Iron	37	10	0.036	5.75	1.50	1.31	1.00	1.44
15	71015-112	Mark II	Cast Iron	37	10	0.036	5.75	1.50	1.31	1.00	1.44
	71015-110	Mark III	Cast Iron	37	10	0.036	5.75	1.50	1.31	1.00	1.44
25	72025-112	Mark II	Cast Iron	41	11	0.059	6.37	2.00	1.81	1.50	2.07
	72025-110	Mark III	Cast Iron	41	11	0.059	6.37	2.00	1.81	1.50	2.07
35	72035-112	Mark II	Cast Iron	41	11	0.059	6.37	2.00	1.81	1.50	2.07
	72035-110	Mark III	Cast Iron	41	11	0.059	6.37	2.00	1.81	1.50	2.07
50	73050-112	Mark II	Cast Iron	45	12	0.083	7.00	2.50	2.31	2.00	2.69
	73050-110	Mark III	Cast Iron	45	12	0.083	7.00	2.50	2.31	2.00	2.69
75	74075-112	Mark II	Cast Iron	50	13	0.107	7.62	3.00	2.81	2.50	3.31
	74075-110	Mark III	Cast Iron	50	13	0.107	7.62	3.00	2.81	2.50	3.31

* When using single phase brakes on NEMA frames 254TC and 256TC, motor shaft must be shortened to dimension “N”



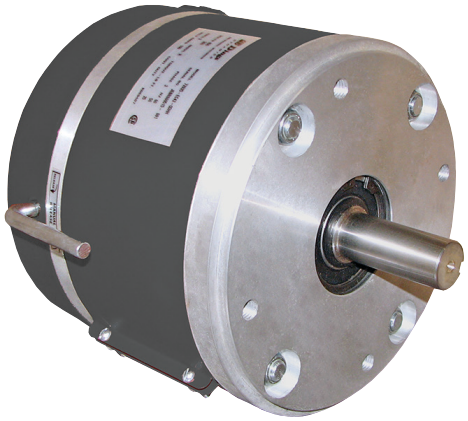
Specs –110 and –112 Outline

70 Series Double C Face

8700 Style

NEMA Frame Sizes 182TC through 256TC/UC
Torque Ratings: 10 to 105 lb-ft

Dripproof NEMA 2, CSA 2, IP43



No Disassembly Required for Mounting

Specifications:

Reaction Time:	20-25 milliseconds (release and set)
AK:	8.50" Register
AJ:	7.25" Bolt Circle
Maximum RPM:	3600
CSA File:	#LR13814
Coil insulation:	Class H Standard
Construction:	Cast Iron Bracket, Aluminum Housing
Manual:	BK4770

Standard Hub Bore & Shaft Sizes:

Suffix	Bore Size	Shaft Size	Keyway
HH	1 1/8"	1 1/8"	1/4" x 1/8"
KK	1 3/8"	1 3/8"	5/16" x 5/32"
MM	1 5/8"*	1 5/8"	3/8" x 3/16"

*For brakes below 75 lb-ft torque rating that require 1-5/8" bore size, contact factory

Design Features:

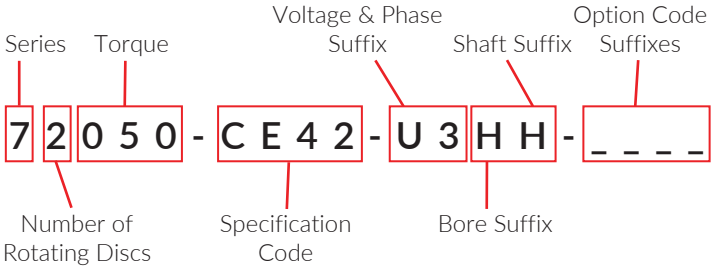
RoHS compliant
Torque adjustable for specific applications
Splined hub
Spring set, electrically released
Lead wires for conduit connections (internal connection available)
Manual release, automatic reset

Standard AC Voltages (single or three phase):

Suffix	Voltage
Y1	110/220V, 50Hz (single phase only)
11	115/208-230V, 60 Hz (single phase only)
R1	115/230V, 60 Hz (single phase only)
51 or 53	208-230/460V, 60 Hz
T1 or T3	220/440V, 60 Hz
U1 or U3	230/460V, 60 Hz or 190/380V, 50 Hz
P1 or P3	575V, 60 Hz

Special voltages available

Brake Model Number Definition



Available Options:

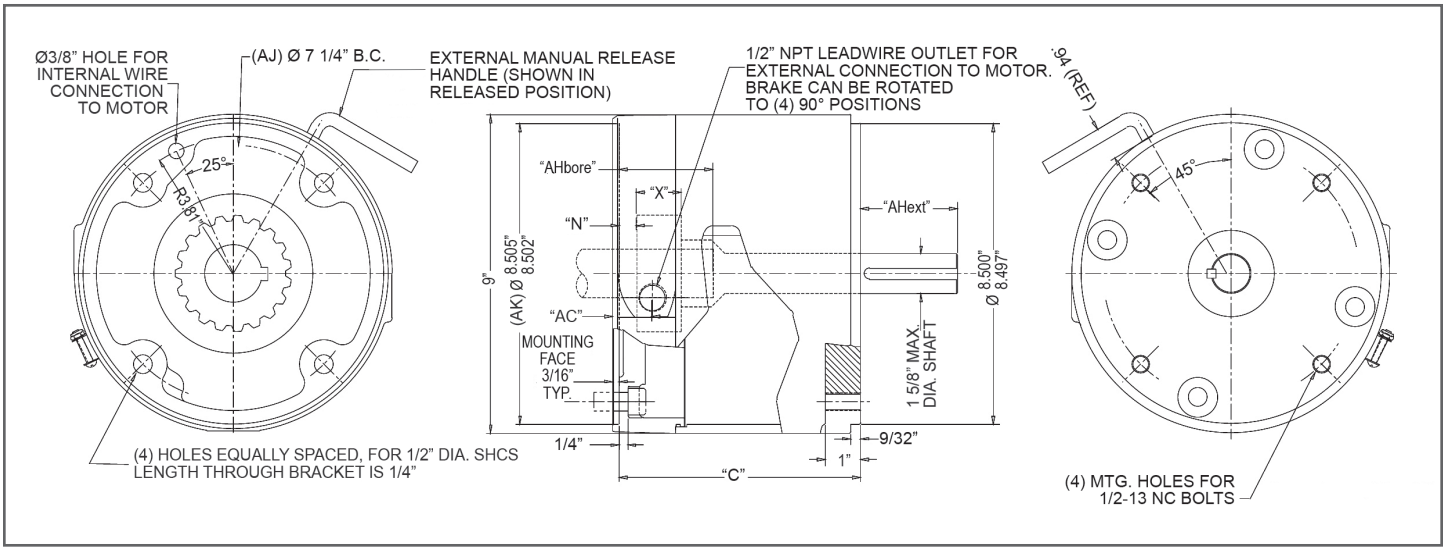
	Suffix
Foot Mounting Bracket	F
Heavy-Duty Rotating Friction Disc(s) with Hardened Steel Hub (when applicable)	H
Marine/Maritime Duty with MIL-SPEC paint per TT-P-645 & MIL-DTL-15090	M
Marine/Maritime Duty	N
Tropical Protection	P
Internal Space Heater	R
Stainless Steel Stationary Disc(s)	S
Vertical Mounting, all position	V
Vertical Over, or above motor	VO
Vertical Under, or below motor	VU
Micro-Switch Warning	XS

Refer to: Page 100-105 for brake option Description

NEMA 2 / IP43 Enclosure

Construction: Cast Iron Bracket, Aluminum Housing

Torque lb-ft	Model #	Thermal Capacity HPS/Min	Weight lbs	Inertia lb-ft²	Dimensions in inches				AHbore Max Motor Shaft Length			AHext Brake Shaft Extension Length		
					C	X	AC	N	1.125 Dia	1.375 Dia	1.625 Dia	1.125 Dia	1.375 Dia	1.625 Dia
10	71010-CE42	10	40	0.055	7.53	1.00	1.13	0.13	2.63	3.13	N/A	2.63	3.13	3.75
15	71015-CE42	10	40	0.055	7.53	1.00	1.13	0.13						
25	72025-CE42	11	42	0.076	7.53	1.00	1.13	0.13						
35	72035-CE42	11	42	0.076	7.53	1.00	1.13	0.13						
50	72050-CE42	11	42	0.076	7.53	1.00	1.13	0.13						
75	74075-CE41	13	56	0.145	8.66	2.38	2.25	0.50	3.75	3.75	3.75			
105	74105-CE41	13	56	0.145	8.66	2.38	2.25	0.50						



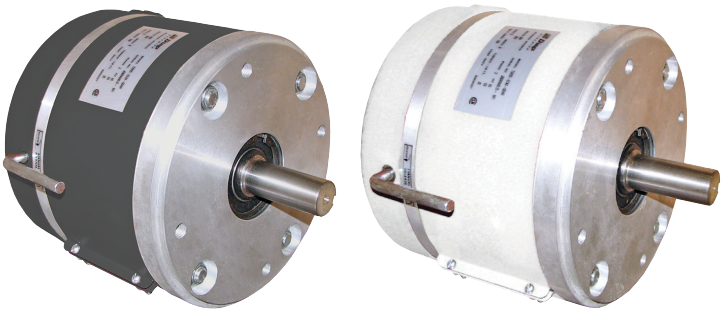
Specs –CE41 –CE42 Outline

70 Series Double C Face

8700 Style

NEMA Frame Sizes 182TC through 256TC/UC
Torque Ratings: 10 to 105 lb-ft

NEMA 4/4X, CSA 4, IP56



No Disassembly Required for Mounting

Specifications:

Reaction Time:	20-25 milliseconds (release and set)
AK:	8.50" Register
AJ:	7.25" Bolt Circle
Maximum RPM:	3600
CSA File:	#LR13814
Coil insulation:	Class H Standard
Construction:	Cast Iron Bracket, Aluminum Housing
Manual:	NEMA 4: BK4775 NEMA 4X: BK4776

Standard Hub Bore & Shaft Sizes:

Suffix	Bore Size	Shaft Size	Keyway
HH	1 1/8"	1 1/8"	1/4" x 1/8"
KK	1 3/8"	1 3/8"	5/16" x 5/32"
MM	1 5/8"*	1 5/8"	3/8" x 3/16"

*For brakes below 75 lb-ft torque rating that require 1-5/8" bore size, contact factory

Design Features:

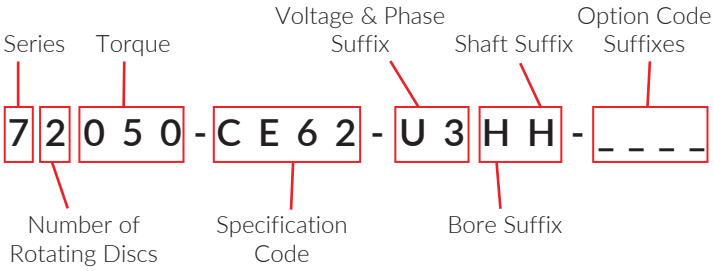
RoHS compliant
Torque adjustable for specific applications
Splined hub
Spring set, electrically released
Lead wires for conduit connections (internal connection available)
Manual release, automatic reset

Standard AC Voltages (single or three phase):

Suffix	Voltage
Y1	110/220V, 50Hz (single phase only)
11	115/208-230V, 60 Hz (single phase only)
R1	115/230V, 60 Hz (single phase only)
51 or 53	208-230/460V, 60 Hz
T1 or T3	220/440V, 60 Hz
U1 or U3	230/460V, 60 Hz or 190/380V, 50 Hz
P1 or P3	575V, 60 Hz

Special voltages available

Brake Model Number Definition



Available Options:

	Suffix
Foot Mounting Bracket	F
Heavy-Duty Rotating Friction Disc(s) with Hardened Steel Hub (when applicable)	H
Marine/Maritime Duty with MIL-SPEC paint per TT-P-645 & MIL-DTL-15090	M
Marine/Maritime Duty	N
Tropical Protection	P
Internal Space Heater	R
Stainless Steel Stationary Disc(s)	S
Vertical Mounting, all positions	V
Vertical Over, or above motor	VO
Vertical Under, or below motor	VU
Micro-Switch Warning	XS

Refer to: Page 100-105 for brake option Description

NEMA 4 / IP56 Enclosure

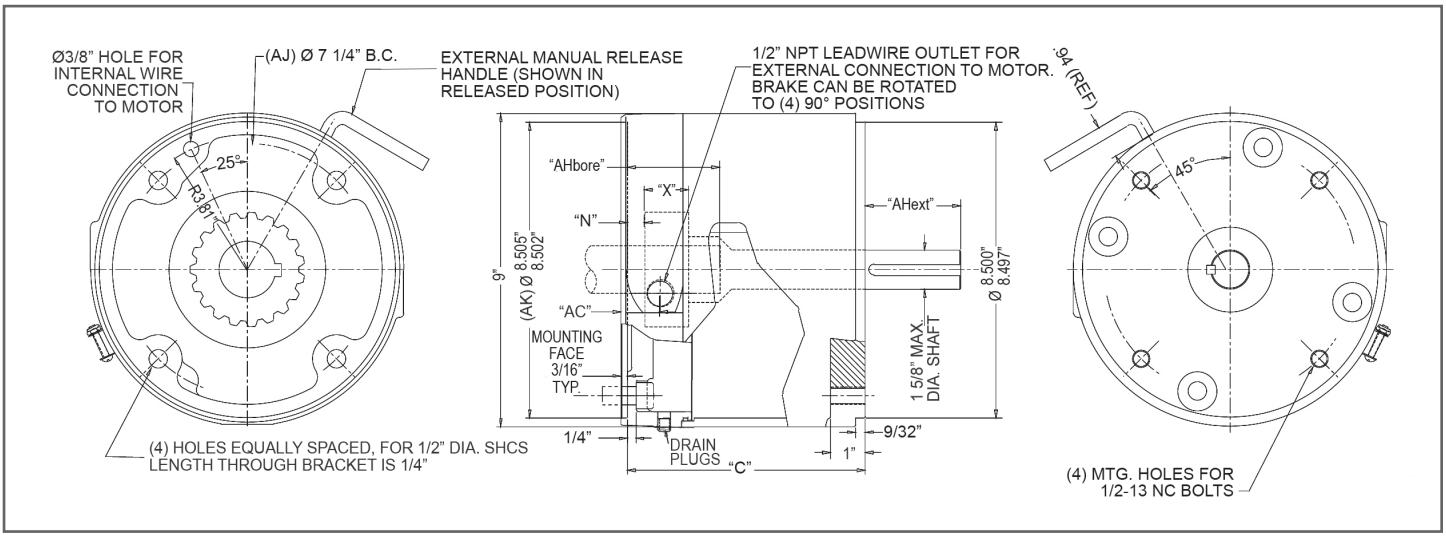
Construction: Cast Iron Bracket, Aluminum Housing

Torque lb-ft	Model #	Thermal Capacity HPS/Min	Weight lbs	Inertia lb-ft²	Dimensions in inches				AHbore Max Motor Shaft Length			AHext Brake Shaft Extension Length		
					C	X	AC	N	1.125 Dia	1.375 Dia	1.625 Dia	1.125 Dia	1.375 Dia	1.625 Dia
10	71010-CE62	10	40	0.055	7.53	1.00	1.13	0.13	2.63	3.13	N/A	2.63	3.13	3.75
15	71015-CE62	10	40	0.055	7.53	1.00	1.13	0.13						
25	72025-CE62	11	42	0.076	7.53	1.00	1.13	0.13						
35	72035-CE62	11	42	0.076	7.53	1.00	1.13	0.13						
50	72050-CE62	11	42	0.076	7.53	1.00	1.13	0.13						
75	73075-CE61	13	56	0.145	8.66	2.38	2.25	0.50	3.75	3.75	3.75			
105	74105-CE61	13	56	0.145	8.66	2.38	2.25	0.50						

NEMA 4X / IP56 Enclosure

Construction: Cast Iron Bracket, Aluminum Housing

Torque lb-ft	Model #	Thermal Capacity HPS/Min	Weight lbs	Inertia lb-ft²	Dimensions in inches				AH bore Max Motor Shaft Length			AH ext Brake Shaft Extension Length		
					C	X	AC	N	1.125 Dia	1.375 Dia	1.625 Dia	1.125 Dia	1.375 Dia	1.625 Dia
10	71010-CE64	10	40	0.055	7.53	1.00	1.13	0.13	2.63	3.13	N/A	2.63	3.13	3.75
15	71015-CE64	10	40	0.055	7.53	1.00	1.13	0.13						
25	72025-CE64	11	42	0.076	7.53	1.00	1.13	0.13						
35	72035-CE64	11	42	0.076	7.53	1.00	1.13	0.13						
50	72050-CE64	11	42	0.076	7.53	1.00	1.13	0.13						
75	74075-CE63	13	56	0.145	8.66	2.38	2.25	0.50	3.75	3.75	3.75			
105	74105-CE63	13	56	0.145	8.66	2.38	2.25	0.50						

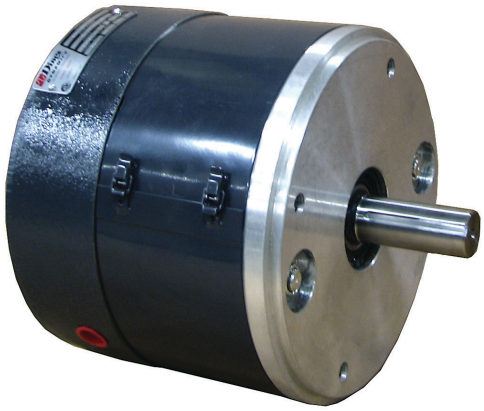


Specs –CE61, -CE62, -CE63, and -CE64 Outline

70 Series Double C Face

Diract

NEMA Frame Sizes 182TC through 256TC
Torque Ratings: 10 to 75 lb-ft



No Disassembly Required for Mounting

Enclosure Types:

Dripproof Enclosure: 70000-38
NEMA 2, CSA 2, IP41
Cast iron bracket and aluminum housing with steel wrapped cover

Specifications:

Reaction Time:	20-25 milliseconds (release and set)
AK:	8.50" Register
AJ:	7.25" Bolt Circle
Maximum RPM:	3600
CSA File:	#LR13814
Manual:	BK4620

Standard Hub Bore & Shaft Sizes:

Suffix	Bore	Shaft	Keyway
HH	1 1/8"	1 1/8"	1/4" x 1/8"
KK	1 3/8"	1 3/8"	5/16" x 5/32"

Special bore sizes available

Design Features:

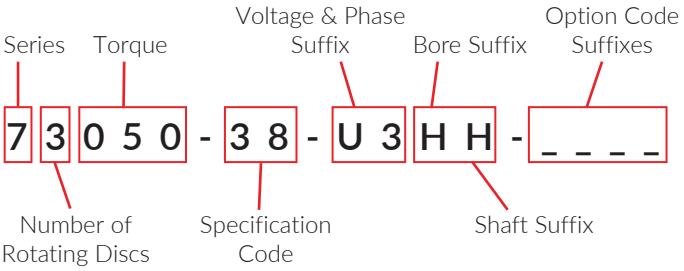
Torque adjustable for specific applications
Splined hub
Spring set, electrically released
Lead wires for conduit connections (internal connection available)
Manual release, automatic reset
RoHS Compliant

Standard AC Voltages (single or three phase):

Suffix	Voltage
Y1	110/220V, 50Hz (single phase only)
R1	115/230V, 60 Hz (single phase only)
T1 or T3	220/440V, 60 Hz
U1 or U3	230/460V, 60 Hz or 190/380V, 50 Hz
P1 or P3	575V, 60 Hz

Special voltages available

Brake Model Number Definition



Available Options:

	Suffix
Adapter to Larger Frame Size(s)	A
Reverse Adapter	AB
Ductile Iron Stationary Disc(s)	E
Foot Mounting Bracket	F
Heavy-Duty Rotating Friction Disc(s)	H
Marine/Maritime Duty with MIL-SPEC paint per TT-P-645 & MIL-DTL-15090	M
Marine/Maritime Duty	N
Tropical Protection	P
Internal Space Heater	R
Stainless Steel Stationary Disc(s)	S
Class H Insulation	Q
Verticle Mounting, all positions	V
Vertical Mounting, over motor	VO
Vertical Mounting, under motor	VU
Micro-Switch Warning	XS

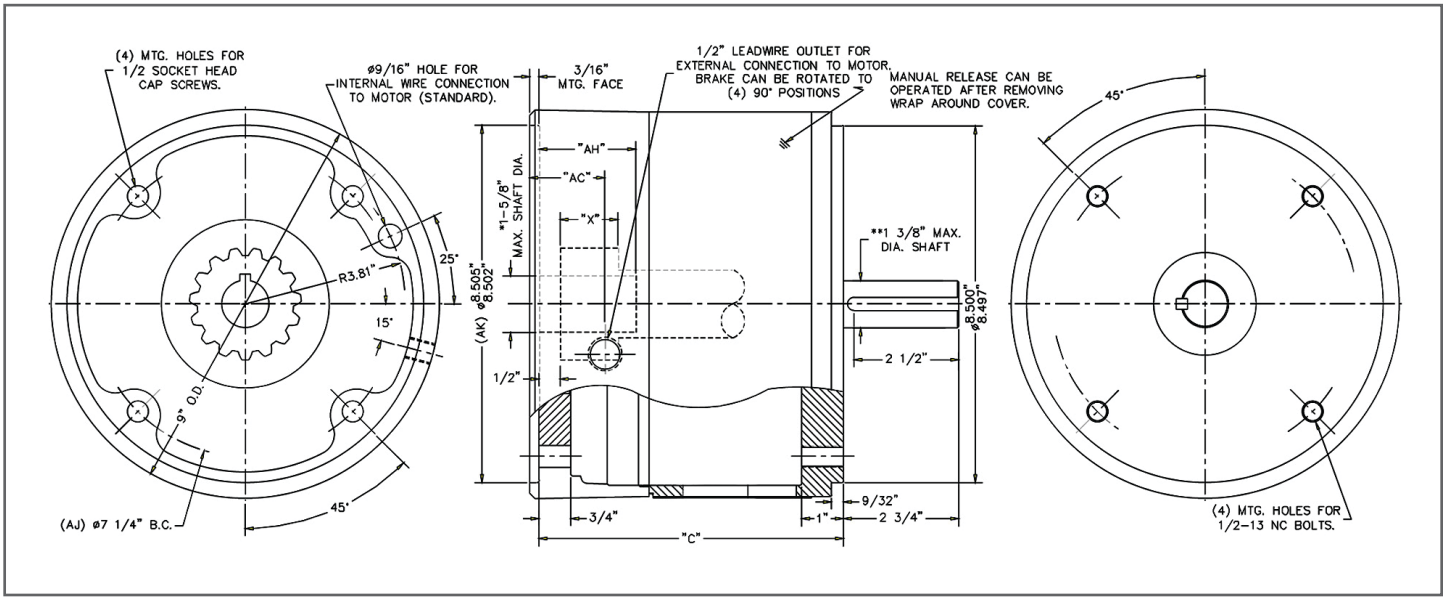
Refer to: Page 100-105 for brake option Description

Torque lb-ft	Model #	# of Friction Discs	Construction	Weight lbs	Thermal Capacity HPS/Min	Inertia lb-ft^2	Dimensions in inches			
							C	AH	X	AC
10	71010-38	1	Cast Iron/Aluminum	45	11	0.069	6.84	1.81*	0.75	1.19
15	71015-38	1	Cast Iron/Aluminum	45	11	0.069	6.84	1.81*	0.75	1.19
25	72025-38	2	Cast Iron/Aluminum	49	12	0.110	7.47	2.44*	1.38	1.63
25	73025-38	3	Cast Iron/Aluminum	53	13	0.150	8.09	3.13	2.00	2.25
35	72035-38	2	Cast Iron/Aluminum	49	12	0.110	7.47	2.44*	1.38	1.63
35	73035-38	3	Cast Iron/Aluminum	53	13	0.150	8.09	3.13	2.00	2.25
50	73050-38	3	Cast Iron/Aluminum	53	13	0.150	8.09	3.13*	2.00	2.25
75	74075-38	4	Cast Iron/Aluminum	57	14	0.190	8.42	3.25*	2.63	2.88

* For 10 or 15 lb.ft. brake with 1-3/8” bore, the motor shaft may need to be modified. See dimension “AH”

For 25 or 35 lb.ft. brake with 1-3/8” bore, use the three disc version.

For brakes with 1-5/8” bore, motor shaft must be modified. Maximum shaft length shown as dimension “AH”

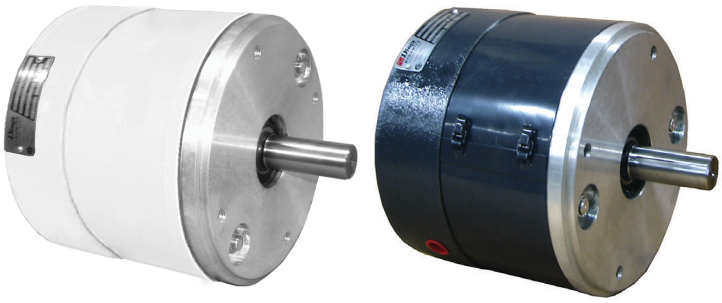


Spec –38 Outline

70 Series Double C Face

Diract

NEMA Frame Sizes 182TC through 256TC
Torque Ratings: 10 to 75 lb-ft



No Disassembly Required for Mounting

Enclosure Types:

Waterproof/Dusttight Enclosure: 70000-46
NEMA 4, CSA 4, IP56
Cast iron bracket and aluminum housing with Neoprene gasketed steel wrapped cover

Waterproof/Dusttight Enclosure: 70000-105
NEMA 4X, CSA 4, IP56
Cast iron bracket and aluminum housing with Neoprene gasketed steel wrapped cover

Standard Hub Bore & Shaft Sizes:

Suffix	Bore	Shaft	Keyway
HH	1 1/8”	1 1/8"	1/4” x 1/8”
KK	1 3/8”	1 3/8”	5/16” x 5/32”

Special bore sizes available

Specifications:

Reaction Time:	20-25 milliseconds (release and set)
AK:	8.50” Register
AJ:	7.25” Bolt Circle
Maximum RPM:	3600
CSA File:	#LR13814
Manual:	NEMA 4: BK4620
	NEMA 4X: BK4720

Standard AC Voltages (single or three phase):

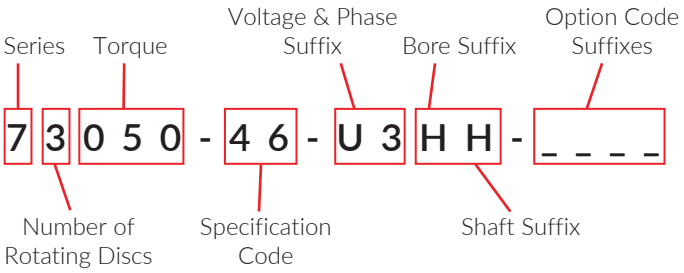
Suffix	Voltage
Y1	110/220V, 50Hz (single phase only)
R1	115/230V, 60 Hz (single phase only)
T1 or T3	220/440V, 60 Hz
U1 or U3	230/460V, 60 Hz or 190/380V, 50 Hz
P1 or P3	575V, 60 Hz

Special voltages available

Design Features:

Torque adjustable for specific applications
Splined hub
Spring set, electrically released
Lead wires for conduit connections (internal connection available)
Manual release, automatic reset
RoHS Compliant

Brake Model Number Definition



Available Options:

	Suffix
Adapter to Larger Frame Size(s)	A
Reverse Adapter	AB
Ductile Iron Stationary Disc(s)	E
Foot Mounting Bracket	F
Heavy-Duty Rotating Friction Disc(s)	H
Marine/Maritime Duty with MIL-SPEC paint per TT-P-645 & MIL-DTL-15090	M
Marine/Maritime Duty	N
Tropical Protection	P
Internal Space Heater	R
Stainless Steel Stationary Disc(s)	S
Class H Insulation	Q
Verticle Mounting, all positions	V
Vertical Mounting, over motor	VO
Vertical Mounting, under motor	VU
Micro-Switch Warning	XS

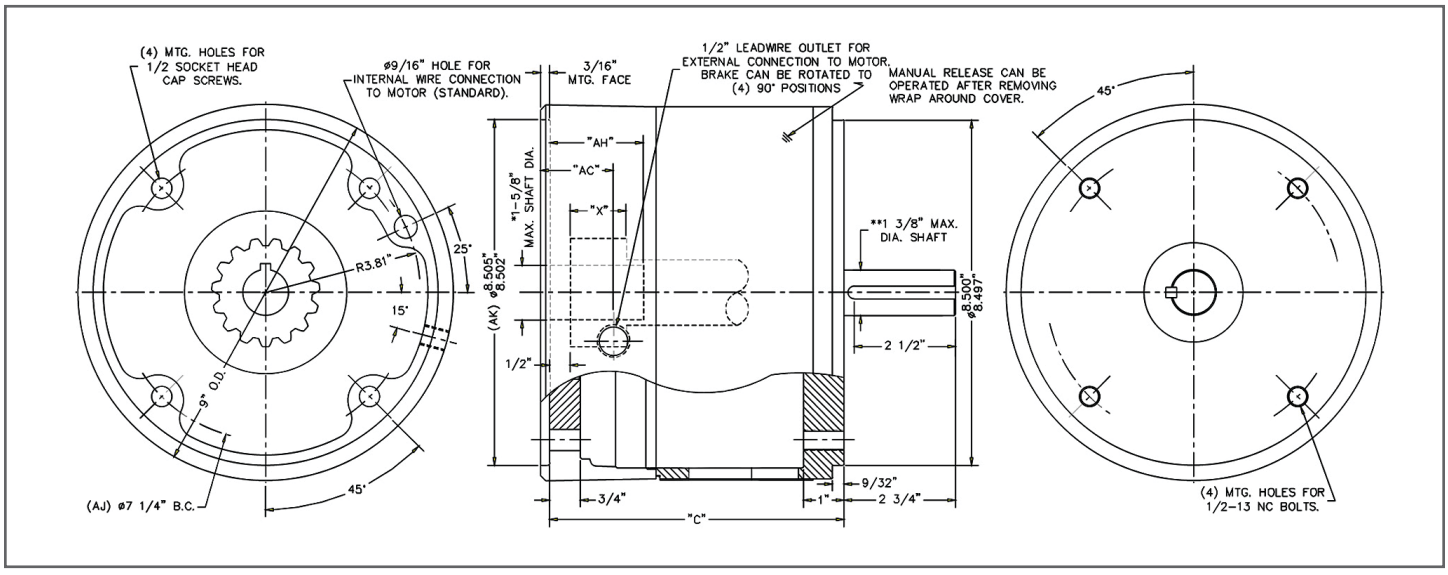
Refer to: Page 100-105 for brake option Description

Torque lb-ft	Model #	# of Friction Discs	Enclosure	Construction	Weight lbs.	Thermal Capacity HPS/Min	Inertia lb-ft^2	Dimensions in inches			
								C	AH	X	AC
10	71010-105	1	NEMA4X	Cast Iron/Aluminum	45	11	0.069	6.84	1.81*	0.75	1.19
	71010-46	1	NEMA4	Cast Iron/Aluminum	45	11	0.069	6.84	1.81	0.75	1.19
15	71015-105	1	NEMA4X	Cast Iron/Aluminum	45	11	0.069	6.84	1.81*	0.75	1.19
	71015-46	1	NEMA4	Cast Iron/Aluminum	45	11	0.069	6.84	1.81*	0.75	1.19
25	72025-105	2	NEMA4X	Cast Iron/Aluminum	49	12	0.110	7.47	2.44*	1.38	1.63
	72025-46	2	NEMA4	Cast Iron/Aluminum	49	12	0.110	7.47	2.44*	1.38	1.63
25	73025-105	3	NEMA4X	Cast Iron/Aluminum	53	13	0.150	8.09	3.13	2.00	2.25
	73025-46	3	NEMA4	Cast Iron/Aluminum	53	13	0.150	8.09	3.13	2.00	2.25
35	72035-105	2	NEMA4X	Cast Iron/Aluminum	49	12	0.110	7.47	2.44*	1.38	1.63
	72035-46	2	NEMA4	Cast Iron/Aluminum	49	12	0.110	7.47	2.44*	1.38	1.63
35	73035-105	3	NEMA4X	Cast Iron/Aluminum	53	13	0.150	8.09	3.13	2.00	2.25
	73035-46	3	NEMA4	Cast Iron/Aluminum	53	13	0.150	8.09	3.13	2.00	2.25
50	73050-105	3	NEMA4X	Cast Iron/Aluminum	53	13	0.150	8.09	3.13*	2.00	2.25
	73050-46	3	NEMA4	Cast Iron/Aluminum	53	13	0.150	8.09	3.13*	2.00	2.25
75	74075-105	4	NEMA4X	Cast Iron/Aluminum	57	14	0.190	8.42	3.25*	2.63	2.88
	74075-46	4	NEMA4	Cast Iron/Aluminum	57	14	0.190	8.42	3.25*	2.63	2.88

* For 10 or 15 lb.ft. brake with 1-3/8” bore, the motor shaft may need to be modified. See dimension “AH”

For 25 or 35 lb.ft. brake with 1-3/8” bore, use the three disc version.

For brakes with 1-5/8” bore, motor shaft must be modified. Maximum shaft length shown as dimension “AH”

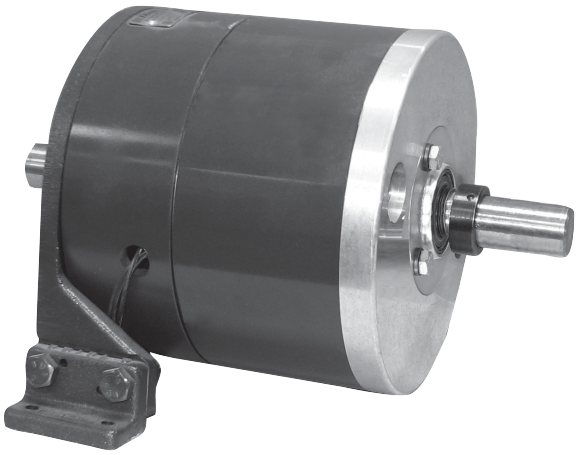


Specs –105 and –46 Outline

70 Series Double Shafted with Foot Mount

8700 Style

Torque Ratings: 10 to 105 lb-ft



Enclosure Types:

Dripproof Enclosure, NEMA 2, CSA 2, IP43, Model 70000-DE41
NEMA 4, CSA 4, IP56, Model 70000-DE61
Cast iron bracket and aluminum housing
Exterior paint: Red primer

Specifications:

Reaction Time:	20-25 milliseconds (release and set)
Maximum RPM:	3600
Coil insulation:	Class H Standard
Manual:	BK4777

Standard Shaft Sizes:

Suffix	Shaft In	Shaft Out	Keyway
HH	1 1/8”	1 1/8”	1/4” x 1/8”
KK	1 3/8”	1 3/8”	5/16” x 5/32”

Special shaft sizes available

Design Features:

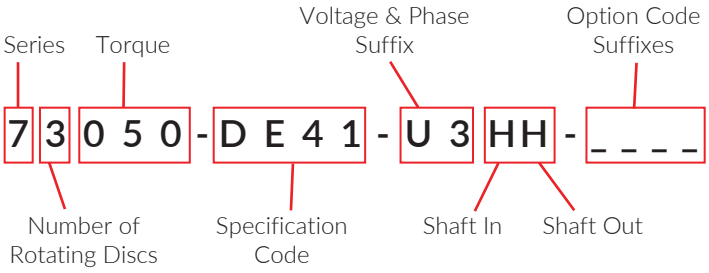
RoHS compliant
Torque adjustable for specific applications
Splined hub
Spring set, electrically released
Lead wires for conduit connections (internal connection available)
Manual release, automatic reset

Standard AC Voltages (single or three phase):

Suffix	Voltage
Y1	110/220V, 50Hz (single phase only)
11	115/208-230V, 60 Hz (single phase only)
R1	115/230V, 60 Hz (single phase only)
51 or 53	208-230/460V, 60 Hz
T1 or T3	220/440V, 60 Hz
U1 or U3	230/460V, 60 Hz or 190/380V, 50 Hz
P1 or P3	575V, 60 Hz

Special voltages available

Brake Model Number Definition



Available Options:

	Suffix
Heavy-Duty Rotating Friction Disc(s) with Hardened Steel Hub	H
Marine/Maritime Duty with MIL-SPEC paint per TT-P-645 & MIL-DTL-15090	M
Marine/Maritime Duty	N
Tropical Protection	P
Internal Space Heater	R
Stainless Steel Stationary Disc(s)	S
Vertical Mounting, all positions	V
Vertical Over, or above motor	VO
Vertical Under, or below motor	VU
Micro-Switch Warning	XS

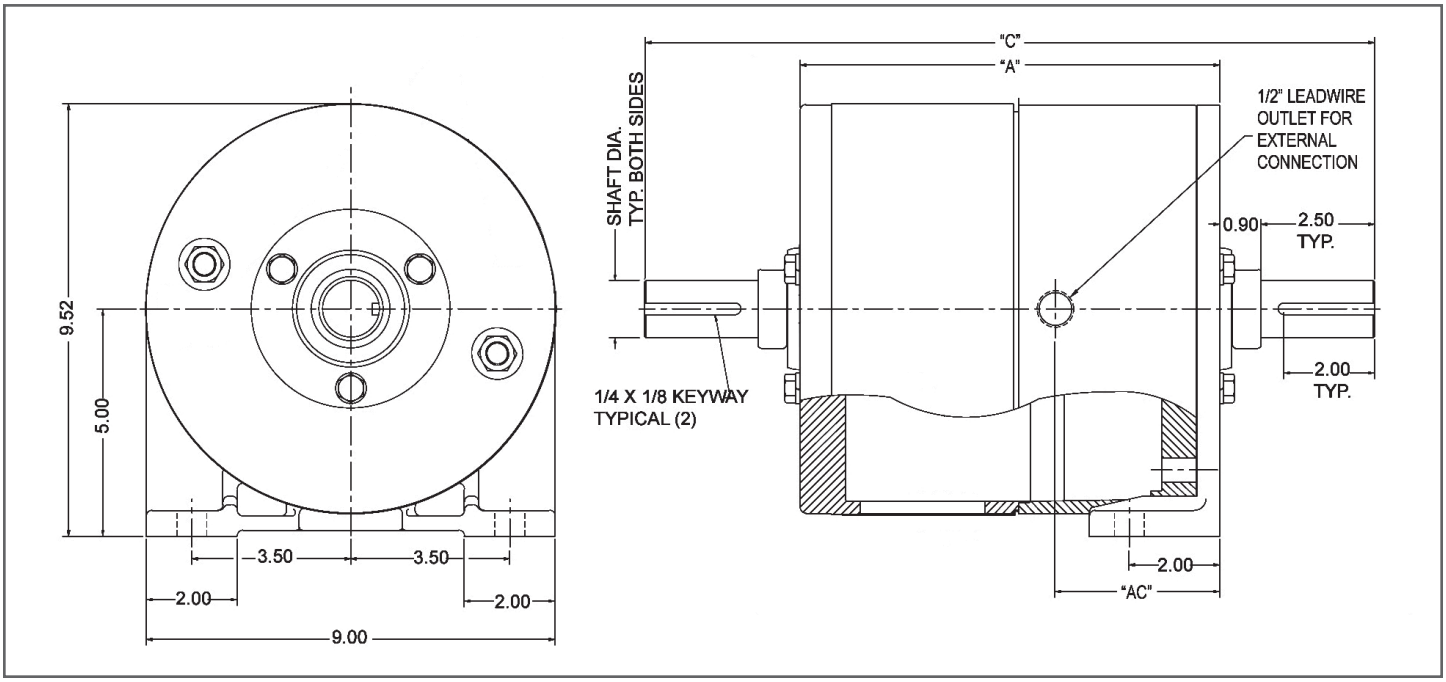
Refer to: Page 100-105 for brake option Description

NEMA 2 Specifications

Torque lb-ft	Model #	Enclosure	Weight lbs	Thermal Capacity HPS/Min	Inertia lb-ft^2	Dimensions in inches			
						A	C 1-1/8" shaft	C 1-3/8" shaft	AC
10	71010-DE41	NEMA 2	45	10	0.069	8.28	15.33	15.56	1.69
15	71015-DE41	NEMA 2	45	10	0.069	8.28	15.33	15.56	1.69
25	72025-DE41	NEMA 2	49	11	0.110	8.28	15.33	15.56	1.69
35	72035-DE41	NEMA 2	49	11	0.110	8.28	15.33	15.56	1.69
50	73050-DE41	NEMA 2	53	12	0.150	8.85	15.89	16.13	2.26
75	74075-DE41	NEMA 2	57	13	0.190	9.41	16.45	16.68	2.82
105	74105-DE41	NEMA 2	57	13	0.190	9.41	16.45	16.68	2.82

NEMA 4 Specifications

Torque lb-ft	Model #	Enclosure	Weight lbs	Thermal Capacity HPS/Min	Inertia lb-ft^2	Dimensions in inches			
						A	C 1-1/8" shaft	C 1-3/8" shaft	AC
10	71010-DE61	NEMA 4	45	10	0.069	8.28	15.33	15.56	1.69
15	71015-DE61	NEMA 4	45	10	0.069	8.28	15.33	15.56	1.69
25	72025-DE61	NEMA 4	49	11	0.110	8.28	15.33	15.56	1.69
35	72035-DE61	NEMA 4	49	11	0.110	8.28	15.33	15.56	1.69
50	73050-DE61	NEMA 4	53	12	0.150	8.85	15.89	16.13	2.26
75	74075-DE61	NEMA 4	57	13	0.190	9.41	16.45	16.68	2.82
105	74105-DE61	NEMA 4	57	13	0.190	9.41	16.45	16.68	2.82



Specs –DE41 and –DE61 Outline

80 Series End Mount

Diract
Heavy Duty 4 Post

NEMA Frame Sizes 284TC/UC, 286TC/UC
Torque Ratings: 25 to 175 lb-ft
Dripproof NEMA 2, CSA 2, IP41



No Disassembly Required for Mounting

80 Series Specifications:

Reaction Time:	20-25 milliseconds (release and set)
AK:	10.50" Register
AJ:	9.00" Bolt Circle
Maximum RPM:	2400
CSA File:	#LR13814
Coil insulation:	Class H
Manual:	BK4804

Standard Hub Bore Sizes:

Suffix	Bore	Keyway Width
H	1 1/8"	1/4" x 1/8"
K	1 3/8"	5/16" x 5/32"
M	1 5/8"	3/8" x 3/16"
N	1 7/8"	1/2" x 1/4"

Special bore sizes available

NEMA 2 Specifications:

External paint:	Red primer
Lead wires:	Internal or conduit connections
Nameplate:	Stamped stainless steel

Standard AC Voltages (single or three phase):

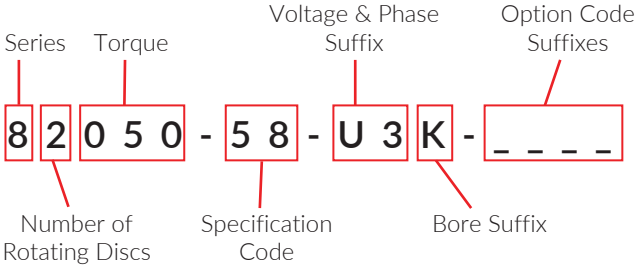
Suffix	Voltage
Y1	110/220V, 50Hz (single phase only)
R1	115/230V, 60 Hz (single phase only)
T1 or T3	220/440V, 60 Hz
U1 or U3	230/460V, 60 Hz or 190/380V, 50 Hz
P1 or P3	575V, 60 Hz

Special voltages available

Design Features:

RoHS compliant
No disassembly required for mounting
Direct acting design with no linkages to break
One moving part for longer life
Torque adjustable for specific applications
Splined hub
Spring set, electrically released
Manual release, automatic reset
External manual release available

Brake Model Number Definition



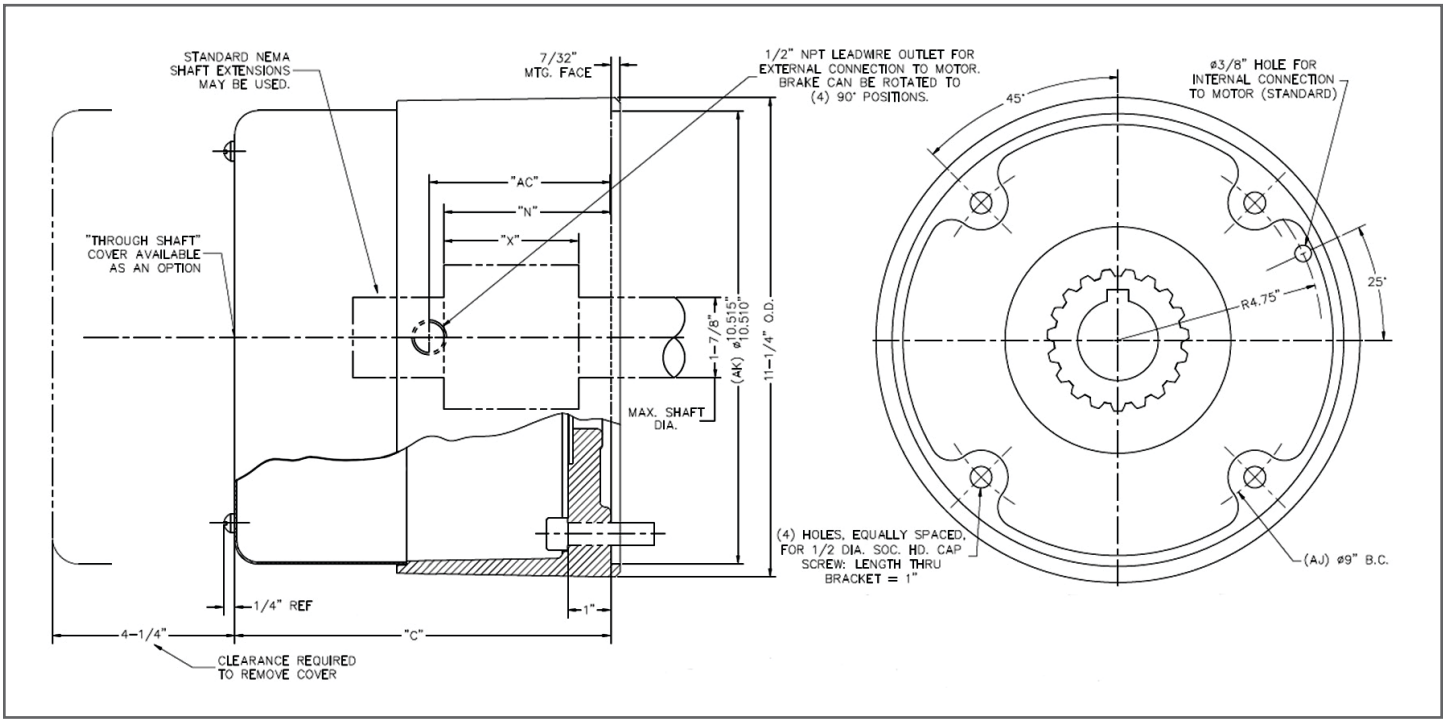
Available Options:

	Suffix
Adapter to Larger Frame Size(s)	A
Reverse Adapter	AB
Ductile Iron Stationary Disc(s)	E
Foot Mounting Bracket	F
Heavy-Duty Rotating Friction Disc(s) with Hardened Steel Hub	H
High Tensile Studs	J
Marine/Maritime Duty with MIL-SPEC paint per TT-P-645 & MIL-DTL-15090	M
Marine/Maritime Duty	N
Tropical Protection	P
Internal Space Heater	R
Stainless Steel Stationary Disc(s)	S
Through Shaft	T
Verticle Mounting, all position	V
Vertical Mounting, over motor	VO
Vertical Mounting, under motor	VU
Micro-Switch Warning	XS

Refer to: Page 100-105 for brake option Description

NEMA 2 / IP41 Enclosure, Cast Iron/Steel

Torque lb-ft	Model #	Construction	Weight lbs	Thermal Capacity HPS/Min	Inertia lb-ft^2	Dimensions in inches			
						C	N	X	AC
25	81025-58	Cast Iron/Steel	57	15	0.084	5.95	1.75	1.00	1.48
35	81035-58	Cast Iron/Steel	57	15	0.084	5.95	1.75	1.00	1.48
50	82050-58	Cast Iron/Steel	65	17	0.158	6.58	2.25	1.50	2.10
70	82070-58	Cast Iron/Steel	65	17	0.158	6.58	2.25	1.50	2.10
75	83075-58	Cast Iron/Steel	70	19	0.233	7.20	2.75	2.00	2.73
105	83105-58	Cast Iron/Steel	70	19	0.233	7.83	2.75	2.00	3.35
125	84125-58	Cast Iron/Steel	75	21	0.307	8.12	3.25	2.50	3.60
175	85175-58	Cast Iron/Steel	81	21	0.384	8.75	3.87	3.12	4.23



Spec –58 Outline

80 Series End Mount

Diract
Heavy Duty 4 Post
NEMA Frame Sizes 284TC/UC, 286TC/UC
Torque Ratings: 25 to 175 lb-ft

Dripproof NEMA 2, CSA 2, IP41



No Disassembly Required for Mounting

80 Series Specifications:

Reaction Time:	20-25 milliseconds (release and set)
AK:	10.50" Register
AJ:	9.00" Bolt Circle
Maximum RPM:	2400
CSA File:	#LR13814
Coil insulation:	Class H
Manual:	BK4604

Standard Hub Bore Sizes:

Suffix	Size	Keyway Width
H	1 1/8"	1/4" x 1/8"
K	1 3/8"	5/16" x 5/32"
M	1 5/8"	3/8" x 3/16"
N	1 7/8"	1/2" x 1/4"

Special bore sizes available

NEMA 2 Specifications:

External paint:	Red primer
Lead wires:	Internal or conduit connections
Nameplate:	Stamped stainless steel

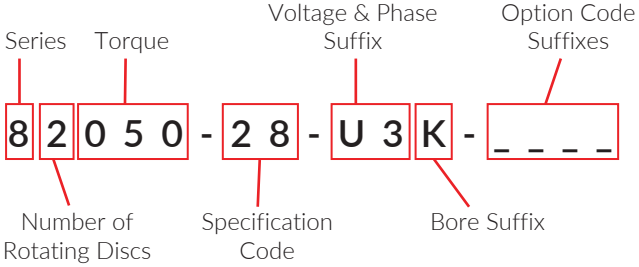
Standard AC Voltages (single or three phase):

Suffix	Voltage
Y1	110/220V, 50Hz (single phase only)
R1	115/230V, 60 Hz (single phase only)
T1 or T3	220/440V, 60 Hz
U1 or U3	230/460V, 60 Hz or 190/380V, 50 Hz
P1 or P3	575V, 60 Hz

Special voltages available

Design Features:
RoHS compliant
No disassembly required for mounting
Direct acting design with no linkages to break
One moving part for longer life
Torque adjustable for specific applications
Splined hub
Spring set, electrically released
Manual release, automatic reset
External manual release available

Brake Model Number Definition



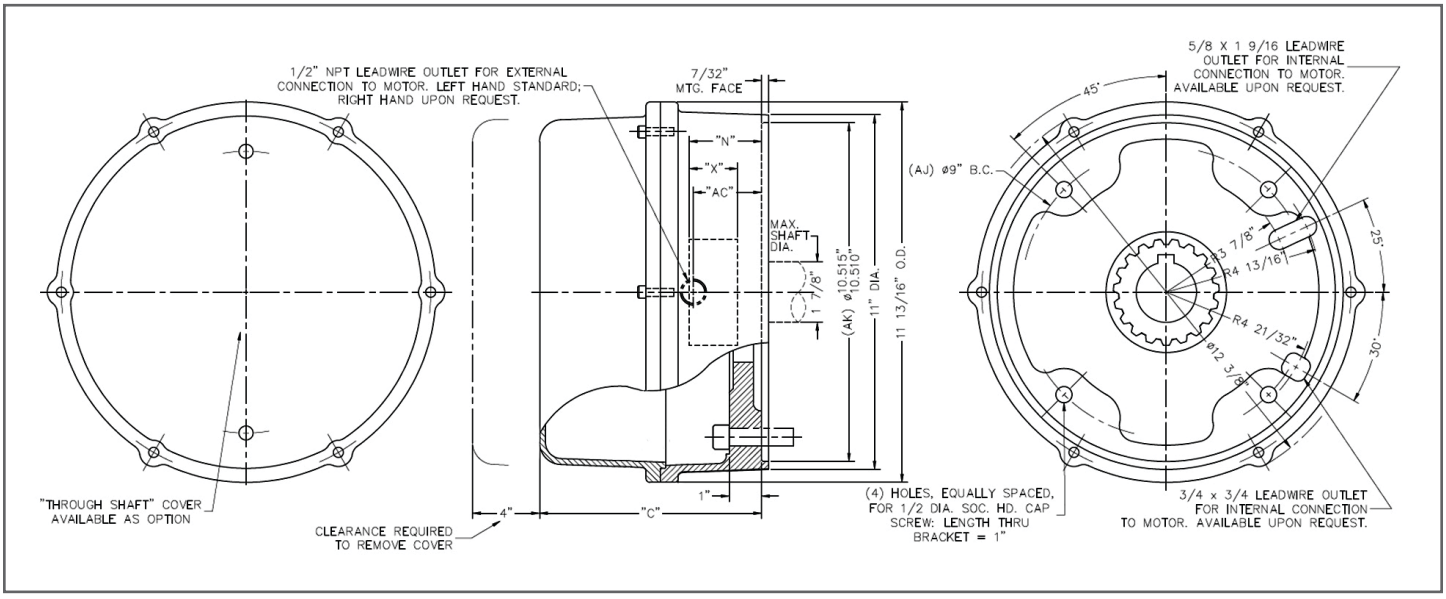
Available Options:

Available Options:	Suffix
Adapter to Larger Frame Size(s)	A
Reverse Adapter	AB
Ductile Iron Stationary Disc(s)	E
Foot Mounting Bracket	F
Heavy-Duty Rotating Friction Disc(s) with Hardened Steel Hub	H
High Tensile Studs	J
Marine/Maritime Duty with MIL-SPEC paint per TT-P-645 & MIL-DTL-15090	M
Marine/Maritime Duty	N
Tropical Protection	P
Internal Space Heater	R
Stainless Steel Stationary Disc(s)	S
Through Shaft	T
Verticle Mounting, all positions	V
Vertical Mounting, over motor	VO
Vertical Mounting, under motor	VU
Micro-Switch Warning	XS

Refer to: Page 100-105 for brake option Description

NEMA 2 / IP41 Enclosure, Cast Iron/Aluminum

Torque lb-ft	Model #	Weight lbs	Thermal Capacity HPS/Min	Inertia lb-ft^2	Dimensions in inches			
					C	N	X	AC
25	81025-28	60	15	0.084	6.31	1.75	1.00	1.73
35	81035-28	60	15	0.084	6.31	1.75	1.00	1.73
50	82050-28	68	17	0.158	6.94	2.25	1.50	2.35
70	82070-28	68	17	0.158	6.94	2.25	1.50	2.35
75	83075-28	73	19	0.233	7.56	2.75	2.00	2.98
105	83105-28	74	19	0.233	7.56	2.75	2.00	2.98
125	84125-28	79	21	0.307	8.12	3.25	2.50	3.60
175	85175-28	85	21	0.384	8.81	3.87	3.12	4.23



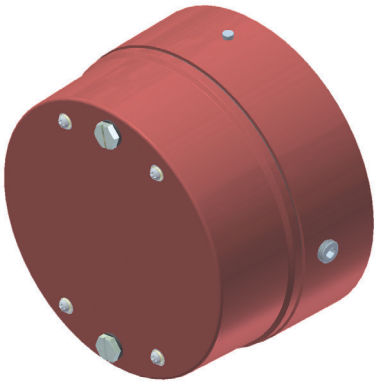
Spec –28 Outline

80 Series End Mount

Diract
Heavy Duty 4 Post

NEMA Frame Sizes
284TC/UC, 286TC/UC
Torque Ratings: 25 to 175 lb-ft

NEMA 4, CSA 4, IP56
without hub seal for Non-TEFC applications



No Disassembly Required for Mounting

80 Series Specifications:

Reaction Time:	20-25 milliseconds (release and set)
AK:	10.50" Register
AJ:	9.00" Bolt Circle
Maximum RPM:	2400
CSA File:	#LR13814
Coil insulation:	Class H
Manual:	BK4818

Standard Hub Bore Sizes:

Suffix	Size	Keyway Width
H	1 1/8"	1/4" x 1/8"
K	1 3/8"	5/16" x 5/32"
M	1 5/8"	3/8" x 3/16"
N	1 7/8"	1/2" x 1/4"

Special bore sizes available

NEMA 4 Non-TEFC Specifications:

Without hub seal for non-TEFC applications

External paint:	Red primer
Lead wires:	Internal or conduit connections
Nameplate:	Stamped stainless steel

Standard AC Voltages (single or three phase):

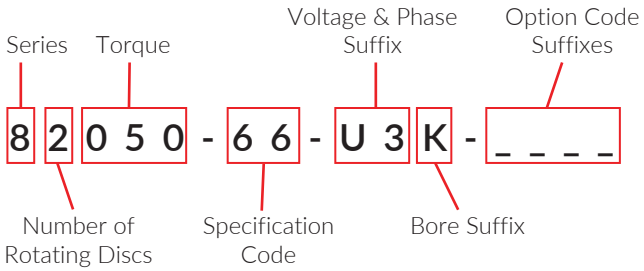
Suffix	Voltage
Y1	110/220V, 50Hz (single phase only)
R1	115/230V, 60 Hz (single phase only)
T1 or T3	220/440V, 60 Hz
U1 or U3	230/460V, 60 Hz or 190/380V, 50 Hz
P1 or P3	575V, 60 Hz

Special voltages available

Design Features:

RoHS compliant
No disassembly required for mounting
Direct acting design with no linkages to break
One moving part for longer life
Torque adjustable for specific applications
Splined hub
Spring set, electrically released
Manual release, automatic reset
External manual release available

Brake Model Number Definition



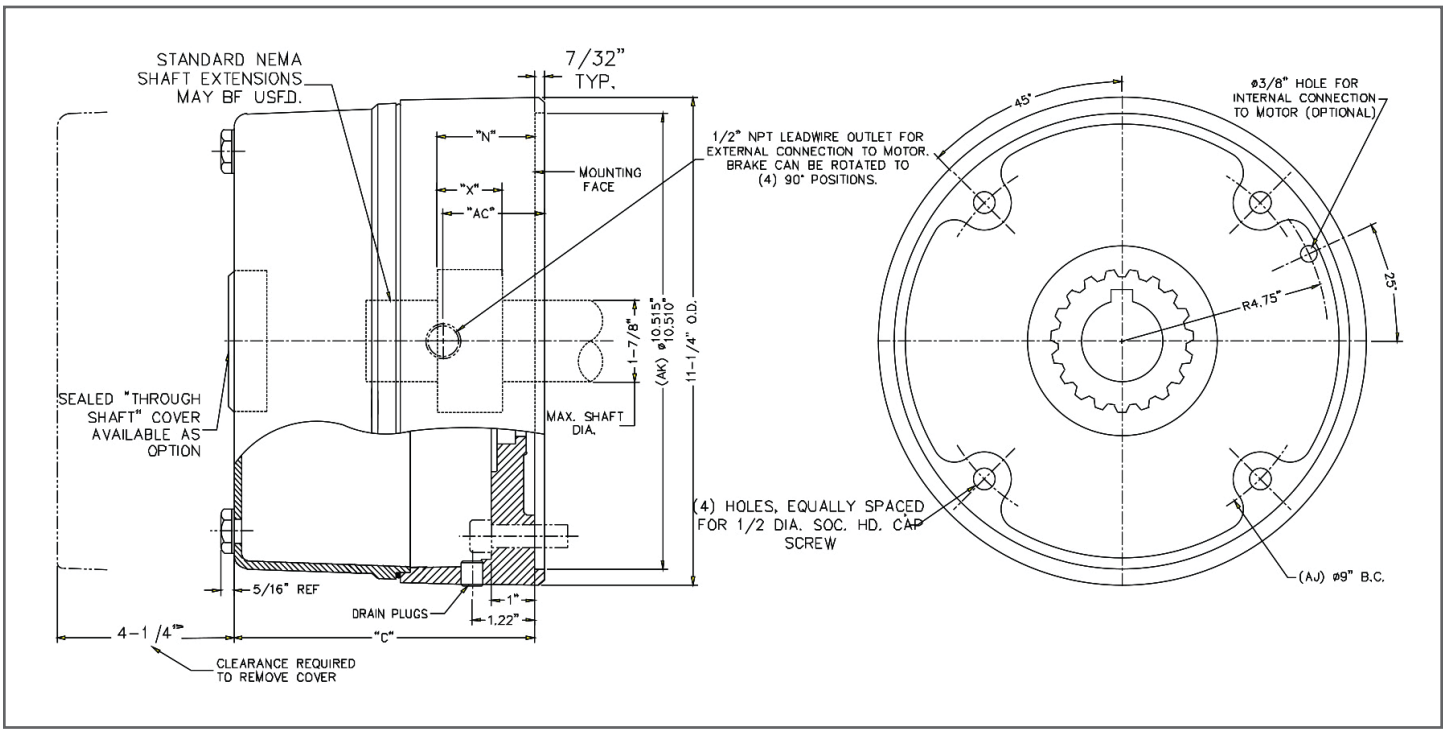
Available Options:

	Suffix
Adapter to Larger Frame Size(s)	A
Reverse Adapter	AB
Ductile Iron Stationary Disc(s)	E
Foot Mounting Bracket	F
Heavy-Duty Rotating Friction Disc(s) with Hardened Steel Hub	H
High Tensile Studs	J
Marine/Maritime Duty with MIL-SPEC paint per TT-P-645 & MIL-DTL-15090	M
Marine/Maritime Duty	N
Tropical Protection	P
Internal Space Heater	R
Stainless Steel Stationary Disc(s)	S
Through Shaft	T
Verticle Mounting, all positions	V
Vertical Mounting, over motor	VO
Vertical Mounting, under motor	VU
Micro-Switch Warning	XS

Refer to: Page 100-105 for brake option Description

NEMA 4 / IP56 Enclosure without hub seal for non-TEFC applications

Torque lb-ft	Model #	Construction	Weight lbs	Thermal Capacity HPS/Min	Inertia lb-ft^2	Dimensions in inches			
						C	N	X	AC
25	81025-66	Cast Iron	57	15	0.084	6.00	1.75	1.00	1.73
35	81035-66	Cast Iron	57	15	0.084	6.00	1.75	1.00	1.73
50	82050-66	Cast Iron	65	17	0.158	6.62	2.25	1.50	2.35
70	82070-66	Cast Iron	65	17	0.158	6.62	2.25	1.50	2.35
75	83075-66	Cast Iron	70	19	0.233	7.25	2.75	2.00	2.98
105	83105-66	Cast Iron	70	19	0.233	7.25	2.75	2.00	2.98
125	84125-66	Cast Iron	75	21	0.307	7.87	3.25	2.50	3.60
175	85175-66	Cast Iron	81	21	0.384	8.50	3.87	3.12	4.23



Spec –66 Outline

80 Series End Mount

Diract
Heavy Duty 4 Post

NEMA Frame Sizes
284TC/UC, 286TC/UC
Torque Ratings: 25 to 175 lb-ft

NEMA 4, CSA 4, IP56
without hub seal for Non-TEFC applications



No Disassembly Required for Mounting

80 Series Specifications:

Reaction Time:	20-25 milliseconds (release and set)
AK:	10.50" Register
AJ:	9.00" Bolt Circle
Maximum RPM:	2400
CSA File:	#LR13814
Coil insulation:	Class H
Manual:	BK4814

Standard Hub Bore Sizes:

Suffix	Size	Keyway Width
H	1 1/8"	1/4" x 1/8"
K	1 3/8"	5/16" x 5/32"
M	1 5/8"	3/8" x 3/16"
N	1 7/8"	1/2" x 1/4"

Special bore sizes available

NEMA 4 Non-TEFC Specifications:

Without hub seal for non-TEFC applications

External paint:	Red primer
Lead wires:	Internal or conduit connections
Nameplate:	Stamped stainless steel

Standard AC Voltages (single or three phase):

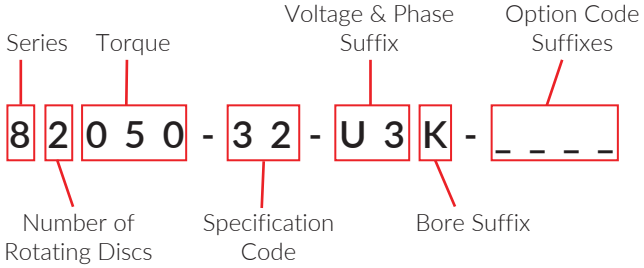
Suffix	Voltage
Y1	110/220V, 50Hz (single phase only)
R1	115/230V, 60 Hz (single phase only)
T1 or T3	220/440V, 60 Hz
U1 or U3	230/460V, 60 Hz or 190/380V, 50 Hz
P1 or P3	575V, 60 Hz

Special voltages available

Design Features:

RoHS compliant
No disassembly required for mounting
Direct acting design with no linkages to break
One moving part for longer life
Torque adjustable for specific applications
Splined hub
Spring set, electrically released
Manual release, automatic reset
External manual release available

Brake Model Number Definition



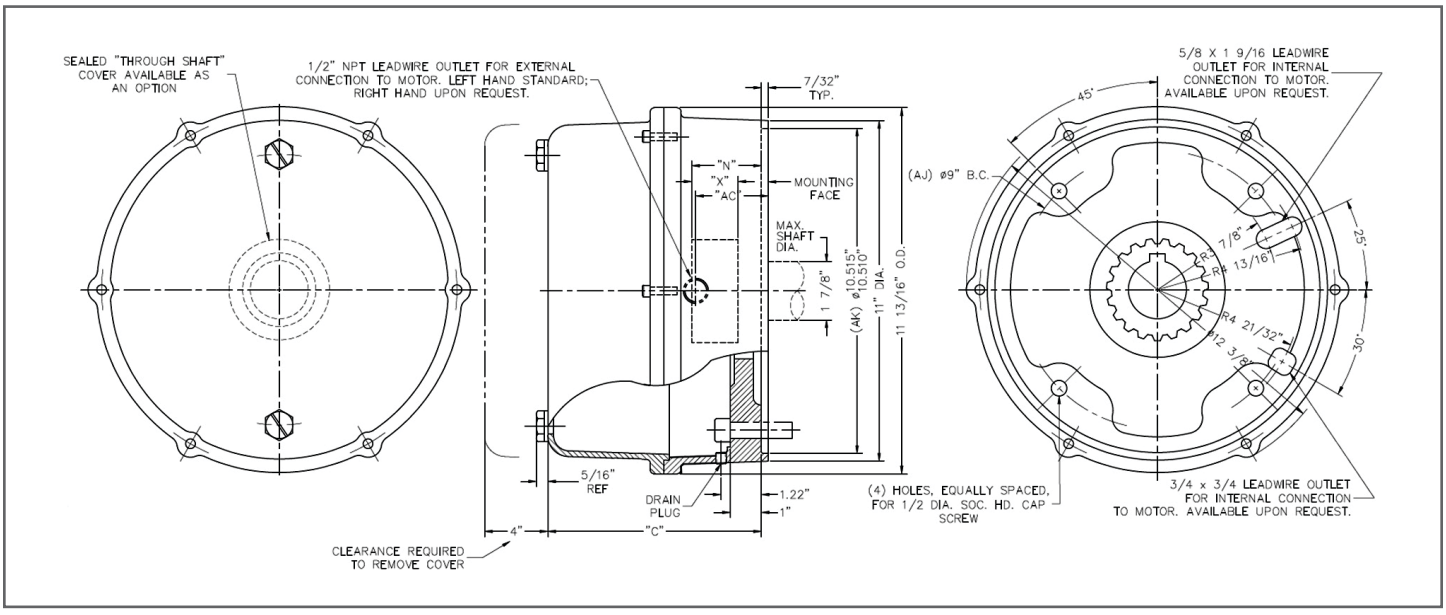
Available Options:

	Suffix
Adapter to Larger Frame Size(s)	A
Reverse Adapter	AB
Ductile Iron Stationary Disc(s)	E
Foot Mounting Bracket	F
Heavy-Duty Rotating Friction Disc(s) with Hardened Steel Hub	H
High Tensile Studs	J
Marine/Maritime Duty with MIL-SPEC paint per TT-P-645 & MIL-DTL-15090	M
Marine/Maritime Duty	N
Tropical Protection	P
Internal Space Heater	R
Stainless Steel Stationary Disc(s)	S
Through Shaft	T
Verticle Mounting, all positions	V
Vertical Mounting, over motor	VO
Vertical Mounting, under motor	VU
Micro-Switch Warning	XS

Refer to: Page 100-105 for brake option Description

NEMA 4 / IP56 Enclosure without hub seal for non-TEFC applications

Torque lb-ft	Model #	Construction	Weight lbs	Thermal Capacity HPS/Min	Inertia lb-ft^2	Dimensions in inches			
						C	N	X	AC
25	81025-32	Cast Iron	57	15	0.084	6.25	1.75	1.00	1.73
35	81035-32	Cast Iron	57	15	0.084	6.25	1.75	1.00	1.73
50	82050-32	Cast Iron	65	17	0.158	6.87	2.25	1.50	2.35
70	82070-32	Cast Iron	65	17	0.158	6.87	2.25	1.50	2.35
75	83075-32	Cast Iron	70	19	0.233	7.50	2.75	2.00	2.98
105	83105-32	Cast Iron	70	19	0.233	7.50	2.75	2.00	2.98
125	84125-32	Cast Iron	75	21	0.307	8.12	3.25	2.50	3.60
175	85175-32	Cast Iron	81	21	0.384	8.75	3.87	3.12	4.23



Spec –32 Outline

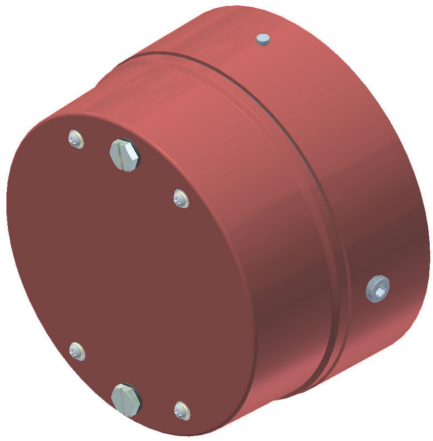
80 Series End Mount

Diract
Heavy Duty 4 Post

NEMA Frame Sizes
284TC/UC, 286TC/UC
Torque Ratings: 25 to 175 lb-ft

NEMA 4, CSA 4, IP56*
with hub seal for TEFC applications

* To obtain full IP56 protection, the customer shaft, hub bore, key and keyway's mating surface(s) must be sealed to meet IP56. Considerations should be reviewed to appropriately seal mounting hardware as well. Contact factory for details and/or assistance.



No Disassembly Required for Mounting

80 Series Specifications:

Reaction Time:	20-25 milliseconds (release and set)
AK:	10.50" Register
AJ:	9.00" Bolt Circle
Maximum RPM:	2400
CSA File:	#LR13814
Coil insulation:	Class H
Manual:	BK4818

Standard Hub Bore Sizes:

Suffix	Size	Keyway Width
H	1 1/8"	1/4" x 1/8"
K	1 3/8"	5/16" x 5/32"
M	1 5/8"	3/8" x 3/16"
N	1 7/8"	1/2" x 1/4"

Special bore sizes available

NEMA 4 Non-TEFC Specifications:

External paint:	Red primer
Lead wires:	Conduit connections
Nameplate:	Stamped stainless steel

Standard AC Voltages (single or three phase):

Suffix	Voltage
Y1	110/220V, 50Hz (single phase only)
R1	115/230V, 60 Hz (single phase only)
T1 or T3	220/440V, 60 Hz
U1 or U3	230/460V, 60 Hz or 190/380V, 50 Hz
P1 or P3	575V, 60 Hz

Special voltages available

Design Features:

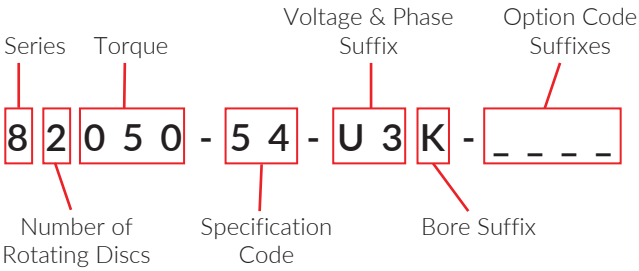
No disassembly required for mounting
Direct acting design with no linkages to break
One moving part for longer life
Torque adjustable for specific applications
Splined hub
Spring set, electrically released
Manual release, automatic reset
External manual release available

Available Options:

	Suffix
Adapter to Larger Frame Size(s)	A
Reverse Adapter	AB
Ductile Iron Stationary Disc(s)	E
Foot Mounting Bracket	F
Heavy-Duty Rotating Friction Disc(s) with Hardened Steel Hub	H
High Tensile Studs	J
Marine/Maritime Duty with MIL-SPEC paint per TT-P-645 & MIL-DTL-15090	M
Marine/Maritime Duty	N
Tropical Protection	P
Internal Space Heater	R
Stainless Steel Stationary Disc(s)	S
Through Shaft	T
Verticle Mounting, all positions	V
Vertical Mounting, over motor	VO
Vertical Mounting, under motor	VU
Micro-Switch Warning	XS

Refer to: Page 100-105 for brake option Description

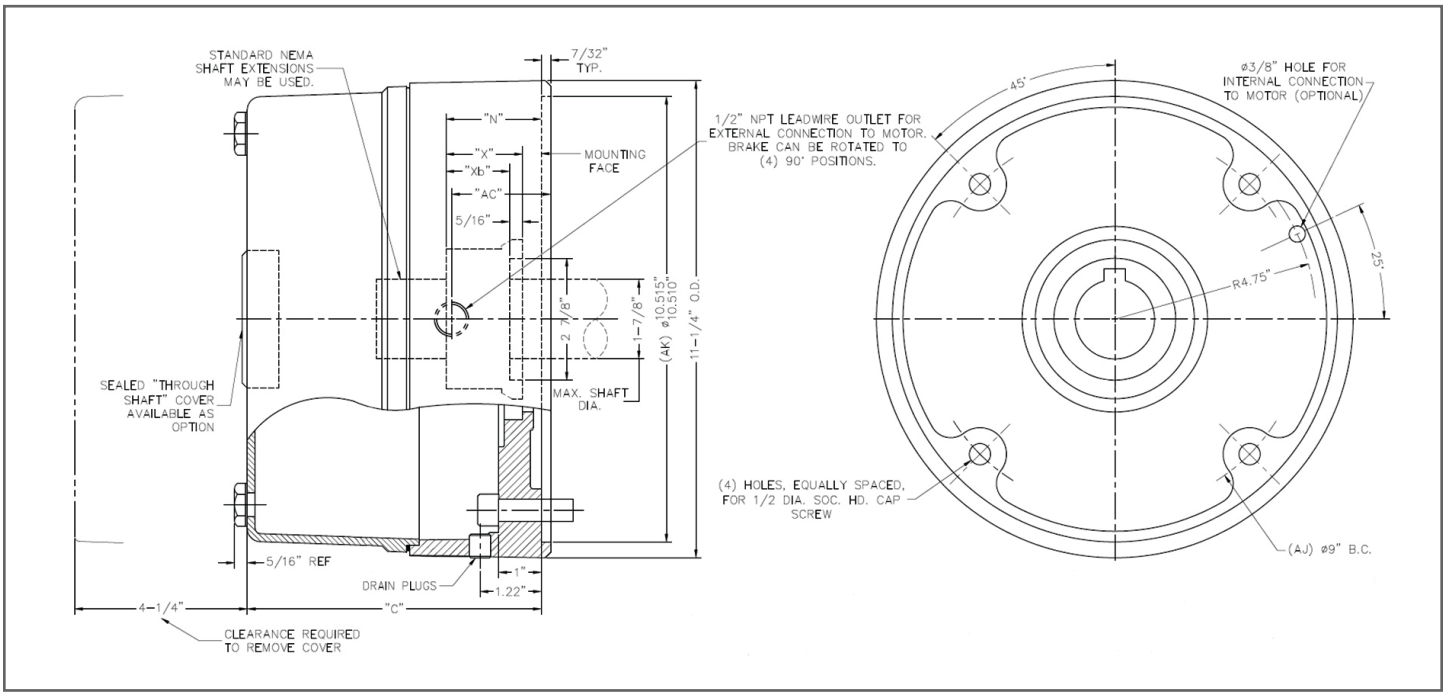
Brake Model Number Definition



NEMA 4 / IP56 Enclosure with hub seal

Torque lb-ft	Model #	Construction	Weight lbs	Thermal Capacity HPS/Min	Inertia lb-ft^2	Dimensions in inches				
						C	N	X	Xb	AC
25	81025-54	Cast Iron	57	15	0.084	6.00	1.75	1.31	1.00	1.73
35	81035-54	Cast Iron	57	15	0.084	6.00	1.75	1.31	1.00	1.73
50	82050-54	Cast Iron	65	17	0.158	6.62	2.25	1.81	1.50	2.35
70	82070-54	Cast Iron	65	17	0.158	6.62	2.25	1.81	1.50	2.35
75	83075-54	Cast Iron	70	19	0.233	7.25	2.75	2.31	2.00	2.98
105	83105-54	Cast Iron	70	19	0.233	7.25	2.75	2.31	2.00	2.98
125	84125-54	Cast Iron	75	21	0.307	7.87	3.25	2.81	2.50	3.60
175	85175-54	Cast Iron	81	21	0.384	8.50	3.87	3.44	3.13	4.23

** For Xb dimension is the length of useful bore and keyway of dimension x



Spec –54 Outline

80 Series End Mount

Diract
Heavy Duty 4 Post

NEMA Frame Sizes
284TC/UC, 286TC/UC
Torque Ratings: 25 to 175 lb-ft

NEMA 4, CSA 4, IP56*
with hub seal for TEFC applications

* To obtain full IP56 protection, the customer shaft, hub bore, key and keyway's mating surface(s) must be sealed to meet IP56. Considerations should be reviewed to appropriately seal mounting hardware as well. Contact factory for details and/or assistance.



No Disassembly Required for Mounting

80 Series Specifications:

Reaction Time:	20-25 milliseconds (release and set)
AK:	10.50" Register
AJ:	9.00" Bolt Circle
Maximum RPM:	2400
CSA File:	#LR13814
Coil insulation:	Class H
Manual:	BK4814

Standard Hub Bore Sizes:

Suffix	Size	Keyway Width
H	1 1/8"	1/4" x 1/8"
K	1 3/8"	5/16" x 5/32"
M	1 5/8"	3/8" x 3/16"
N	1 7/8"	1/2" x 1/4"

Special bore sizes available

NEMA 4 Non-TEFC Specifications:

External paint:	Red primer
Lead wires:	Conduit connections
Nameplate:	Stamped stainless steel

Standard AC Voltages (single or three phase):

Suffix	Voltage
Y1	110/220V, 50Hz (single phase only)
R1	115/230V, 60 Hz (single phase only)
T1 or T3	220/440V, 60 Hz
U1 or U3	230/460V, 60 Hz or 190/380V, 50 Hz
P1 or P3	575V, 60 Hz

Special voltages available

Design Features:

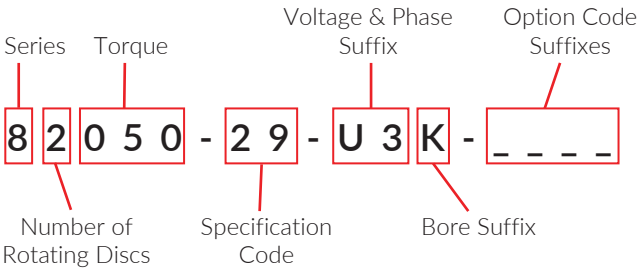
No disassembly required for mounting
Direct acting design with no linkages to break
One moving part for longer life
Torque adjustable for specific applications
Splined hub
Spring set, electrically released
Manual release, automatic reset
External manual release available

Available Options:

Available Options:	Suffix
Adapter to Larger Frame Size(s)	A
Reverse Adapter	AB
Ductile Iron Stationary Disc(s)	E
Foot Mounting Bracket	F
Heavy-Duty Rotating Friction Disc(s) with Hardened Steel Hub	H
High Tensile Studs	J
Marine/Maritime Duty with MIL-SPEC paint per TT-P-645 & MIL-DTL-15090	M
Marine/Maritime Duty	N
Tropical Protection	P
Internal Space Heater	R
Stainless Steel Stationary Disc(s)	S
Through Shaft	T
Verticle Mounting, all positions	V
Vertical Mounting, over motor	VO
Vertical Mounting, under motor	VU
Micro-Switch Warning	XS

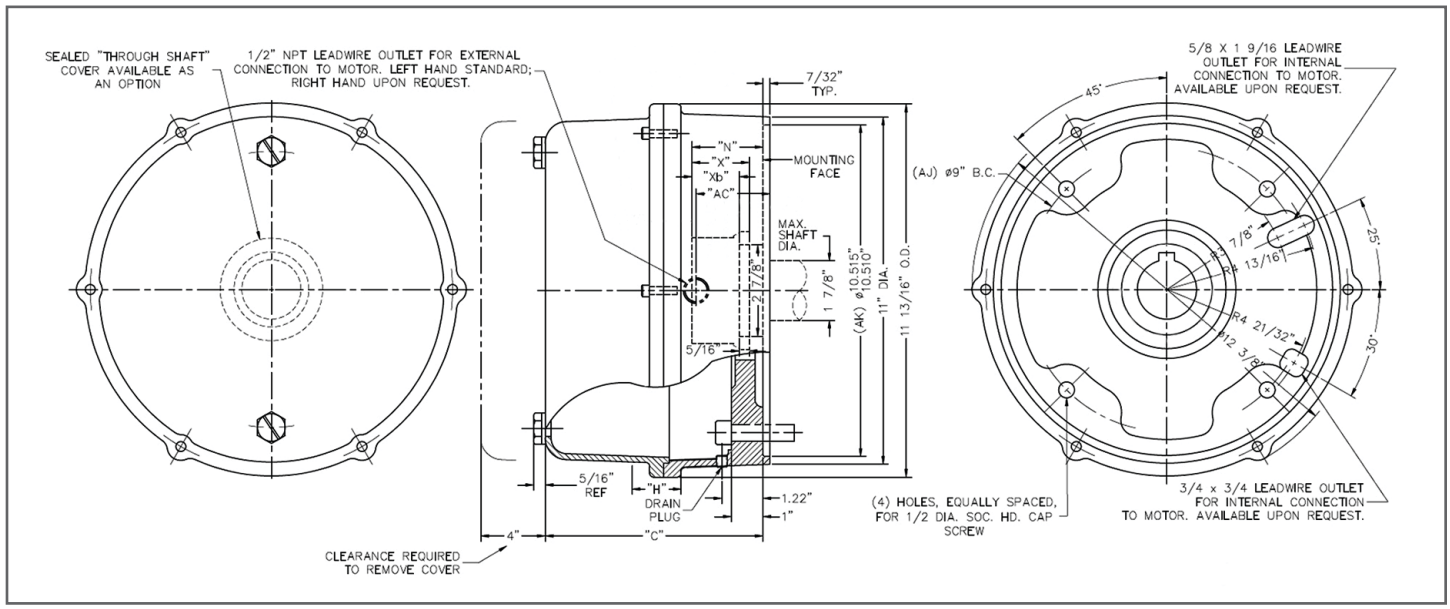
Refer to: Page 100-105 for brake option Description

Brake Model Number Definition



NEMA 4 / IP56 Enclosure with hub seal

Torque lb-ft	Model #	Construction	Weight lbs	Thermal Capacity HPS/Min	Inertia lb-ft^2	Dimensions in inches				
						C	N	X	Xb	AC
25	81025-29	Cast Iron	57	15	0.084	6.25	1.75	1.31	1.00	1.73
35	81035-29	Cast Iron	57	15	0.084	6.25	1.75	1.31	1.00	1.73
50	82050-29	Cast Iron	65	17	0.158	6.87	2.25	1.81	1.50	2.35
70	82070-29	Cast Iron	65	17	0.158	6.87	2.25	1.81	1.50	2.35
75	83075-29	Cast Iron	70	19	0.233	7.50	2.75	2.31	2.00	2.98
105	83105-29	Cast Iron	70	19	0.233	7.50	2.75	2.31	2.00	2.98
125	84125-29	Cast Iron	75	21	0.307	8.12	3.25	2.81	2.50	3.60
175	85175-29	Cast Iron	81	21	0.384	8.75	3.87	3.44	3.13	4.23



Spec –29 Outline

80 Series End Mount

Diract
Heavy Duty 4 Post

NEMA Frame Sizes
284TC/UC, 286TC/UC
Torque Ratings: 25 to 175 lb-ft

NEMA 2, CSA 2, IP41

Mark II (80000-62)
Mark III (80000-30)

Mark II Release:	Single point, hand activated, external release lever. Manually set / automatically reset by manually deactivating or energizing the brake. Available on brakes with cast covers only
Mark III Release:	Dual, hand activated, external release knobs. Manually set/automatically reset by manually deactivating or energizing the brake. Available on brakes with cast covers only.

80 Series Specifications:

Reaction Time:	20-25 milliseconds (release and set)
AK:	10.5" Register
AJ:	9.00" Bolt Circle
Maximum RPM:	2400
CSA File:	#LR13814
Coil insulation:	Class H
Manual:	Mark II=BK4819 Mark III=BK4823

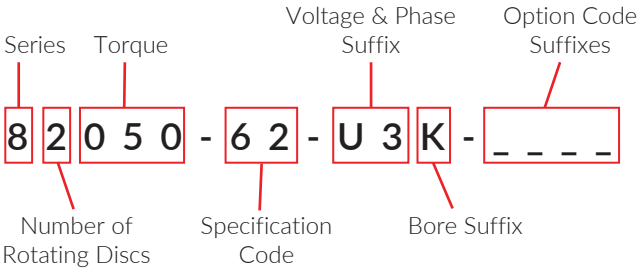
NEMA 2 Non-TEFC Specifications:

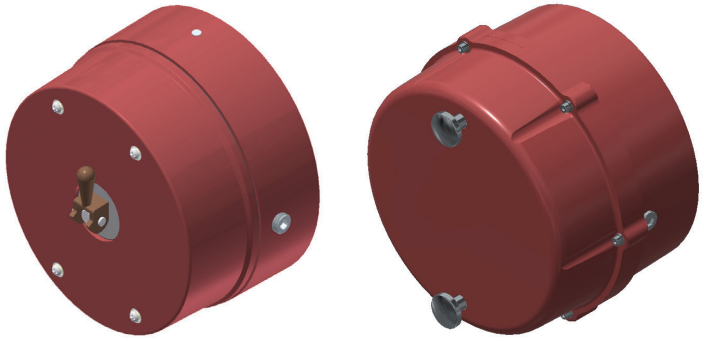
External paint:	Red primer
Lead wires:	Conduit connections
Nameplate:	Stamped stainless steel

Design Features:

No disassembly required for mounting
Direct acting design with no linkages to break
One moving part for longer life
Torque adjustable for specific applications
Splined hub
Spring set, electrically released
Manual release, automatic reset
External manual release available

Brake Model Number Definition





No Disassembly Required for Mounting

Standard Hub Bore Sizes:

Suffix	Size	Keyway Width
H	1 1/8"	1/4" x 1/8"
K	1 3/8"	5/16" x 5/32"
M	1 5/8"	3/8" x 3/16"
N	1 7/8"	1/2" x 1/4"

Special bore sizes available

Standard AC Voltages (single or three phase):

Suffix	Voltage
Y1	110/220V, 50Hz (single phase only)
R1	115/230V, 60 Hz (single phase only)
T1 or T3	220/440V, 60 Hz
U1 or U3	230/460V, 60 Hz or 190/380V, 50 Hz
P1 or P3	575V, 60 Hz

Special voltages available

Available Options:	Suffix
Adapter to Larger Frame Size(s)	A
Reverse Adapter	AB
Ductile Iron Stationary Disc(s)	E
Foot Mounting Bracket	F
Heavy-Duty Rotating Friction Disc(s) with Hardened Steel Hub	H
High Tensile Studs	J
Marine/Maritime Duty with MIL-SPEC paint per TT-P-645 & MIL-DTL-15090	M
Marine/Maritime Duty	N
Tropical Protection	P
Internal Space Heater	R
Stainless Steel Stationary Disc(s)	S
Through Shaft	T
Verticle Mounting, all position	V
Vertical Mounting, over motor	VO
Vertical Mounting, under motor	VU
Micro-Switch Warning	XS

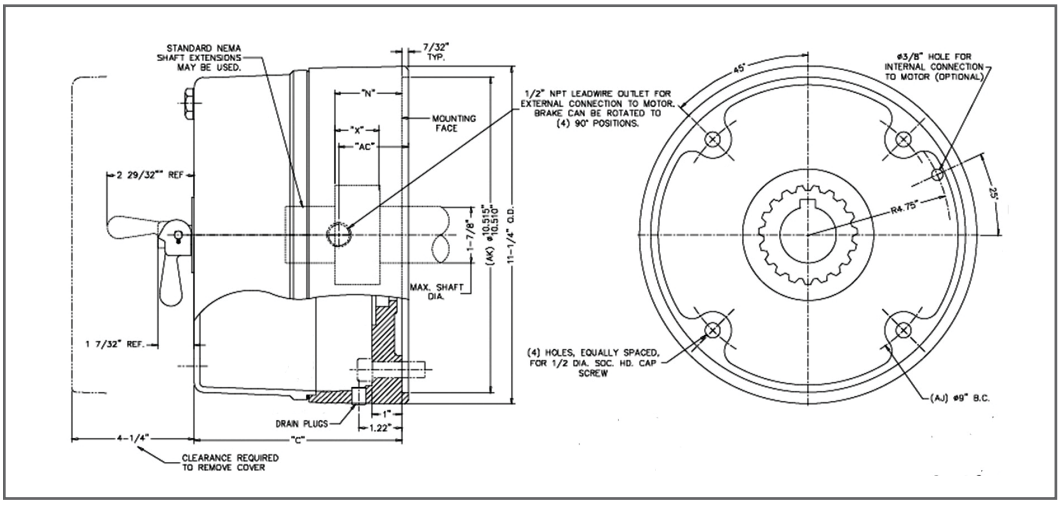
Refer to: Page 100-105 for brake option Description

NEMA 2 / Mark II /IP41 Enclosure

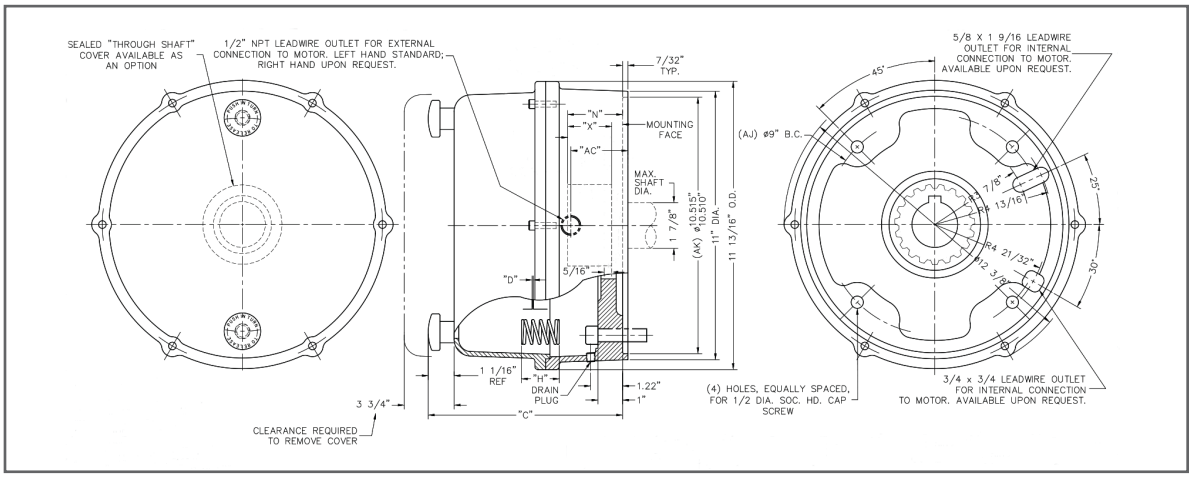
Torque lb-ft	Model #	Construction	Weight lbs	Thermal Capacity HPS/Min	Inertia lb-ft^2	Dimensions in inches			
						C	N	X	AC
25	81025-62	Cast Iron	57	15	0.084	6.00	1.75	1.00	1.73
35	81035-62	Cast Iron	57	15	0.084	6.00	1.75	1.00	1.73
50	82050-62	Cast Iron	65	17	0.158	6.62	2.25	1.50	2.35
70	82070-62	Cast Iron	65	17	0.158	6.62	2.25	1.50	2.35
75	83075-62	Cast Iron	70	19	0.233	7.25	2.75	2.00	2.98
105	83105-62	Cast Iron	70	19	0.233	7.25	2.75	2.00	2.98
125	84125-62	Cast Iron	75	21	0.307	7.87	3.25	2.50	3.60
175	85175-62	Cast Iron	81	21	0.384	8.50	3.87	3.12	4.23

NEMA 2 / Mark III /IP41 Enclosure

Torque lb-ft	Model #	Construction	Weight lbs	Thermal Capacity HPS/Min	Inertia lb-ft^2	Dimensions in inches			
						C	N	X	AC
25	81025-30	Cast Iron	57	15	0.084	6.25	1.75	1.00	1.73
35	81035-30	Cast Iron	57	15	0.084	6.25	1.75	1.00	1.73
50	82050-30	Cast Iron	65	17	0.158	6.87	2.25	1.50	2.35
70	82070-30	Cast Iron	65	17	0.158	6.87	2.25	1.50	2.35
75	83075-30	Cast Iron	70	19	0.233	7.50	2.75	2.00	2.98
105	83105-30	Cast Iron	70	19	0.233	7.50	2.75	2.00	2.98
125	84125-30	Cast Iron	75	21	0.307	8.12	3.25	2.50	3.60
175	85175-30	Cast Iron	81	21	0.384	8.75	3.87	3.12	4.23



Spec –62 Outline



Spec –30 Outline

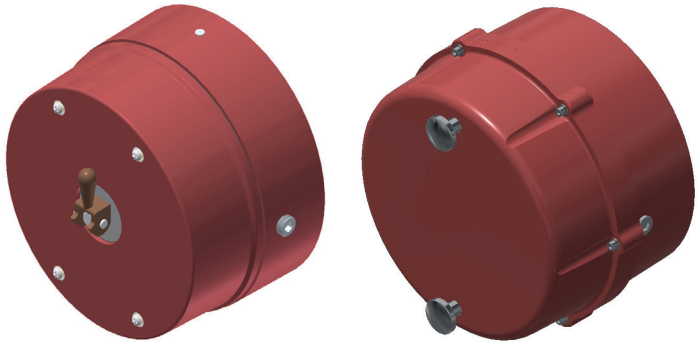
80 Series End Mount

Diract
Heavy Duty 4 Post

NEMA Frame Sizes
284TC/UC, 286TC/UC
Torque Ratings: 25 to 175 lb-ft

NEMA 4, CSA 4, IP56
without hub seal for Non-TEFC applications

Mark II (80000-67)
Mark III (80000-46)



No Disassembly Required for Mounting

Mark II Release:	Single point, hand activated, external release lever. Manually set / automatically reset by manually deactivating or energizing the brake. Available on brakes with cast covers only
Mark III Release:	Dual, hand activated, external release knobs. Manually set/automatically reset by manually deactivating or energizing the brake. Available on brakes with cast covers only.

80 Series Specifications:

Reaction Time:	20-25 milliseconds (release and set)
AK:	10.5" Register
AJ:	9.00" Bolt Circle
Maximum RPM:	2400
CSA File:	#LR13814
Coil insulation:	Class H
Manual:	Mark II=BK4819 Mark III=BK4823

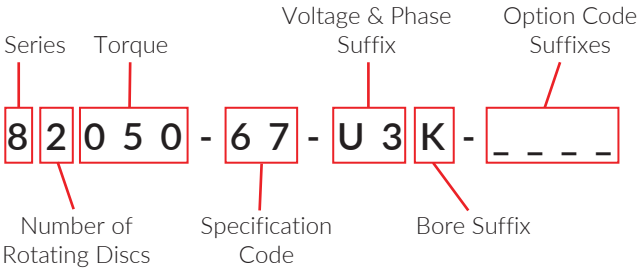
NEMA 4 Non-TEFC Specifications:

External paint:	Red primer
Lead wires:	Conduit connections
Nameplate:	Stamped stainless steel

Design Features:

No disassembly required for mounting
Direct acting design with no linkages to break
One moving part for longer life
Torque adjustable for specific applications
Splined hub
Spring set, electrically released
Manual release, automatic reset
External manual release available

Brake Model Number Definition



Standard Hub Bore Sizes:

Suffix	Size	Keyway Width
H	1 1/8"	1/4" x 1/8"
K	1 3/8"	5/16" x 5/32"
M	1 5/8"	3/8" x 3/16"
N	1 7/8"	1/2" x 1/4"

Special bore sizes available

Standard AC Voltages (single or three phase):

Suffix	Voltage
Y1	110/220V, 50Hz (single phase only)
R1	115/230V, 60 Hz (single phase only)
T1 or T3	220/440V, 60 Hz
U1 or U3	230/460V, 60 Hz or 190/380V, 50 Hz
P1 or P3	575V, 60 Hz

Special voltages available

Available Options:

	Suffix
Adapter to Larger Frame Size(s)	A
Reverse Adapter	AB
Ductile Iron Stationary Disc(s)	E
Foot Mounting Bracket	F
Heavy-Duty Rotating Friction Disc(s) with Hardened Steel Hub	H
High Tensile Studs	J
Marine/Maritime Duty with MIL-SPEC paint per TT-P-645 & MIL-DTL-15090	M
Marine/Maritime Duty	N
Tropical Protection	P
Internal Space Heater	R
Stainless Steel Stationary Disc(s)	S
Through Shaft	T
Verticle Mounting, all positions	V
Vertical Mounting, over motor	VO
Vertical Mounting, under motor	VU
Micro-Switch Warning	XS

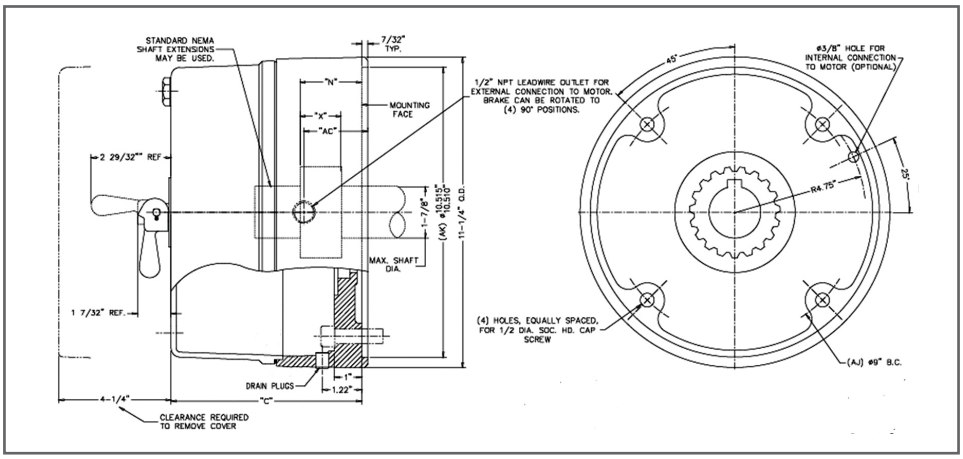
Refer to: Page 100-105 for brake option Description

NEMA 4 / Mark II /IP56 Enclosure without hub seal

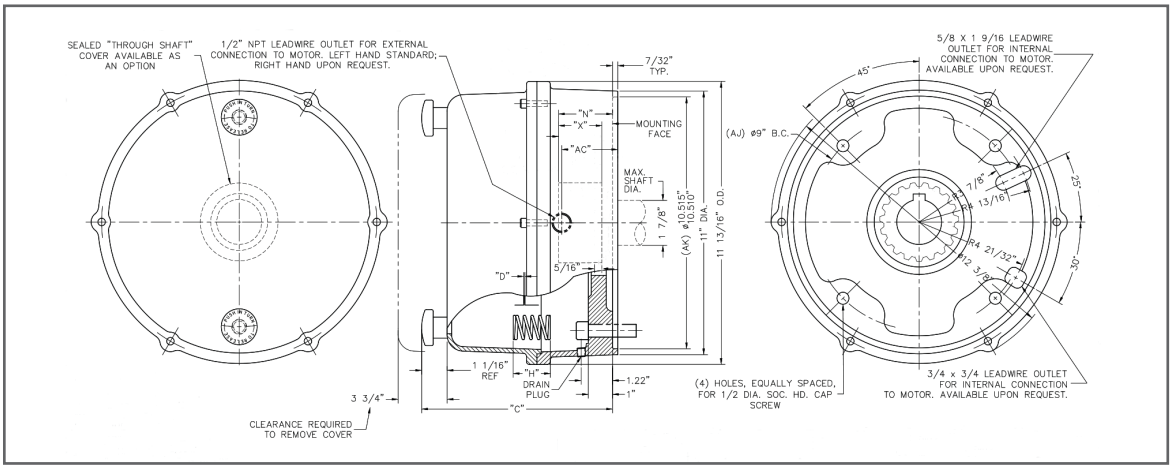
Torque lb-ft	Model #	Construction	Weight lbs	Thermal Capacity HPS/Min	Inertia lb-ft^2	Dimensions in inches			
						C	N	X	AC
25	81025-67	Cast Iron	57	15	0.084	6.00	1.75	1.00	1.73
35	81035-67	Cast Iron	57	15	0.084	6.00	1.75	1.00	1.73
50	82050-67	Cast Iron	65	17	0.158	6.62	2.25	1.50	2.35
70	82070-67	Cast Iron	65	17	0.158	6.62	2.25	1.50	2.35
75	83075-67	Cast Iron	70	19	0.233	7.25	2.75	2.00	2.98
105	83105-67	Cast Iron	70	19	0.233	7.25	2.75	2.00	2.98
125	84125-67	Cast Iron	75	21	0.307	7.87	3.25	2.50	3.60
175	85175-67	Cast Iron	81	21	0.384	8.50	3.87	3.12	4.23

NEMA 4 / Mark III/IP56 Enclosure without hub seal

Torque lb-ft	Model #	Construction	Weight lbs	Thermal Capacity HPS/Min	Inertia lb-ft^2	Dimensions in inches			
						C	N	X	AC
25	81025-46	Cast Iron	57	15	0.084	6.25	1.75	1.00	1.73
35	81035-46	Cast Iron	57	15	0.084	6.25	1.75	1.00	1.73
50	82050-46	Cast Iron	65	17	0.158	6.87	2.25	1.50	2.35
70	82070-46	Cast Iron	65	17	0.158	6.87	2.25	1.50	2.35
75	83075-46	Cast Iron	70	19	0.233	7.50	2.75	2.00	2.98
105	83105-46	Cast Iron	70	19	0.233	7.50	2.75	2.00	2.98
125	84125-46	Cast Iron	75	21	0.307	8.12	3.25	2.50	3.60
175	85175-46	Cast Iron	81	21	0.384	8.75	3.87	3.12	4.23



Spec –67 Outline



Spec –46 Outline

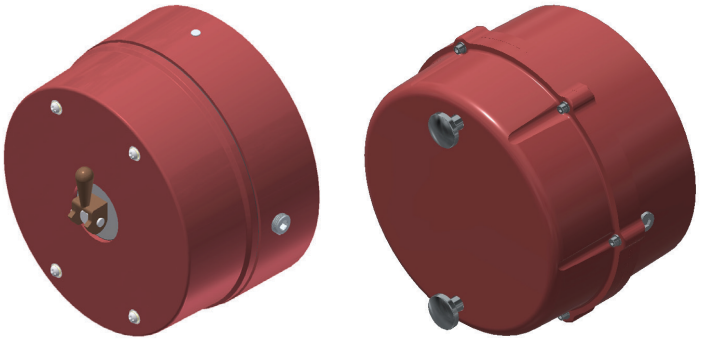
80 Series End Mount

Diract
Heavy Duty 4 Post

NEMA Frame Sizes
284TC/UC, 286TC/UC
Torque Ratings: 25 to 175 lb-ft

NEMA 4, CSA 4, IP56*
with hub seal for TEFC applications

* To obtain full IP56 protection, the customer shaft, hub bore, key and keyway's mating surface(s) must be sealed to meet IP56. Considerations should be reviewed to appropriately seal mounting hardware as well. Contact factory for details and/or assistance.



No Disassembly Required for Mounting

Mark II (80000-65) / Mark III (80000-45)

Mark II Release:	Single point, hand activated, external release lever. Manually set / automatically reset by manually deactivating or energizing the brake. Available on brakes with cast covers only
Mark III Release:	Dual, hand activated, external release knobs. Manually set/automatically reset by manually deactivating or energizing the brake. Available on brakes with cast covers only.

Standard Hub Bore Sizes:

Suffix	Size	Keyway Width
H	1 1/8"	1/4" x 1/8"
K	1 3/8"	5/16" x 5/32"
M	1 5/8"	3/8" x 3/16"
N	1 7/8"	1/2" x 1/4"

Special bore sizes available

80 Series Specifications:

Reaction Time:	20-25 milliseconds (release and set)
AK:	10.50" Register
AJ:	9.00" Bolt Circle
Maximum RPM:	2400
CSA File:	#LR13814
Coil insulation:	Class H
Manual:	Mark II=BK4819 Mark III=BK4823

Standard AC Voltages (single or three phase):

Suffix	Voltage
Y1	110/220V, 50Hz (single phase only)
R1	115/230V, 60 Hz (single phase only)
T1 or T3	220/440V, 60 Hz
U1 or U3	230/460V, 60 Hz or 190/380V, 50 Hz
P1 or P3	575V, 60 Hz

Special voltages available

NEMA 4 Non-TEFC Specifications:

External paint:	Red primer
Lead wires:	Conduit connections
Nameplate:	Stamped stainless steel

Design Features:

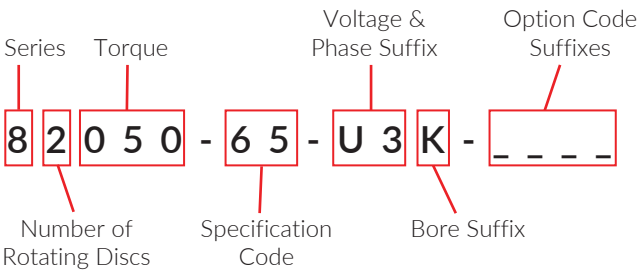
No disassembly required for mounting
Direct acting design with no linkages to break
One moving part for longer life
Torque adjustable for specific applications
Splined hub
Spring set, electrically released
Manual release, automatic reset
External manual release available

Available Options:

	Suffix
Adapter to Larger Frame Size(s)	A
Reverse Adapter	AB
Ductile Iron Stationary Disc(s)	E
Foot Mounting Bracket	F
Heavy-Duty Rotating Friction Disc(s) with Hardened Steel Hub	H
High Tensile Studs	J
Marine/Maritime Duty with MIL-SPEC paint per TT-P-645 & MIL-DTL-15090	M
Marine/Maritime Duty	N
Tropical Protection	P
Internal Space Heater	R
Stainless Steel Stationary Disc(s)	S
Through Shaft	T
Verticle Mounting, all positions	V
Vertical Mounting, over motor	VO
Vertical Mounting, under motor	VU
Micro-Switch Warning	XS

Refer to: Page 100-105 for brake option Description

Brake Model Number Definition



NEMA 4 / Mark II /IP56 Enclosure with hub seal

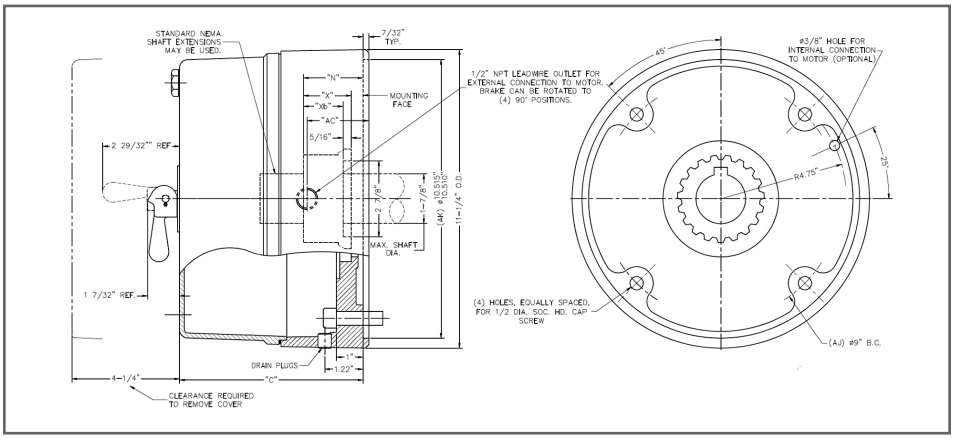
Torque lb-ft	Model #	Construction	Weight lbs	Thermal Capacity HPS/Min	Inertia lb-ft^2	Dimensions in inches				
						C	N	X	Xb	AC
25	81025-65	Cast Iron	57	15	0.084	6.00	1.75	1.31	1.00	1.73
35	81035-65	Cast Iron	57	15	0.084	6.00	1.75	1.31	1.00	1.73
50	82050-65	Cast Iron	65	17	0.158	6.62	2.25	1.81	1.50	2.35
70	82070-65	Cast Iron	65	17	0.158	6.62	2.25	1.81	1.50	2.35
75	83075-65	Cast Iron	70	19	0.233	7.25	2.75	2.31	2.00	2.98
105	83105-65	Cast Iron	70	19	0.233	7.25	2.75	2.31	2.00	2.98
125	84125-65	Cast Iron	75	21	0.307	7.87	3.25	2.81	2.50	3.60
175	85175-65	Cast Iron	81	21	0.384	8.50	3.87	3.44	3.13	4.23

** For Xb dimension is the length of useful bore and keyway of dimension x

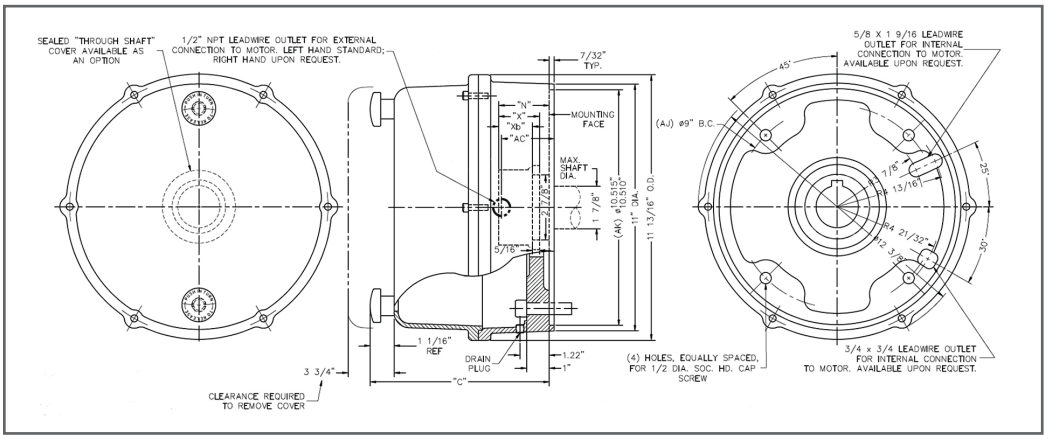
NEMA 4 / Mark III /IP56 Enclosure with hub seal

Torque lb-ft	Model #	Construction	Weight lbs	Thermal Capacity HPS/Min	Inertia lb-ft^2	Dimensions in inches				
						C	N	X	Xb	AC
25	81025-45	Cast Iron	57	15	0.084	6.25	1.75	1.31	1.00	1.73
35	81035-45	Cast Iron	57	15	0.084	6.25	1.75	1.31	1.00	1.73
50	82050-45	Cast Iron	65	17	0.158	6.87	2.25	1.81	1.50	2.35
70	82070-45	Cast Iron	65	17	0.158	6.87	2.25	1.81	1.50	2.35
75	83075-45	Cast Iron	70	19	0.233	7.50	2.75	2.31	2.00	2.98
105	83105-45	Cast Iron	70	19	0.233	7.50	2.75	2.31	2.00	2.98
125	84125-45	Cast Iron	75	21	0.307	8.12	3.25	2.81	2.50	3.60
175	85175-45	Cast Iron	81	21	0.384	8.75	3.87	3.44	3.13	4.23

** For Xb dimension is the length of useful bore and keyway of dimension x



Spec –65 Outline



Spec –45 Outline

90 Series End Mount

Diract

NEMA Frame Sizes
324TC/UC/TSC/USC
through 405TC/UC/TSC/USC
Torque Ratings: 125 to 450 lb-ft



No Disassembly Required for Mounting

Enclosure Types:

Dripproof Enclosure: 90000-50 NEMA 2, CSA 2, IP41
Cast iron cover and bracket

Series Specifications:

Reaction Time:	20-25 milliseconds (release and set)
AK:	12.50" Register
AJ:	11.00" Bolt Circle
Thermal Capacity:	20 HPS/Min
Maximum RPM:	1800
Coil insulation:	Class H Standard
CSA File:	#LR13814 (IEEE nameplate standard)
External paint:	Red primer
Manual:	BK4699

Standard Hub Bore Sizes:

Suffix	Size	Keyway
O	2 1/8"	1/2" x 1/4"
P	2 3/8"	5/8" x 5/16"
Q	2 7/8"	3/4" x 3/8"

Special bore sizes available

Design Features:

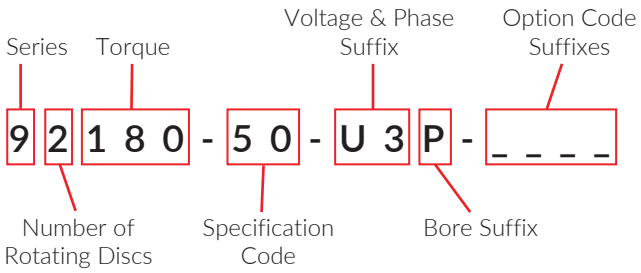
RoHS compliant
Torque adjustable for specific applications
Splined hub
Spring set, electrically released
Lead wires for conduit connections
Manual release, automatic reset
High tensile studs standard

Standard AC Voltages (three phase only):

Suffix	Voltage
U3	230/460V, 60 Hz or 190/380V, 50 Hz
T3	220/440V, 60 Hz
P3	575V, 60 Hz

Special voltages available

Brake Model Number Definition



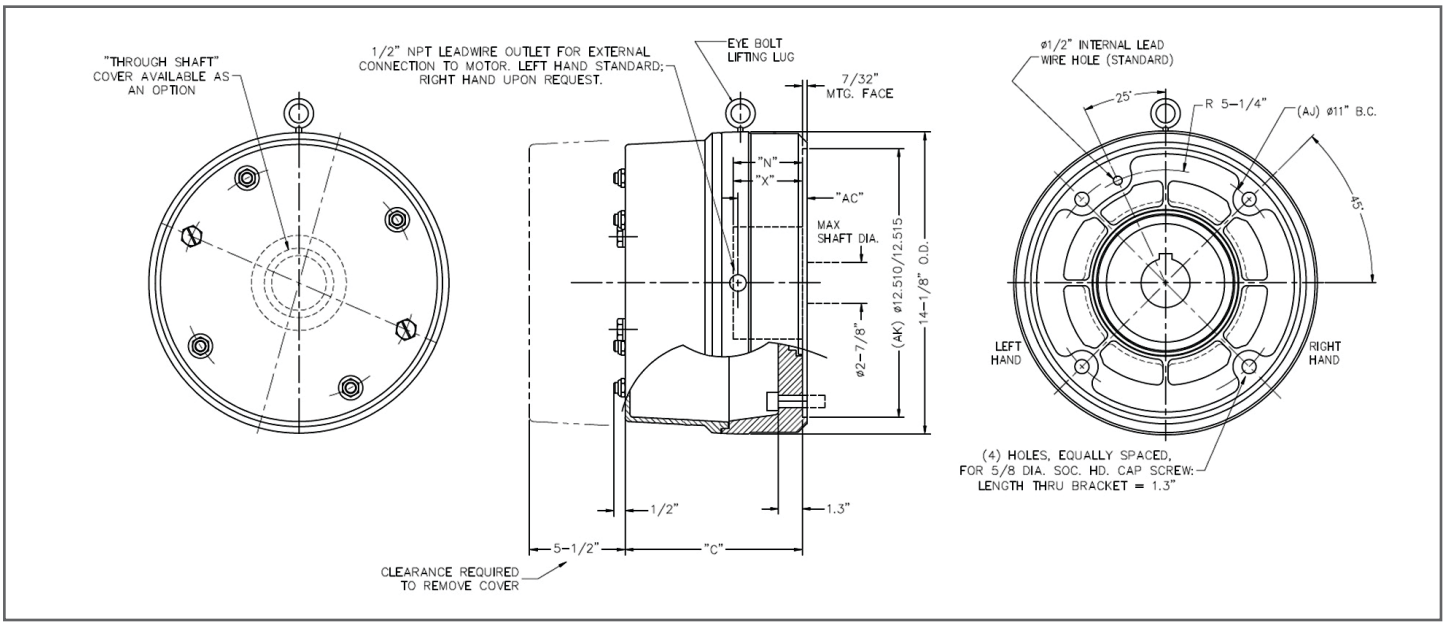
Available Options:

	Suffix
Adapter to Larger Frame Size(s)	A
Reverse Adapter	AB
Foot Mounting Bracket	F
Heavy-Duty Rotating Friction Disc(s) with Hardened Steel Hub	H
External Breather	K
Marine/Maritime Duty with MIL-SPEC paint per TT-P-645 & MIL-DTL-15090	M
Marine/Maritime Duty	N
Tropical Protection	P
Internal Space Heater	R
Stainless Steel Stationary Disc(s)	S
Through Shaft	T
Verticle Mounting, all positions	V
Vertical Mounting, over motor	VO
Vertical Mounting, under motor	VU
Micro-Switch Warning	XS

Refer to: Page 100-105 for brake option Description

NEMA 2 Specifications

Torque lb-ft	Model #	Enclosure	Construction	Weight lbs	Inertia lb-ft^2	Dimensions in inches			
						C	N	X	AC
125	92125-50	NEMA 2	Cast Iron	126	1.0	7.88	2.31	2.31	2.19
180	92180-50	NEMA 2	Cast Iron	126	1.0	7.88	2.31	2.31	2.19
230	93230-50	NEMA 2	Cast Iron	139	1.3	8.25	2.94	2.94	2.19
270	93270-50	NEMA 2	Cast Iron	139	1.3	8.25	2.94	2.94	2.19
330	94330-50	NEMA 2	Cast Iron	147	1.6	8.88	3.56	3.56	3.44
360	94360-50	NEMA 2	Cast Iron	147	1.6	8.88	3.56	3.56	3.44
450	95450-50	NEMA 2	Cast Iron	157	1.9	9.28	4.19	4.19	4.06



Spec –50 Outline

90 Series End Mount

Diract

NEMA Frame Sizes
324TC/UC/TSC/USC
through 405TC/UC/TSC/USC
Torque Ratings: 125 to 450 lb-ft



No Disassembly Required for Mounting

Enclosure Types:

Waterproof/Dusttight Enclosure 90000-51 NEMA 4, CSA 4, IP56*
Cast iron cover and bracket

* To obtain full IP56 protection, the customer shaft, hub bore, key and keyway's mating surface(s) must be sealed to meet IP56. Considerations should be reviewed to appropriately seal mounting hardware as well Contact factory for details and/or assistance.

Standard Hub Bore Sizes:

Suffix	Size	Keyway
O	2 1/8"	1/2" x 1/4"
P	2 3/8"	5/8" x 5/16"
Q	2 7/8"	3/4" x 3/8"

Special bore sizes available

Series Specifications:

Reaction Time:	20-25 milliseconds (release and set)
AK:	12.50" Register
AJ:	11.00" Bolt Circle
Thermal Capacity:	20 HPS/MIN
Maximum RPM:	1800
Coil insulation:	Class H Standard
CSA File:	#LR13814 (IEEE nameplate standard)
External paint:	Red primer
Manual:	BK4696

Standard AC Voltages (three phase only):

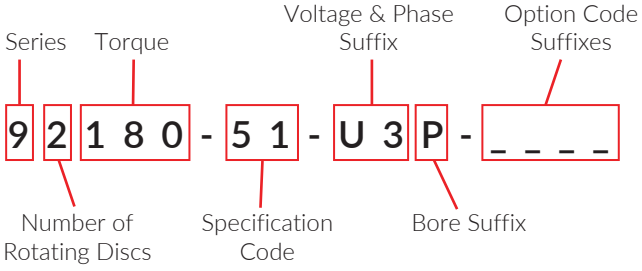
Suffix	Voltage
U3	230/460V, 60 Hz or 190/380V, 50 Hz
T3	220/440V, 60 Hz
P3	575V, 60 Hz

Special voltages available

Design Features:

RoHS compliant
Torque adjustable for specific applications
Splined hub
Spring set, electrically released
Lead wires for conduit connections
Manual release, automatic reset
High tensile studs standard

Brake Model Number Definition



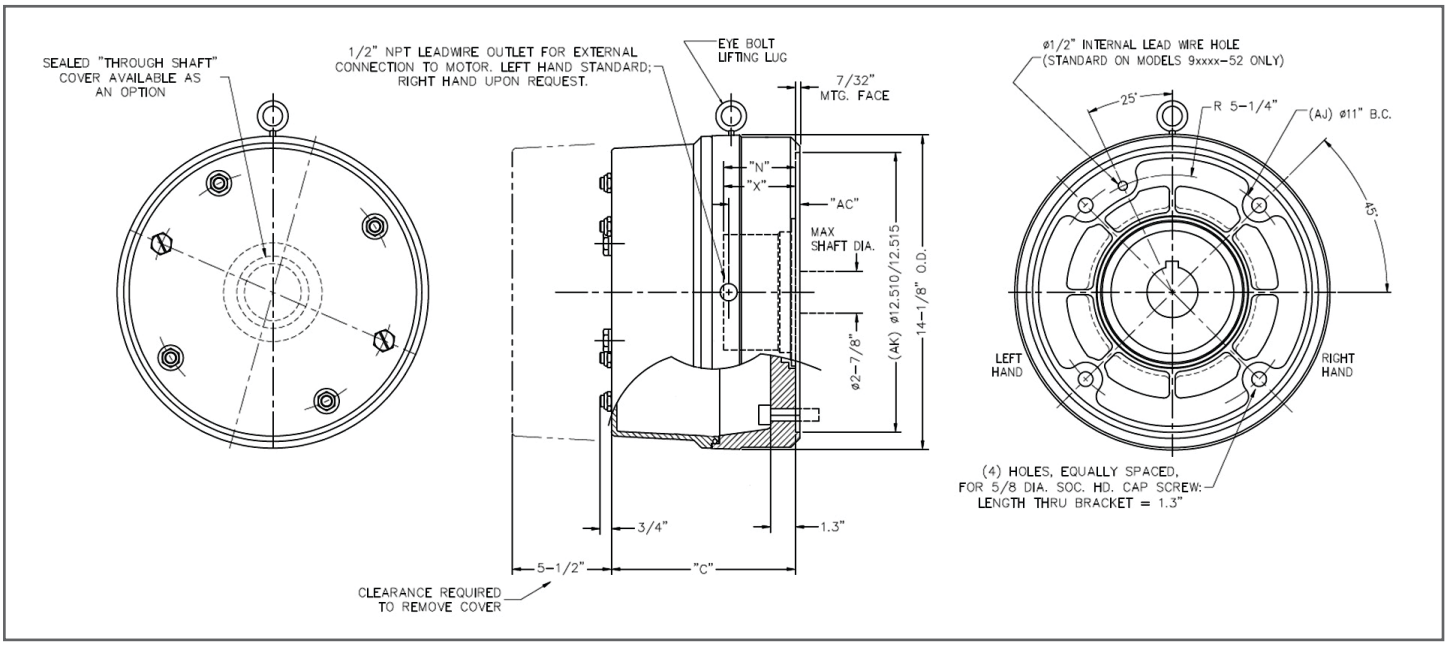
Available Options:

	Suffix
Adapter to Larger Frame Size(s)	A
Reverse Adapter	AB
Foot Mounting Bracket	F
Heavy-Duty Rotating Friction Disc(s) with Hardened Steel Hub	H
External Breather	K
Marine/Maritime Duty with MIL-SPEC paint per TT-P-645 & MIL-DTL-15090	M
Marine/Maritime Duty	N
Tropical Protection	P
Internal Space Heater	R
Stainless Steel Stationary Disc(s)	S
Through Shaft	T
Verticle Mounting, all positions	V
Vertical Mounting, over motor	VO
Vertical Mounting, under motor	VU
Micro-Switch Warning	XS

Refer to: Page 100-105 for brake option Description

NEMA 4 Specifications with hub seal

Torque lb-ft	Model #	Enclosure	Construction	Weight lbs	Inertia lb-ft²	Dimensions in inches			
						C	N	X	AC
125	92125-51	NEMA 4	Cast Iron	128	1.0	7.88	2.31	2.31	2.19
180	92180-51	NEMA 4	Cast Iron	128	1.0	7.88	2.31	2.31	2.19
230	93230-51	NEMA 4	Cast Iron	139	1.3	8.25	2.94	2.94	2.19
270	93270-51	NEMA 4	Cast Iron	139	1.3	8.25	2.94	2.94	2.19
330	94330-51	NEMA 4	Cast Iron	149	1.6	8.88	3.56	3.56	3.44
360	94360-51	NEMA 4	Cast Iron	149	1.6	8.88	3.56	3.56	3.44
450	95450-51	NEMA 4	Cast Iron	159	1.9	9.28	4.19	4.19	4.06



Spec –51 Outline

90 Series End Mount

Diract

NEMA Frame Sizes
324TC/UC/TSC/USC
through 405TC/UC/TSC/USC
Torque Ratings: 125 to 450 lb-ft



No Disassembly Required for Mounting

Enclosure Types:

Waterproof/Dusttight Enclosure 90000-52 NEMA 4, CSA 4, IP56
Cast iron cover and bracket
Without hub seal for non-TEFC applications

Standard Hub Bore Sizes:

Suffix	Size	Keyway
O	2 1/8”	1/2” x 1/4”
P	2 3/8”	5/8” x 5/16”
Q	2 7/8”	3/4” x 3/8”

Special bore sizes available

Series Specifications:

Reaction Time:	20-25 milliseconds (release and set)
AK:	12.50” Register
AJ:	11.00” Bolt Circle
Thermal Capacity:	20 HPS/Min
Maximum RPM:	1800
Coil insulation:	Class H Standard
CSA File:	#LR13814 (IEEE nameplate standard)
External paint:	Red primer
Manual:	BK4696

Standard AC Voltages (three phase only):

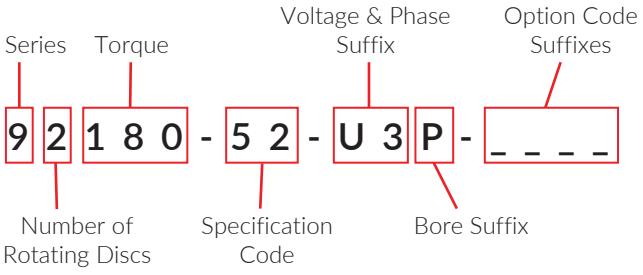
Suffix	Voltage
U3	230/460V, 60 Hz or 190/380V, 50 Hz
T3	220/440V, 60 Hz
P3	575V, 60 Hz

Special voltages available

Design Features:

RoHS compliant
Torque adjustable for specific applications
Splined hub
Spring set, electrically released
Lead wires for conduit connections
Manual release, automatic reset
High tensile studs standard

Brake Model Number Definition



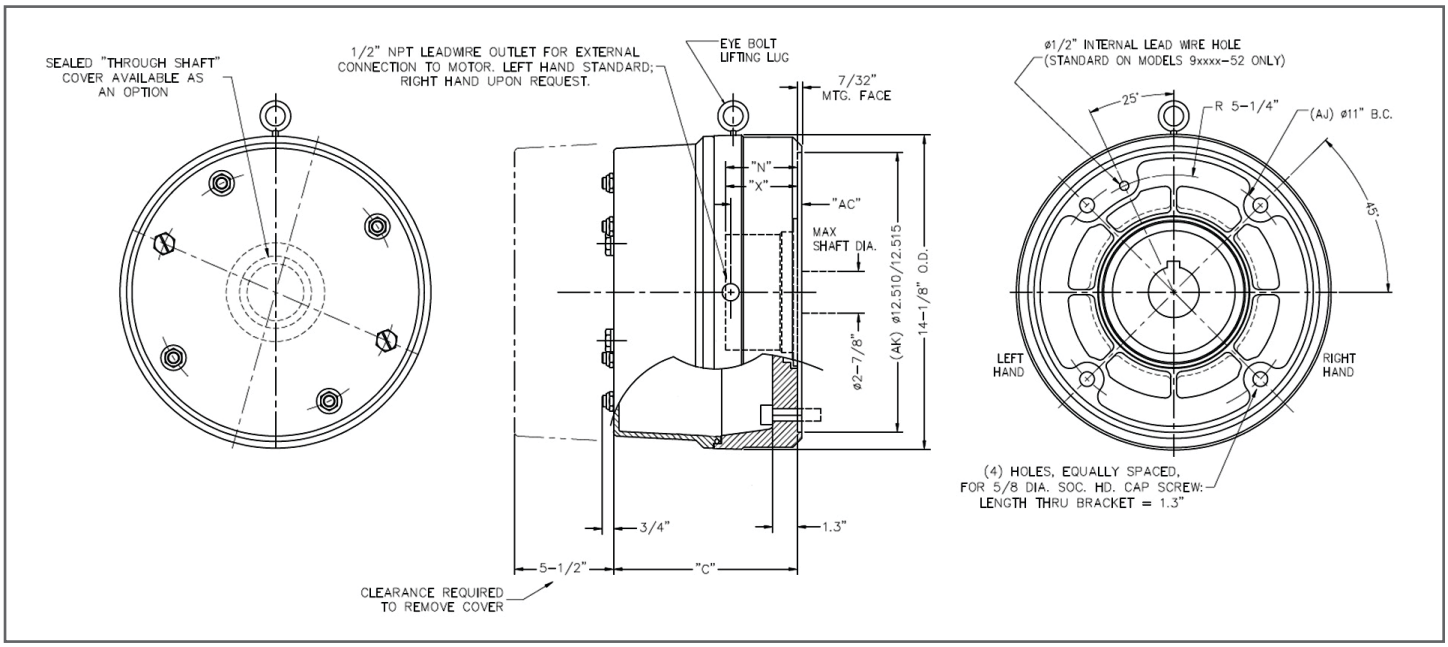
Available Options:

	Suffix
Adapter to Larger Frame Size(s)	A
Reverse Adapter	AB
Foot Mounting Bracket	F
Heavy-Duty Rotating Friction Disc(s) with Hardened Steel Hub	H
External Breather	K
Marine/Maritime Duty with MIL-SPEC paint per TT-P-645 & MIL-DTL-15090	M
Marine/Maritime Duty	N
Tropical Protection	P
Internal Space Heater	R
Stainless Steel Stationary Disc(s)	S
Through Shaft	T
Verticle Mounting, all positions	V
Vertical Mounting, over motor	VO
Vertical Mounting, under motor	VU
Micro-Switch Warning	XS

Refer to: Page 100-105 for brake option Description

NEMA 2/4 Specifications without hub seal

Torque lb-ft	Model #	Enclosure	Construction	Weight lbs.	Inertia lb-ft^2	Dimensions in inches			
						C	N	X	AC
125	92125-52	NEMA 4	Cast Iron	126	1.0	7.88	2.31	2.31	2.19
180	92180-52	NEMA 4	Cast Iron	126	1.0	7.88	2.31	2.31	2.19
230	93230-52	NEMA 4	Cast Iron	139	1.3	8.25	2.94	2.94	2.19
270	93270-52	NEMA 4	Cast Iron	139	1.3	8.25	2.94	2.94	2.19
330	94330-52	NEMA 4	Cast Iron	147	1.6	8.88	3.56	3.56	3.44
360	94360-52	NEMA 4	Cast Iron	147	1.6	8.88	3.56	3.56	3.44
450	95450-52	NEMA 4	Cast Iron	157	1.9	9.28	4.19	4.19	4.06



Spec –52 Outline

Hazardous Location Brakes

A hazardous location is an explosive atmosphere due to the presence of flammable gases, vapors, or liquids (Class I), combustible dusts (Class II), or ignitable fibers & flyings (Class III). Dings provides brakes for Division 1, Class I Group C and D, and Division 1, Class II Groups E, F and G, hazardous locations. The National Electrical Code (NEC) defines hazardous locations by Class, Division and Group.

For more information about hazardous locations please refer to: https://www.ul.com/offerings/hazardous-locations
Hazardous Location Classifications

Class I Locations

Locations in which ignitable concentrations of flammable gases, flammable liquid-produced vapors, or combustible liquid-produced vapors can exist under normal operating conditions. An electric disc brake for Class I locations must be capable of withstanding an explosion of a specified gas or vapor that may occur within it and prevent the ignition of the gas or vapor surrounding the enclosure by sparks, flashes, or explosion of the gas or vapor within, and operate at such an external temperature that a surrounding flammable atmosphere will not be ignited thereby.

Class II Locations

Locations in which combustible dust is in the air under normal operating conditions in quantities sufficient to produce explosive or ignitable mixtures. An electric disc brake for Class II locations must
be enclosed in a manner that excludes dusts and does not permit heat generated inside of the enclosure to cause ignition of exterior accumulations of a specified dust on or in the vicinity of the enclosure.

Divisions

Each hazardous-location Class is also divided into two Divisions, 1 and 2. Division 1 brakes can be used in both Division 1 and Division 2 environments. Division 2 brakes can be used in Division 2 environments ONLY. Note that the brake and motor must be rated for the same Division; i.e., a Division 1 brake must be used on a motor which is also rated for Division 1.

Division 1

A Division 1 location is a location where an ignitable concentration of a flammable or combustible material is present under normal operating conditions.

Division 2

A Division 2 location is a location where an ignitable concentration of a flammable or combustible material is present only under abnormal operating condition.

Groups

Class I gases and vapors are listed in four Groups: A, B, C and D. These materials are grouped according to explosion pressure, ignition temperature and the conductivity of the hazardous substance. Class II airborne dusts are listed in three Groups: E, F and G. These groups are classified according to ignition temperature and electrical conductivity.
Brake Selection

When selecting a Dings hazardous-location disc brake - the Class and Group designations of the hazardous atmosphere and its ignition temperature must be known. For more information on hazardous location responsibilities, see: https://www.ul.com/offerings/hazardous-locations

1. Determine the Class and Group designation of the hazardous atmosphere.

2. For Class I hazardous substances, determine the ignition temperature of the explosive gas or vapor.
Select a brake listed for the appropriate group and operating temperature code, with a maximum external operating temperature that does NOT exceed the ignition temperature of the explosive gas or vapor. The operating temperature code for Dings Hazardous Location brakes is T3C. For an explanation of temperature codes refer to: https://www.ul.com/offerings/hazardous-locations

NOTE: Maximum exterior surface temperatures is based on operation in an ambient of 32°F to 104°F (0° to 40°C).
Brake Labels and Listing

Brake Labels and Listing

Dings brakes for use in hazardous locations are marked to show the Class, Group, and Operating Temperature Code of the brake. Compliance with the National Electric Code (NEC) is demonstrated by UL Listing of the product in Underwriters Laboratories Hazardous Location Equipment Directory. A label displaying the UL Listing mark and required rating information will be found on each Dings brake to confirm the listing. In Canada, the Canadian Standards Association (CSA) is an organization with the responsibility to publish and administer national electrical standards as well as to test and certify electrical products.

The CSA mark is not on Dings hazardous-location brakes as a standard, but can be requested as an option. Dings motor-mounted, hazardous-location electric disc brakes are listed only when mounted directly to a listed hazardous-location motor of the same Class and Group at the motor manufacturer's facility and where the combination has been accepted by UL. This procedure completes the explosion-proof assembly of the brake. However, listed hazardous-location brakes with a foot mounting option are also available for coupling to a motor and may be installed by anyone. Installation and servicing must be in compliance with all existing local safety codes. All wiring and electrical connections must comply with the NEC and local electrical codes in effect at the time. For additional information see the UL website: https://www.ul.com/offerings/hazardous-locations. Hazardous Location inspection authorities are responsible for verifying and authorizing the use of suitably designed, manufactured and installed Hazardous Location equipment. When questions arise always consult the local Authority Having Jurisdiction (AHJ) for directions and approvals. Dings Division 1 hazardous location brakes are provided without gaskets. If the brake is used in a high humidity or low temperature environment, internal electric heaters should be used.

NOTE: Foot mount required for hazardous location brakes if purchased by other than a U.L., an authorized electric motor manufacturer or shop. Brakes used with a foot mount are suitable for use in Division 1 or Division 2 applications.

3. For Class II hazardous substances, select a brake listed for the appropriate group and operating temperature code. The operating temperature code for Dings Hazardous Location brakes is T3C. For an explanation of temperature codes refer to: https://www.ul.com/offerings/hazardous-locations

NOTE: Maximum exterior surface temperature is based on operation in an ambient of 32°F to 104°F (0° to 40°C).

Thermal Considerations

One of the design requirements of hazardous location brakes is to limit exterior surface temperature. The surface temperature of the enclosure must not exceed a specified limit as a result of heat energy created in stopping the motor and load. This NEC restriction on the exterior surface temperature limits the hazardous-location brake's ability to dissipate heat, resulting in less thermal capacity than a comparable brake with a standard or dust-tight, waterproof enclosure. THEREFORE, HAZARDOUS-LOCATION BRAKES ARE INTENDED ESSENTIALLY FOR NON-CYCLIC OR HOLDING PURPOSES, BUT MAY BE USED FOR STOPPING LIGHT INERTIAL LOADS.



70 Series Hazardous Location Brake



60 Series Hazardous Location

DIVISION 1 HAZARDOUS LOCATION

NEMA Frame Sizes

56C through 145TC

Torque Ratings: 1.5 to 15 lb-ft

RoHS Compliance upon request- can be constructed to meet the requirements of the Restriction of Hazardous Substances Directive



No Disassembly Required for Mounting

Enclosure Types:
Cast iron cover and bracket

Enclosure Protection:
NEMA 2, and Hazardous Location NEMA 7, 9

Certifications:
CSA File No. LR 19464 (CSA nameplate upon request)
UL File No. E27811
Class I Group C and D, Class II Groups E, F, and G

NOTE: Foot mount required for hazardous location brakes if purchased by other than a U.L. authorized electric motor manufacturer or shop. Brakes used with a foot mount are suitable for use in Division 1 or Division 2 applications.

Specifications:

Reaction Time:	15-20 milliseconds (release and set)
AK:	4.50" Register
AJ:	5.88" Bolt Circle
Maximum RPM:	3600
Coil insulation:	Class B
Manual:	BK4614

Standard Hub Bore Sizes:

Suffix	Size	Keyway
D	5/8"	3/16" x 3/32"
F	7/8"	3/16" x 3/32"

Special bore sizes available

Standard AC Voltages (single phase only):

Suffix	Voltage
Y1	110/220V, 50Hz
R1	115/230V, 60 Hz
T1	220/440V, 60 Hz
U1	230/460V, 60 Hz or 190/380V, 50 Hz
P1	575V, 60 Hz

Special voltages available

Design Features:
Torque adjustable for specific applications
Splined hub
Spring set, electrically released
Manual release, automatic reset

Dings 60 Series Hazardous Location Brakes
are also equipped with a thermal switch. When properly wired into the motor starting circuit, the thermal switch shuts down the motor before the thermal overload mechanism releases the brake.

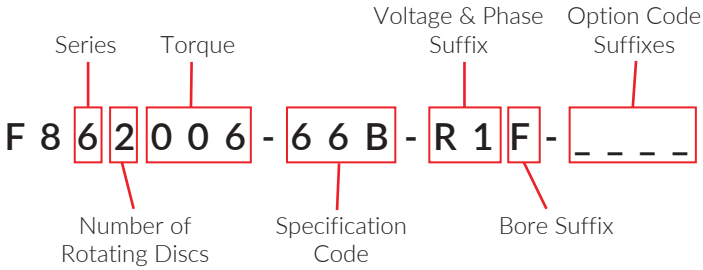
When the thermal switch activates, it stops the motor and load, preventing the uncontrolled motion described in the "caution" above. See bulletin BK4614X.

Available Options:

	Suffix
Foot Mounting Bracket	F
Heavy-Duty Rotating Friction Disc(s) with Hardened Steel Hub	H
Vertical Mounting, over motor	VO
Vertical Mounting, under motor	VU
Micro-Switch Warning	XS

Refer to: Page 100-105 for brake option Description

Brake Model Number Definition



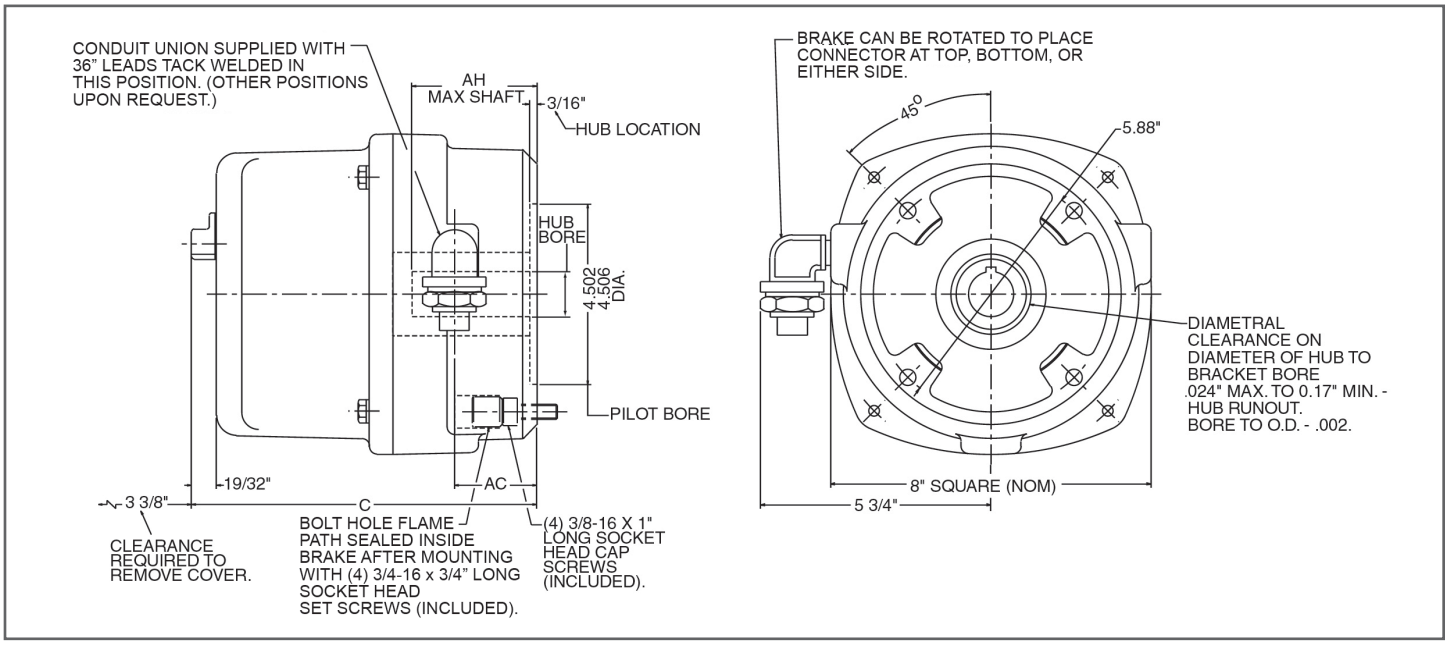
Caution: Once the brake has been released by the thermal overload mechanism, control over the rotation of the motors and movement of the load is lost. This uncontrolled rotation of the motor and movement of the load could cause injury to personnel and damage to property.

Special Note: Dings 60 Series Hazardous Location Brakes are equipped with a thermal overload release mechanism. When the external surface of the brake approaches the specified temperature limit, the mechanism will automatically release the brake and hold it in the released position. This prevents the surface temperature from rising to a level that could ignite surrounding gases or dust by releasing the brake and thereby stopping a further increase in temperature.

Division 1 Hazardous Location

Torque lb-ft	Dings Model #	Construction	Weight lbs	Thermal Capacity HPS/Min*	Inertia lb-ft²	Dimensions in inches			
						C	AH		AC
							Max.	Min.	
1.5	F8-61001-66B	Cast Iron	42	6	0.020	7.93	2.37	1.75	2.06
3	F8-61003-66B	Cast Iron	42	6	0.020	7.93	2.37	1.75	2.06
6	F8-62006-66B	Cast Iron	44	6	0.030	8.31	2.75	2.00	2.43
10	F8-63010-66B	Cast Iron	47	6	0.040	8.68	3.12	2.25	2.81
15	F8-63015-66B	Cast Iron	47	6	0.040	8.68	3.12	2.25	2.81

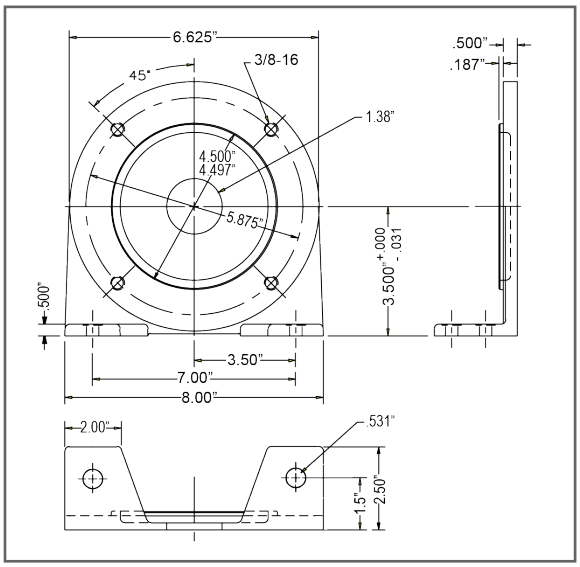
*Hazardous location brakes are intented for non-cyclic or holding purposes only, but may be used for stopping light inertial loads.



Spec –66B Outline

Hazardous location brakes are provided with a foot mounting bracket.

Foot Mounting Bracket Dimensions



70 Series Hazardous Location

DIVISION 1 HAZARDOUS LOCATION

NEMA Frame Sizes

182TC through 256TC
Torque Ratings: 10 to 75 lb-ft

RoHS Compliance upon request- can be constructed to meet the requirements of the Restriction of Hazardous Substances Directive



No Disassembly Required for Mounting

Enclosure Types:
Cast iron cover and bracket R70000-9

Enclosure Protection:
NEMA 2, and Hazardous Location NEMA 7, 9

Certifications:
CSA File No. LR 19464 (CSA nameplate upon request)
UL File No. E27811
Class I Group C and D, Class II Groups E, F, and G

NOTE: Foot mount required for hazardous location brakes if purchased by other than a U.L. authorized electric motor manufacturer or shop. Brakes used with a foot mount are suitable for use in Division 1 or Division 2 applications.

Standard Hub Bore Sizes:

Suffix	Size	Keyway
F	7/8”	3/16” x 3/32”
H	1 1/8”	1/4” x 1/8”
K	1 3/8”	5/16” x 5/32”
M	1 5/8”	3/8” x 3/16”

Special bore sizes available

Standard AC Voltages (single or three phase):

Suffix	Voltage
Y1	110/220V, 50Hz (single phase only)
11	115/208-230V, 60Hz (single phase only)
R1	115/230V, 60 Hz (single phase only)
T1 or T3	220/440V, 60 Hz
U1 or U3	230/460V, 60 Hz or 190/380V, 50 Hz
P1 or P3	575V, 60 Hz

Special voltages available

Specifications:

Reaction Time:	20-25 milliseconds (release and set)
AK:	8.50” Register
AJ:	7.25” Bolt Circle
Maximum RPM:	3600
Coil insulation:	Class B Std., Class H Optional
Manual:	BK4606

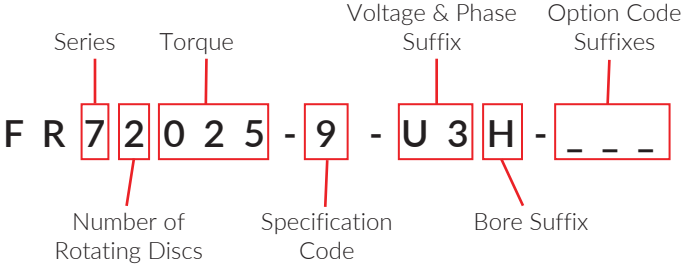
Design Features:
Torque adjustable for specific applications
Splined hub
Spring set, electrically released
Manual release, automatic reset

Available Options:

	Suffix
Foot Mounting Bracket	F
Heavy-Duty Rotating Friction Disc(s) with Hardened Steel Hub	H
Class H Insulation	Q
Internal Space Heater	R
Vertical Mounting, over motor	VO
Vertical Mounting, under motor	VU

Refer to: Page 100-105 for brake option Description

Brake Model Number Definition



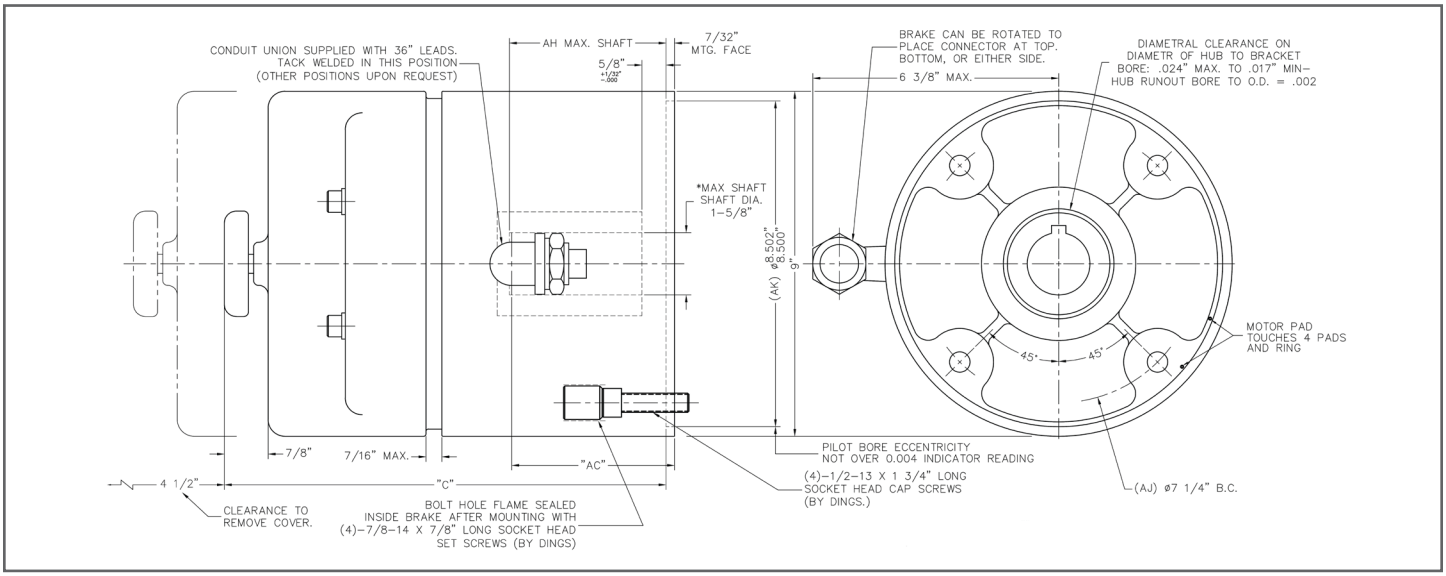
Caution: Once the brake has been released by the thermal overload mechanism, control over the rotation of the motors and movement of the load is lost. This uncontrolled rotation of the motor and movement of the load could cause injury to personnel and damage to property.

Special Note: Dings 70 Series Hazardous Location Brakes are equipped with a thermal overload release mechanism. When the external surface of the brake approaches the specified temperature limit, the mechanism will automatically release the brake and hold it in the released position. This prevents the surface temperature from rising to a level that could ignite surrounding gases or dust by releasing the brake and thereby stopping a further increase in temperature.

Division 1 Hazardous Location

Torque lb-ft	Dings Model #	Construction	Weight lbs	Thermal Capacity HPS/Min*	Inertia lb-ft²	Dimensions in inches			
						C	AH		AC
							Max.	Min.	
10	FR71010-9	Cast Iron	69	10	0.035	10.62	3.43	2.37	3.62
15	FR71015-9	Cast Iron	69	10	0.035	10.62	3.43	2.37	3.62
25	FR72025-9	Cast Iron	74	11	0.076	11.25	3.75	2.62	4.25
35	FR73035-9	Cast Iron	79	12	0.102	11.87	4.37	3.00	4.87
50	FR74050-9	Cast Iron	84	13	0.130	12.50	5.12	3.50	5.50
75	FR75075-9	Cast Iron	84	13	0.115	12.50	5.12	3.50	5.50

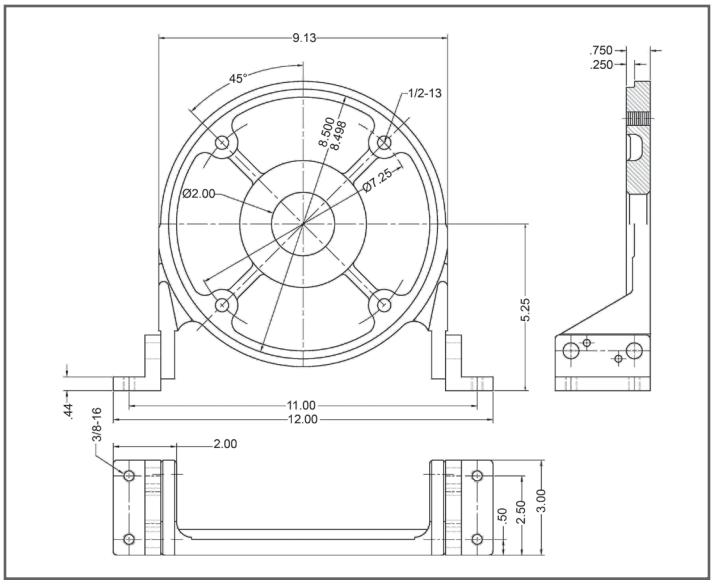
*Hazardous location brakes are intented for non-cyclic or holding purposes only, but may be used for stopping light inertial loads.



Spec –9 Outline

Hazardous location brakes are provided with a foot mounting bracket.

Foot Mounting Bracket Dimensions



Marine/Maritime Duty Brakes

Torque Ratings: 1.5 to 450 lb-ft

Dings Marine duty brakes are suitable for many shipboard, dockside and severe duty applications where water, salt water and salt vapor exist.

Standard Features

Enclosure Rating: IP56/NEMA 4X
Compliant with IEEE 45.
IEEE 45 nameplate must be requested
Housing Material: Cast Iron (ductile iron optional)
Pressure Plate: Plated Steel
Stationary Disc: Steel
Plated hardware
Manual Release is maintained with automatic reset
Coil Insulation: Class B or Class H, (see specific brake series)
Housing exterior and interior are painted with a primer and high solid epoxy paint (non-military).
For MIL-SPEC paint, see OPTIONS
Interior parts are zinc plated or painted.
Hub seals included

Standard Hub Bore Sizes:

Suffix	Size	Series
D	5/8"	60
F	7/8"	60,70,80
H	1 1/8"	70,80
J	1 1/4"	70,80
K	1 3/8"	70,80
M	1 5/8"	70,80
N	1 7/8"	80
O	2 1/8"	90
P	2 3/8"	90
Q	2 7/8"	90

Standard Voltages:

Suffix	Voltage
Y1	110/220V, 50Hz (Single Phase Only)
R1	115/230V, 60 Hz (Single Phase Only)
U1 or U3	230/460V, 60 Hz or 190/380V, 50 Hz
T1 or T3	220/440V, 60 Hz
P1 or P3	575V, 60 Hz

60 Series – 56C - 143/145TC

Torque lb-ft.	Model No.	Coil Insulation
1.5	61001-530	B
3	61003-530	B
6	62006-530	B
10	62010-530	B
15	63015-530	B
20	63020-530	H
25	64025-530	H



70 Series – 182TC - 256TC

Torque lb-ft.	Model No.	Coil Insulation
10	71010-SC61	H
15	71015-SC61	H
25	72025-SC61	H
35	72035-SC61	H
50	73050-SC61	H
75	74075-SC61	H
105	74105-SC61	H



80 Series – 284TC/286TC Heavy Duty 4 Post Design

Torque lb-ft.	Model No.	Coil Insulation
25	81025-29	H
35	81035-29	H
50	82050-29	H
75	83075-29	H
105	83105-29	H
125	84125-29	H
175	84175-29	H

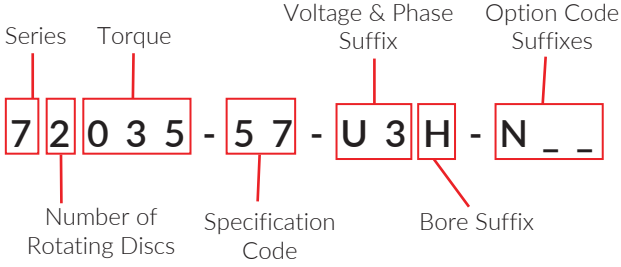


90 Series – 324TC-405TC Heavy Duty 4 Post Design

Torque lb-ft.	Model No.	Coil Insulation
125	92125-51	H
180	92180-51	H
270	93270-51	H
360	94360-51	H
450	95450-51	H



Brake Model Number Definition



Options Descriptions:

	Suffix
Heavy duty friction discs and hardened hub	H
Breather drain	K
Tropical protection	P
Class H insulation	Q
Space heater	R
Stainless steel stationary disc (add per disc)	S
Ductile iron enclosure	X
Stainless hardware	X

Naval Service Duty Brakes

NEMA Frame Sizes
182TC through 286TC
Torque Ratings: 3 to 180 lb-ft

Specifications:
70 Series

Reaction Time:	15-20 milliseconds (release & set)
AK:	8.5” Register
AJ:	7.25” Bolt Circle
Maximum RPM:	3600

80 Series

Reaction Time:	20-25 milliseconds (release & set)
AK:	10.5” Register
AJ:	9.00” Bolt Circle
Maximum RPM:	2400

Conforms to MIL-B-16392 specifications

Design Features
Splined hub
Deadman release
36” leadwire length
Spring set, electrically released
Aluminum bronze stationary discs
Ductile iron construction
Torque adjustable for specific applications
Coil insulation: Class B Standard, Class H Optional (Class H Std on 80 Series single phase)
Housing exterior and interior are primed and top coated per MIL-E-917.
Internal parts are zinc plated or painted.
Meets IEEE 45 and CFR110.1-1 standards.
Also available: Nonmagnetic construction
70 Series nonmagnetic model 70000-85
80 Series nonmagnetic model 80000-51



70 Series–Frame Sizes 182TC - 256TC

Torque lb-ft	Dings Model #	Weight lbs	Thermal Capactity HPS/MIN	Inertia lb-ft²
3	71003-42	54	11	0.028
10	71010-42	54	11	0.028
15	71015-42	54	11	0.028
25	72025-42	58	12	0.051
35	72035-42	58	12	0.051
50	73050-42	62	13	0.075
75	74075-42	66	14	0.099

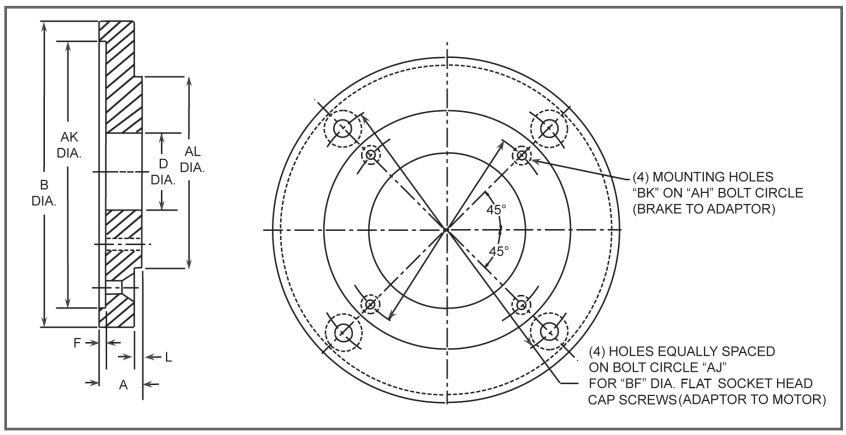


80 Series–Frame Sizes 284TC and 286TC

Torque lb-ft	Dings Model #	Weight lbs	Thermal Capactity HPS/MIN	Inertia lb-ft²
25	81025-27	80	15	0.084
35	81035-27	80	15	0.084
50	82050-27	86	17	0.158
75	83075-27	90	19	0.233
90	83090-27	90	19	0.233
135	84135-27	97	21	0.309
180	85180-27	104	21	0.384

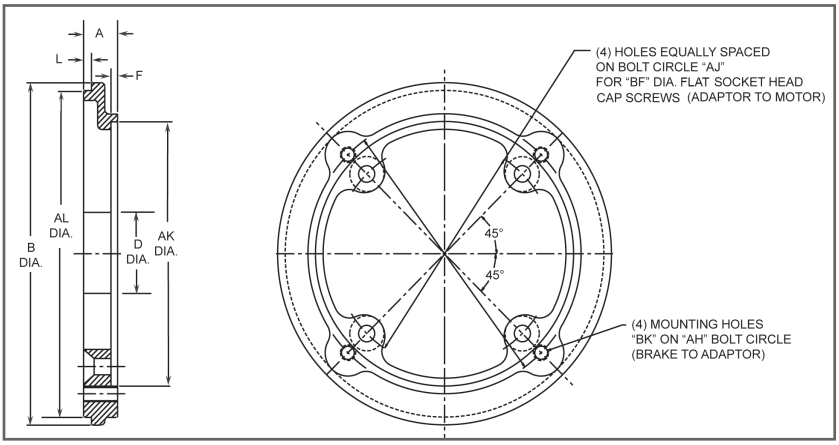
Adaptors

Motor Frame Adaptors



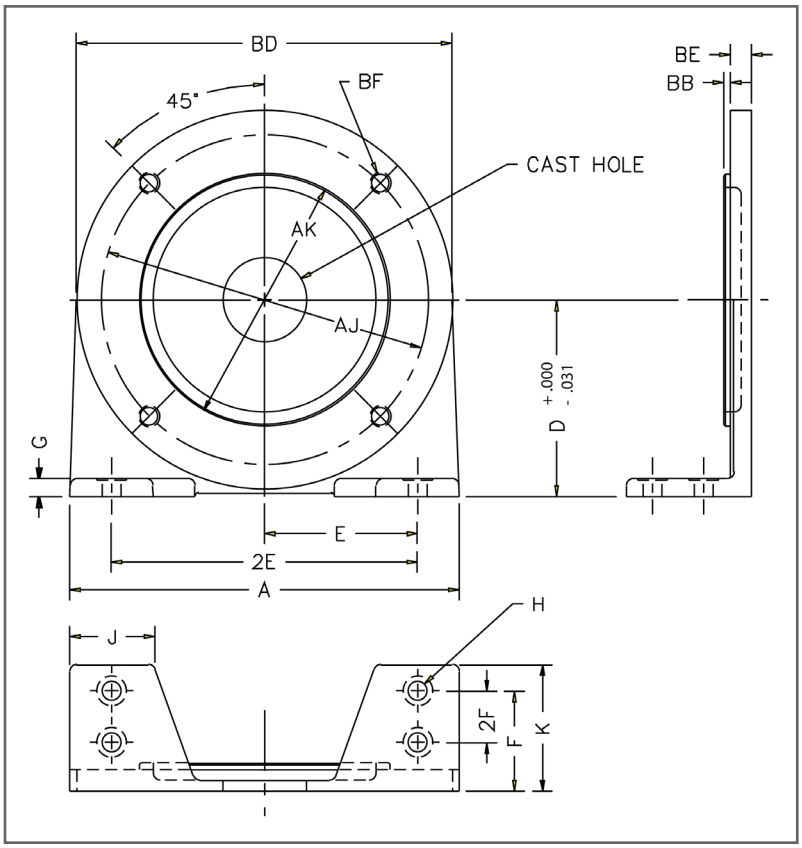
Brake Series	NEMA C Face BRAKE SIDE	NEMA C Face MOTOR SIDE	Brake Bracket Material	Brake Model Prefix	Adaptor Part Number	Dimensions in inches										
						A	AH	AJ	AK	AL	B	BF	BK	D	F	L
60	56C, 143TC,145TC	182TC-256TC	Aluminum	A	G060539-001	0.75	5.88	7.25	8.50	4.50	9.00	1/2-13	3/8-16	4.00	0.19	0.12
		182TC-256TC	Cast Iron	A	G060540-001	0.75	5.88	7.25	8.50	4.50	9.00	1/2-13	3/8-16	4.00	0.19	0.12
60 Hazardous Location	56C, 143TC,145TC	182TC-256TC	Aluminum	A	G060552-001	0.75	5.88	7.25	8.50	4.50	9.00	1/2-13	3/8-16	4.00	0.19	0.13
		182TC-256TC	Cast Iron	A	G060553-001	0.75	5.88	7.25	8.50	4.50	9.00	1/2-13	3/8-16	4.00	0.19	0.12
70	182TC-256TC	284-286TC/UC	Cast Iron	A	G070558-001	1.09	7.25	9.00	10.50	8.50	11.00	1/2-13	1/2-13	8.00	0.23	0.25
	182TC-256TC	324TC-405TC	Cast Iron	AA	G070535-001	1.09	7.25	11.00	12.50	8.50	13.00	5/8-11	1/2-13	6.00	0.23	0.25
70 Hazardous Location	182TC-256TC	284-286TC/UC	Cast Iron	A	G070534-001	1.09	7.25	9.00	10.50	8.50	11.00	1/2-13	1/2-13	8.00	0.23	0.25
80	284-286TC/UC	324TC-405TC	Cast Iron	A	G080202-001	1.22	9.00	11.00	12.50	10.50	13.00	1/2-13	1/2-13	10.00	0.23	0.25
	284-286TC/UC	444-445TC/UC	Cast Iron	AA	G080203-001	1.09	9.00	9.00	10.50	10.50	16.50	5/8-11	1/2-13	8.00	0.23	0.25
90	324TC-405TC	444-445TC/UC	Cast Iron	A	L090018-001	1.74	11.00	14.00	16.00	12.50	17.00	5/8-11	5/8-11	12.00	0.25	0.25
	324TC-405TC	505TC/UC	Cast Iron	AA	L090018-002	1.74	11.00	14.50	16.50	12.50	17.00	5/8-11	5/8-11	12.00	0.25	0.25

Reverse Adaptors



Brake Series	NEMA C Face BRAKE SIDE	NEMA C Face MOTOR SIDE	P/N Prefix	Adaptor Part Number	Dimensions in inches										
					A	AH	AJ	AK	AL	B	BF	BK	D	F	L
60	56C, 143TC,145TC	48C	AB	G060546-001	0.50	5.88	3.75	3.00	4.50	6.50	1/4-20	3/8-16	3.00	0.50	0.13
70	182TC-256TC	56C, 143TC,145TC	AB	G070560-001	0.50	7.25	5.88	4.50	8.50	8.50	3/8-16	1/2-13	4.50	0.50	0.50
70 Hazardous Location	182TC-256TC	56C, 143TC,145TC	AB	G070536-001	0.50	7.25	5.88	4.50	8.50	8.50	3/8-16	1/2-13	4.50	0.50	0.50
80	284-286TC/UC	182TC-256TC	AB	G080204-001	1.09	9.00	7.25	8.50	10.50	11.00	1/2-13	1/2-13	8.00	0.22	0.25
90	324TC-405TC	284-286TC/UC	AB	G090238-001	0.88	11.00	9.00	10.50	12.50	12.50	1/2-13	1/2-13	7.75	0.22	0.66

Foot Mounting Brackets



Brake Series	Foot Mounting Kit	Dimensions in inches							
		A	AJ	AK	BB	BD	BE	BF	D
60	G060541-001	7.00	5.88	4.500/4.497	.13	6.75	.38	3/8-16	3.50
70-	G070561-001	9.00	7.25	8.500/8.497	.25	9.00	.50	1/2-13	5.00
80	G080208-001	11.00	9.00	10.500/10.497	.25	11.00	.50	1/2-13	6.00
90	G090288-001	20.00	11.00	12.500/12.497	.28	14.00	1.50	5/8-11	8.25
60 Hazardous Location	G060559-001	8.00	5.88	4.500/4.497	.19	6.63	.50	3/8-16	3.50
70 Hazardous Location	G070545-001	9.00 or 12.50	7.25	8.500/8.498	.25	9.00	.50	1/2-13	5.00

Brake Series	Torque lb-ft	Bracket Weight lbs.	Dimensions in inches									
			E	2E	F	2F	G	H (Hole)		J	K	Cast Hole
								Dia.	Qty.			
60	1.5-25	4	2.750	5.50	1.50	–	.312	.531	2	1.50	2.25	1.50
70	10-70	8	3.500	7.00	2.00	–	.437	.656	2	2.00	3.00	1.75
80	25-175	12	4.250	8.50	2.00	–	.500	.656	2	2.50	3.00	3.50
90	125-450	78	9.000	18.00	5.50	4.50	.937	.656	4	3.00	6.50	4.00
60 Hazardous Location	1.5-15	7	3.500	7.00	1.50	–	.500	.531	2	2.00	2.50	1.38
70 Hazardous Location	10-75	11	2.750 OR 5.812	5.50 OR 11.63	2.50	–	.500	.656	2	1.75	3.00	2.00

Brake Option Descriptions

A Adaptor to Next Larger Size



Available For:
60 Series End Mount
60 Series Double C Face
60 Series Hazardous
70 Series End Mount
70 Series Double C Face
70 Series Hazardous
80 Series
90 Series

Increases C face dimension to allow mounting to next larger motor frame size

See Page 98

AA Adaptor to Next Larger Size



Available For:
60 Series End Mount
60 Series Double C Face
60 Series Hazardous
70 Series End Mount
70 Series Double C Face
70 Series Hazardous
80 Series
90 Series

Increases C face dimension to allow mounting to next larger motor frame size

See Page 98

AB Reverse Adaptor to Next Smaller Size



Available For:
50 Series
60 Series End Mount
60 Series Double C Face
60 Series Hazardous
70 Series End Mount
70 Series Double C Face
70 Series Hazardous
80 Series
90 Series

Reduces C face dimension to allow mounting to next smaller motor frame size

See Page 98

B Aluminum Bronze Stationary Disc



Available For:
70 Series End Mount
(N/A on 8700 Style)
80 Series
90 Series

Provides extra corrosionresistance

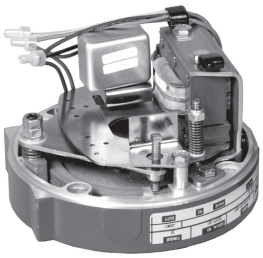
C Conduit Box



Available For:
60 Series
70 Series
80 Series
90 Series

External junction box to connect brake leads. No terminal blocks included unless requested

DD DC Voltage



Available For:
40 Series
50 Series
60 Series End Mount
60 Series Double C Face
1-70 Series End Mount

Special coil and electronic circuit allows brake to operate on DC voltage. Not intended for half wave rectified DC power

Brake Option Descriptions

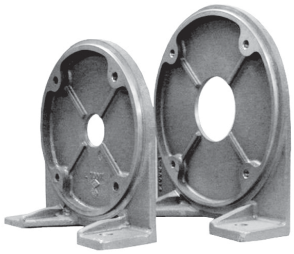
E Ductile Iron Stationary Disc



Available For:
70 Series End Mount
(N/A on 8700 Style)
70 Series Double C Face
80 Series

Ductile iron provides greater strength for high cycle applications

F Foot Mounting Bracket

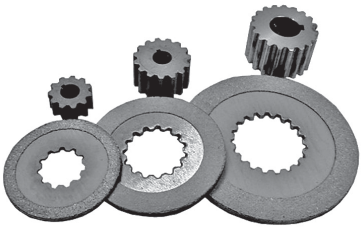


Available For:
60 Series End Mount
60 Series Double C Face
60 Series Hazardous
70 Series End Mount
70 Series Double C Face
70 Series Hazardous
80 Series
90 Series

Allows brake to be supported without having to be mounted to a motor C Face

See Page 99

H Heavy Duty Rotating Friction Disc with Hardened Steel Hub



Single Disc Brake
Available For:
60 Series End Mount
60 Series Double C Face
60 Series Hazardous
70 Series End Mount
70 Series Double C Face
80 Series
90 Series

Metal disc center provides extra tooth support for high cycle/ shock applications

J High Tensile Stud



Available For:
70 Series End Mount
(N/A on 8700 Style)
80 Series

Studs are made from high strength steel for use in high cycle/ shock applications

K External Breather



Available For:
60 Series End Mount
70 Series End Mount
80 Series
90 Series

Prevents ingress of moisture in humid conditions, reducing corrosion

Brake Option Descriptions

M Marine/Maritime Duty Brake with MIL-SPEC paint per TT-P-645 & MIL-DTL-15090

Special Military spec:
enamel paint along with plating or painting of interior components provides additional corrosion protection for brakes exposed to severe weather conditions.

Available For:
60 Series End Mount
60 Series Double C Face
70 Series End Mount
70 Series Double C Face
80 Series
90 Series

Meets IEEE 45, CFR110.1-1 standards

N Marine/Maritime Duty Brake

High Solids epoxy paint along with plating or painting of interior components provides additional corrosion protection for brakes exposed to severe weather conditions. Intended for non-military offshore applications

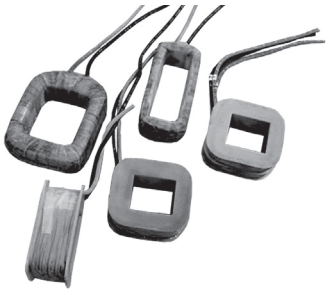
Available For:
60 Series End Mount
60 Series Double C Face
70 Series End Mount
70 Series Double C Face
80 Series
90 Series

P Tropical Protection

Special anti-fungal coating on electrical coils provides protection for brakes exposed to hot, humid conditions

Available For:
40 Series
50 Series
60 Series
70 Series
80 Series
90 Series

Q Class H Coil Wire Insulation



Available For:
40 Series
50 Series
60 Series End Mount
60 Series Double C Face
70 Series End Mount
(N/A 8700)
70 Series Double C Face
(N/A 8700)

High temperature coil wire insulation for extra thermal protection in high temperature applications

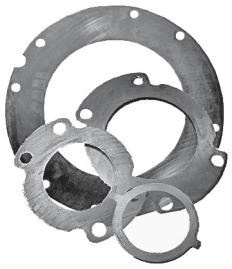
R Heater



Available For:
60 Series End Mount
60 Series Double C Face
70 Series End Mount
70 Series Double C Face
80 Series
90 Series

Special resistor helps dissipate moisture in brakes exposed to cold or humid conditions

S Stainless Steel Stationary Disc



Available For:
60 Series End Mount
70 Series End Mount
80 Series
90 Series

High quality stainless steel discs provide extra corrosion resistance

Brake Option Descriptions

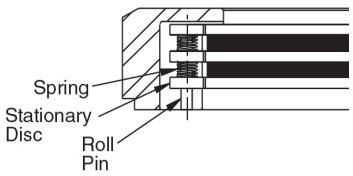
T Through Shaft



Series	Enclosure
40	NEMA 2, IP40
50	NEMA 2, IP40
60	Steel Cover NEMA 2, IP41
60	Cast Iron Cover NEMA 2, IP41
60	Cast Iron Cover NEMA 4, IP54
70	Steel Cover NEMA 2, IP41
70	Cast Iron Cover NEMA 2, IP41
70	Cast Iron Cover NEMA 4, IP54
80	Steel Cover NEMA 2, IP41
80	Cast Iron Cover NEMA 2, IP41
80	Cast Iron Cover NEMA 4, IP54
90	NEMA 2
90	NEMA 4

Special cover allows shaft to continue through the brake enclosure. Through shaft diameter equals hub bore unless otherwise specified.

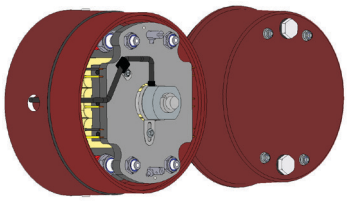
V/VO/VU All Position/Vertical Over/ Vertical Under Mounting



Available For:
60 Series End Mount
60 Series Coupler
70 Series End Mount
70 Series Coupler
80 Series
90 Series

Special springs stabilize discs allowing brake to be mounted in a vertical position either over or under the motor.

XE Smart Brake Encoder Brake

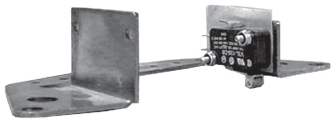


Available For:
60 Series End Mount
70 Series End Mount
80 Series
90 Series

Internally mounted encoder provides feedback on brake positioning and speed. Pricing includes Encoder Products Company Model 260 encoder.

For encoder details or for other encoders, contact factory

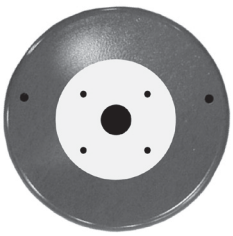
XS Microswitch Warning



Available For:
60 Series End Mount
60 Series Double C Face
70 Series End Mount
70 Series Double C Face
80 Series
90 Series

Switch provides a NO/NC contact to alert when brake is released electrically or manually

XT Tach Machining



Available For:
60 Series End Mount
70 Series End Mount NEMA2
70 Series End Mount NEMA 4
80 Series End Mount NEMA 2
80 Series End Mount NEMA4
(Models with cast iron covers only)

Machined face on cover allows mounting of tachometer or resolver

Brake Option Availability

			40 Series	50 Series	60 Series							70 Series
			NEMA 2	NEMA 2	NEMA 2			NEMA 4		NEMA 4X		Haz Location	NEMA 2
			End Mount	End Mount	End Mount	End Mount	CC	End Mount	CC	End Mount	CC	End Mount	End Mount
Specification Number'			-012 -013	-050 -05A	-524	-5601 -5602 -5603 -5604	-551	-530 -535 -543 -545	-5153	-5115 -5116 -5140 -5141	-5145 -5155	-66B -67B	-115
Suffix	Option Description												
A	Adaptor to next frame size		–	–	AV	AV	AV	AV	AV	AV	AV	AV	AV
AA	Double Adaptor to 2nd larger frame size		–	AV	–	–	–	–	–	–	–	–	AV
AB	Reverse Adaptor to next smaller frame size		–	–	AV	AV	AV	AV	AV	AV	AV	AV	AV
B	Aluminum Bronze Stat Disc (Number of Stat Discs=# Rotating Discs +1)		–	–	–	–	–	–	–	–	–	–	–
C	Conduit Box		–	–	AV	–	AV	AV	AV	AV	AV	–	–
DD	Direct Current (DC Voltage)		AV	AV	AV	–	AV	AV	AV	AV	AV	–	AV
DA	Drain Hole Special		–	–	*	–	*	*	*	*	*	–	*
E	Ductile Iron Stat Discs Per Disc (4 Post) (Number of Stat Discs=# Rotating Discs +1)		–	–	–	–	–	–	–	–	–	–	–
F	Foot Mounting Bracket		–	–	AV	AV	AV	AV	AV	AV	AV	AV	AV
H	Heavy Duty Friction Discs/Hardened Hub		–	–	AV	–	AV	AV	AV	AV	AV	AV	AV
J	High Tensile Stud		–	–	–	–	–	–	–	–	–	–	–
K	External Breather		–	–	–	–	–	AV	AV	AV	AV	–	–
M	Marine/Maritime Duty Brake with MIL-SPEC paint per TT-P-645 & MIL-DTL-15090		–	–	AV	–	AV	AV	AV	–	–	*	AV
N	Marine/Maritime Duty Brake		–	–	AV	–	AV	AV	AV	–	–	*	AV
P	Tropical (Moisture/Fungus) Protection		–	–	AV	–	AV	AV	AV	AV	AV	AV	AV
Q	Class H Insulation		–	AV	AV	AV	AV	AV	AV	AV	AV	–	AV
R	Heater (Specify voltage)		–	–	AV	–	AV	AV	AV	AV	AV	–	AV
S	Stainless Stat Disc (Number of Stat Discs=# Rotating Discs +1)		–	–	AV	–	AV	AV	AV	AV	AV	–	AV
T	Thru-Hole in cover for shaft extension	Cast Cover	–	–	–	–	–	AV	–	*	–	–	–
		Steel Cover	–	AV	AV	–	–	–	–	–	–	–	AV
V	All Position		-	-	AV	AV	AV	AV	AV	AV	AV	AV	AV
VO	Vertical Mount Over Motor		–	–	AV	AV	AV	AV	AV	AV	AV	AV	AV
VU	Vertical Mount Under Motor		–	–	AV	AV	AV	AV	AV	AV	AV	AV	AV
W	Electronic Wear Indicator Switch		–	–	–	–	–	–	–	–	–	–	–
X	Special Modifications		*	*	*	*	*	*	*	*	*	*	*
XE	Smart Brake Encoder Option		–	–	AV	–	–	AV	–	AV	–	–	AV
XS	Micro Switch (Brake Released/Engaged)		–	–	AV	–	AV	AV	AV	AV	AV	–	AV
XT	Tach Mounting (Cast Cover Only)		–	–	*	–	–	AV	–	AV	–	–	*
Y	Manual Release Handle		–	–	AV	–	AV	AV	AV	AV	AV	–	AV
Z	Stabilizer Clip Rotating		–	AV	AV	–	STD	AV	STD	AV	STD	AV	AV
	One Piece Hub/Shaft (Brakes 1-6 lb.ft. only)		–	–	–	–	AV	–	AV	–	AV	–	–
	Corrosion Resistant Internal Parts		–	–	AV	–	AV	AV	AV	STD	STD	AV	AV
	Deadman Release		–	STD	–	–	–	–	–	–	–	–	–
	Non Standard Voltages		AV	AV	AV	AV	AV	AV	AV	AV	AV	AV	AV
	Non Standard Bore Sizes		AV	AV	AV	AV	AV	AV	AV	AV	AV	AV	AV

– = Not Available
AV = Available
STD = Standard
* **=** Contact your Factory for pricing and availability

Brake Option Availability

	70 Series										80 Series			90 Series	
	NEMA 2		NEMA 4		NEMA 4X		NEMA 2	NEMA 4	Haz Location	NAVY	NEMA 2	NEMA 4	NAVY	NEMA 2	NEMA 4
	End Mount	CC	End Mount	CC	End Mount	CC	Foot Mounted	Foot Mounted	End Mount	End Mount	End Mount	End Mount	End Mount	End Mount	End Mount
Specification Number'	-ES41 -EC41 -ES4S -EC4S	-CE41 -CE42	-EC61 -SC61 -SC6S	-CE61 -CE62	-EC6W -SC6W -SC6T	-CE63 -CE64	-DE41	-DE61	-9	-42 -85	-28 -58	-29 -32	-27 -52	-50	-51 -52

Prefix	Option Description															
A	Adaptor to next frame size	**AV**	**AV**	**AV**	**AV**	**AV**	**AV**	–	–	**AV**	**AV**	**AV**	**AV**	**AV**	**AV**	**AV**
AA	Double Adaptor to 2nd larger frame size	**AV**	**AV**	**AV**	**AV**	**AV**	**AV**	–	–	**AV**	**AV**	**AV**	**AV**	**AV**	–	–
AB	Reverse Adaptor to next smaller frame size	**AV**	**AV**	**AV**	**AV**	**AV**	**AV**	–	–	**AV**	**AV**	**AV**	**AV**	**AV**	**AV**	**AV**
B	Aluminum Bronze Stat Disc Per Disc (Number of Stat Discs= # Rotating Discs-1)	–	–	–	–	–	–	–	–	–	–	**AV**	**AV**	–	**AV**	**AV**
C	Conduit Box	**AV**	**AV**	**AV**	**AV**	**AV**	–	**AV**	**AV**	–	–	**AV**	**AV**	–	**AV**	**AV**
DA	Drain Hole Special	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
E	Ductile Iron Stat Discs Per Disc (Number of Stat Discs= # Rotating Discs-1)	–	–	–	–	–	–	–	–	–	–	**AV**	**AV**	–	–	–
F	Foot Mounting Bracket	**AV**	**AV**	**AV**	**AV**	**AV**	**AV**	**STD**	**STD**	**AV**	**AV**	**AV**	**AV**	**AV**	**AV**	**AV**
H	Heavy Duty Friction Discs/Hardened Hub	**AV**	**AV**	**AV**	**AV**	**AV**	**AV**	**AV**	**AV**	**AV**	**AV**	**AV**	**AV**	**AV**	**AV**	**AV**
J	High Tensile Stud	–	–	–	–	–	–	–	–	**STD**	**AV**	**AV**	**AV**	**AV**	**STD**	**STD**
K	External Breather	**AV**	**AV**	**AV**	**AV**	**AV**	**AV**	**AV**	**AV**	–	**AV**	**AV**	**AV**	**AV**	**AV**	**AV**
M	Marine/Maritime Duty Brake, MIL-SPEC paint per TT-P-645 & MIL-DTL-15090	**AV**	**AV**	**AV**	**AV**	–	–	**AV**	**AV**	*	**STD**	**AV**	**AV**	**STD**	**AV**	**AV**
N	Marine/Maritime Duty Brake	**AV**	**AV**	**AV**	**AV**	–	–	**AV**	**AV**	*	–	**AV**	**AV**	–	**AV**	**AV**
P	Tropical (Moisture/Fungus) Protection	**AV**	**AV**	**AV**	**AV**	**AV**	**AV**	**AV**	**AV**	**AV**	**AV**	**AV**	**AV**	**AV**	**AV**	**AV**
Q	Class H Insulation	**STD**	**STD**	**STD**	**STD**	**STD**	**STD**	**STD**	**STD**	**AV**	**AV**	**STD**	**STD**	**STD**	**STD**	**STD**
R	Heater (Specify voltage)	**AV**	**AV**	**AV**	**AV**	**AV**	**AV**	**AV**	**AV**	**AV**	**AV**	**AV**	**AV**	**AV**	**AV**	**AV**
S	Stainless Stationary Disc	**AV**	**AV**	**AV**	**AV**	**AV**	**AV**	**AV**	**AV**	–	**STD**	**AV**	**AV**	**STD**	**AV**	**AV**
T	Thru-Hole in cover for shaft extension – Cast Cover	**AV**	–	**AV**	–	**AV**	–	–	–	–	–	**AV**	**AV**	–	**AV**	**AV**
	Thru-Hole in cover for shaft extension – Steel Cover	**AV**	–	–	–	–	–	–	–	–	–	**AV**	–	–	–	–
VO	Vertical Mount Over Motor	**AV**	**AV**	**AV**	**AV**	**AV**	**AV**	**AV**	**AV**	**AV**	**AV**	**AV**	**AV**	**AV**	**AV**	**AV**
VU	Vertical Mount Under Motor	**AV**	**AV**	**AV**	**AV**	**AV**	**AV**	**AV**	**AV**	**AV**	**AV**	**AV**	**AV**	**AV**	**AV**	**AV**
W	Electronic Wear Indicator Switch	*	*	*	*	*	*	*	*	_	*	*	*	*	–	–
X	Special Modifications	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
XE	Smart Brake Encoder Option	**AV**	–	**AV**	–	**AV**	–	–	–	–	–	**AV**	**AV**	–	**AV**	**AV**
XS	Micro Switch (Brake Released/Engaged)	AV	AV	AV	AV	AV	AV	AV	AV	–	AV	AV	AV	AV	AV	AV
XT	Tach Mounting (Cast Cover Only)	AV	–	AV	–	AV	–	–	–	–	–	AV	AV	–	AV	AV
Y	Manual Release Handle	STD	STD	STD	STD	STD	STD	STD	STD	–	–	–	–	–	–	–
	Corrosion Resistant Internal Parts	*	AV	*	AV	*	STD	AV	AV	AV	STD	AV	AV	STD	AV	AV
	Deadman Release	*	*	*	*	*	*	*	*	*	STD	*	*	STD	–	–
	Non Standard Voltages	AV	AV	AV	AV	AV	AV	AV	AV	AV	AV	AV	AV	AV	AV	AV
	Non Standard Bore Sizes	AV	AV	AV	AV	AV	AV	AV	AV	AV	AV	AV	AV	AV	AV	AV
	External Release (Mark II Release)	–	–	–	–	–	–	–	–	–	–	AV	AV	–	–	–
	External Release (Mark III Release)	–	–	–	–	–	–	–	–	–	–	AV	AV	–	*	*

– = Not Available
AV = Available
STD = Standard
* = Contact your Factory for pricing and availability

Application Engineering- Overhauling Loads

Table of Symbols

W_L	Weight of overhauling load
W	Total weight of load acting at motor brake
V_L	Linear velocity of load subjected to linear motion
Θ	Angle of inclination fror overhauling load
WK^2_T	Total rotational moment of inertia acting at motor brake
N_L	Rotational speed of load
N_B	Rotational speed of brake
T_O	Torque required at brake to hold overhauling load
T_{BM}	Minimum brake torque to stop and hold application
T_{SB}	Torque rating of selected brake
t_{SB}	Stopping time of application using selected brake
TDS	Total distance travelled by linear load during stop
HPS	Horsepower seconds per stop
ASM	Allowable stops per minute
RTC	Rated thermal capacity of brake

The procedure for sizing a brake in an application subjected to overhauling loads has four steps:

I. Determine rotational moment of inertia acting at motor brake.

II. Determine minimum torque required to stop and hold system.

III. Calculate system performance using selected brake.

IV. Evaluate system performance.

Before starting this process, the following application information is needed to conduct the sizing calculations:

◊ A detailed sketch of the brake-motor application.

◊ Motor data, including horsepower rating, speed (rpm), rotational inertia (lb-ft2) and NEMA frame size.

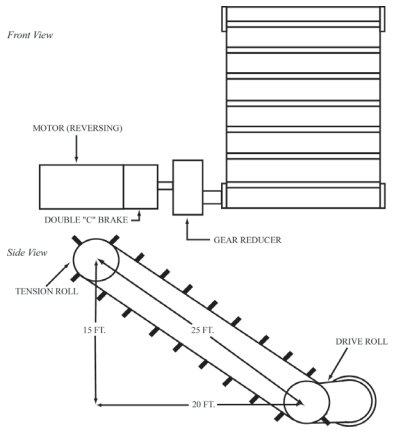
◊ Rotational inertia (lb-ft2) of all system components acting at the brake.

◊ Rotational speed (rpm) of all system components acting at the brake.

◊ Weight (lbs) and velocity (ft/min) of loads subjected to linear motion.

◊ Angle of inclination if overhauling load is not acting vertically.

◊ Cycle rate of system (stops/min).



Example: Application Information for Bucket Conveyor

Motor Data:

Horsepower Rating	5 HP
Speed	1,760 RPM
Rotational Inertia	0.30 lb-ft2
NEMA Frame Size	184 TC

Rotational Inertia of All Active System Components:

Motor Brake Data:

Rotational Inertia	0.11 lb-ft2

Gear Reducer Data:

Gear Reduction Ratio	50:1
Gear Reducer Inertia	0.14 lb-ft2

Drive Roll Data:

Roll Diameter	0.955 ft
Roll Length	2.5 ft
Rotational Inertia	99.338 lb-ft2
Tension Roll Data	Same as Drive Roll

Rotational Speed of All Components Acting at Brake:

Motor	1,760 RPM
Brake	1,760 RPM
Gear Reducer	1,760 RPM (in)
	35.2 RPM (out)
Drive Roll	35.2 RPM
Tension Roll	35.2 RPM

Weight and Velocity of Loads Subjected to Linear Motion:

For this example, we will use the following conveyor data:

Empty weight of conveyor belt (per foot basis)	15 lbs
Total length of conveyor belt	53 ft
Empty weight of conveyor bucket	20 lbs
Spacing of buckets on conveyor	1 ft
Total number of buckets on conveyor	52
Load capacity of each bucket	75 lbs

$$W_C = (53\text{ ft})(15\text{ lb/ft}) + (52)(20\text{ lbs}) = 1{,}835\text{ lbs}$$

$$W_L = (0.5)(52)(75\text{ lbs}) = 1{,}950\text{ lbs}$$

**The W_L calculation assumes that only half of the buckets will carry a load at any given instant.*

$$W = W_C + W_L = 3{,}785\text{ lbs}$$

(For velocity calculations)

$$V_L = (35.2\text{ rev/min})(0.955\text{ ft})\,\pi = 105.6\text{ ft/min}$$

Angle of Inclination

$$Ø = \text{SIN}^{-1}\left(\frac{H}{L}\right) = \text{SIN}^{-1}\left(\frac{15}{25}\right) = 36.87^{o}$$

$$\text{SIN } Ø = 0.600$$

Then: (For weight calculations)
Cyclic Rate of System:
Maximum of 2 stops/minute.
Using the application information, select a brake for this system.

Application Engineering- Overhauling Loads

Known Quantities:
Motor..... 0.3000 lb-ft2
Brake..... 0.1100 lb-ft2
Gear Reducer 0.1400 lb-ft2

(A) Contribution from rotary load at different speed than brake shaft:

(For Drive Roller)

$$WK^2_{DR} = WK^2_{DRD}\left(\frac{N_L}{N_B}\right)^2 = (99.338\ \text{lb-ft}^2)\left(\frac{35.2}{1760}\right)^2 = 0.0397\ \text{lb-ft}^2$$

* This assumes that there is no slippage between conveyor belt and rollers.

(For Tension Roller)

$$WK^2_{TR} = WK^2_{TRD}\left(\frac{N_L}{N_B}\right)^2 = (99.338\ \text{lb-ft}^2)\left(\frac{35.2}{1760}\right)^2 = 0.0397\ \text{lb-ft}^2$$

* This assumes that there is no slippage between conveyor belt and rollers.

(B) Contribution from loads subjected to linear motion:

$$WK^2_L = W\left(\frac{V_L}{2\pi N_B}\right)^2 = (3{,}785\ \text{lbs})\left(\frac{105.6}{2\pi 1760}\right)^2 = 0.3452\ \text{lb-ft}^2$$

$$WK^2_T = WK^2_M + WK^2_B + WK^2_{GR} + WK^2_{DR} + WK^2_L + WK^2_{TR}$$

$$WK^2_T = 0.9746\ \text{lb-ft}^2$$

II. DETERMINE MINIMUM TORQUE REQUIRED TO STOP AND HOLD SYSTEM

(A) Calculate overhauling torque of fully loaded conveyor belt:

$$T_O = \frac{(0.158)(\text{SIN}(\Theta))(W_L)(V_L)}{N_B}$$

$$T_O = \frac{(0.158)(0.600)(1950\ \text{lb})(105.6\ \text{ft/min})}{1760\ \text{RPM}} = 11.092\ \text{lb-ft}$$

$$T_{BM} = \frac{(WK^2_T)(N_B)}{308t} + T_O$$

$$T_{BM} = \frac{(0.9746\ \text{lb. ft.}^2)(1760)}{(308)(1)} + 11.092\ \text{lb-ft}$$

$$T_{BM} = 5.569\ \text{lb. ft.} + 11.092\ \text{lb. ft.} = 16.661\ \text{lb-ft}$$

(B) Calculate minimum brake torque:

Please note that the maximum stopping time should not exceed one second.

Therefore, we must select a brake with a torque rating of at least 16.661 lb-ft which fits on a NEMA 184 TC frame size.
Selected Brake Data:

Dings Model Number..... 4-72025-46
Enclosure Type..... NEMA 4
Brake Style..... Double “C” Face
Rated Thermal Capacity 12
Rotational Inertia 0.1097 lb-ft2

III. CALCULATE SYSTEM PERFORMANCE USING SELECTED BRAKE

(A) Stopping time calculations:

$$t_{SB\uparrow} = \frac{(WK^2_T)(N_B)}{(308)(T_{SB} + T_O)} = \frac{(0.9746\ \text{lb-ft}^2)(1760)}{(308)(25+11.092)} = 0.154\ \text{sec}$$

$$t_{SB\downarrow} = \frac{(WK^2_T)(N_B)}{(308)(T_{SB} - T_O)} = \frac{(0.9746\ \text{lb-ft}^2)(1760)}{(308)(25-11.092)} = 0.400\ \text{sec}$$

(B) Travel distance during stop calculations:

$$TDS_{\uparrow} = \frac{0.5\ V_L\ t_{SB\uparrow}}{60} = \frac{(0.5)(105.6\ \text{ft/min})(0.154\text{s})}{60} = 0.136\ \text{ft}$$

$$TDS_{\downarrow} = \frac{0.5\ V_L\ t_{SB\downarrow}}{60} = \frac{(0.5)(105.6\ \text{ft/min})(0.400\text{s})}{60} = 0.352\ \text{ft}$$

(C) Thermal requirement calculations:

(without overhauling load)

$$\text{H.P. Sec/Stop} = WK^2_T\left(\frac{N_B}{1800}\right)^2 = (0.9746\ \text{lb-ft}^2)\left(\frac{1760}{1800}\right)^2 = 0.932\ \text{HPS/Stop}$$

(with ascending overhauling load)

$$\text{H.P. Sec/Stop}_{O\uparrow} = \text{H.P. Sec/Stop}\left(\frac{T_{SB}}{T_{SB} + T_O}\right)$$

$$= (0.932)\left(\frac{25}{25+11.092}\right) = 0.646\ \text{HPS/Stop}_{O\uparrow}$$

(with decending overhauling load)

$$\text{H.P. Sec/Stop}_{O\downarrow} = \text{H.P. Sec/Stop}\left(\frac{T_{SB}}{T_{SB} - T_O}\right)$$

$$= (0.932)\left(\frac{25}{25-11.092}\right) = 1.675\ \text{HPS/Stop}_{O\downarrow}$$

Since the worst case scenario is a descending overhauling load, it will be used to determine

(D) Allowable stops calculation:

$$ASM = \frac{RTC}{\left(\frac{HPS_{O\uparrow}}{MIN}\right)} = \frac{12}{1.675} = 7.16\ \frac{\text{STOPS}}{\text{MIN}}$$

IV. EVALUATE SYSTEM PERFORMANCE

(1) Stopping time of system is less than one second so brake torque is adequate.
(2) Allowable stops per minute is more than three times the specified number of two, so rated thermal capacity is adequate.

Therefore, we can conclude that the brake will function as intended.

Product Warranty

Seller warrants products manufactured by it and supplied hereunder to be free from defects in material and workmanship under normal use and proper maintenance for a period of twelve months from date of shipment.
If within such period any such products shall be proved to Sellers's reasonable satisfaction to be defective, such products shall be repaired or replaced at Seller's option. Seller's obligation and Buyer's exclusive remedy hereunder shall be limited to such repair and replacement and shall be conditioned upon Seller's receiving written notice of any alleged defect no later than 10 days after its discovery within the warranty period and, at Seller's option, the return of such products to Seller, f.o.b. its factory, when such return is feasible. Seller reserves the right to satisfy its warranty obligation in full by reimbursing Buyer for all payments it makes hereunder, and Buyer shall thereupon return the products to Seller. Seller shall have the right to remedy such defects. Seller makes no warranty with respect to wear or use items, such as belts, chains, sprockets, discs and coils, all of which are sold strictly AS IS.

The foregoing warranties are exclusive and in lieu of all other express and implied warranties (except of title) including but not limited to implied warranties of merchantability, fitness for a particular purpose, performance or otherwise, and in no event shall the Seller be liable for claims (based upon breach of express or implied warranty, negligence, product liability, or otherwise) for any other damages, whether direct, immediate, incidental, foreseeable, consequential, or special.

Conversions

Measurement	Base Unit	Convert to	Factor
Torque	pound-feet (lb-ft) Newton-meter (N-m) pound-inches (lb-in) Newton-meter (N-m) ounce-inches (oz-in) Newton-meter (N-m)	Newton-meter (N-m) pound-feet (lb-ft) Newton-meter (N-m) pound-inches (lb-in) Newton-meter (N-m) ounce-inches (oz-in)	1.355818 .73756 .113 8.85 .007062 141.611
Horsepower	horsepower (hp) kilowatt (kW)	kilowatt (kW) horsepower (hp)	.7457 1.341
Weight	pound (lb) kilogram (kg)	kilogram (kg) pound (lb)	.453592 2.20462
Inertia	pound-feet squared (lb-ft^2) kilogram-meter squared (kg-m^2)	kilogram-meter squared (kg-m^2) pound-feet squared (lb-ft^2)	.042 23.81
Length	inch millimeter (mm)	millimeter (mm) inch	25.4 .03937

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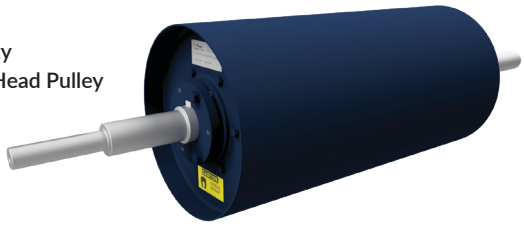
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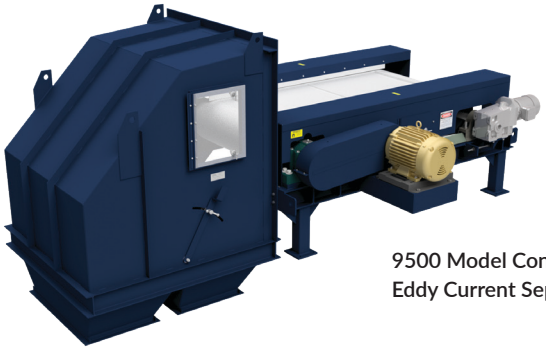
Product Overview



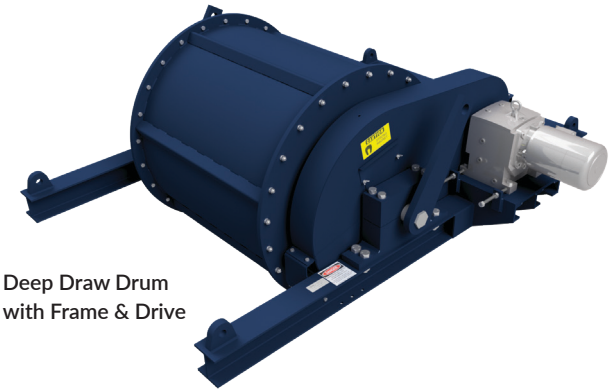
Overhead Self-Cleaning Electromagnet



Heavy-Duty Magnetic Head Pulley



9500 Model Concentric Eddy Current Separator



Deep Draw Drum with Frame & Drive

Overhead Permanent & Electromagnets

Overhead separators mounted above a belt or vibratory conveyor, magnetically lift ferrous metals out of bulk material. Magnetic separation improves product purity and protects downstream processing equipment. Available in self-cleaning and stationary models.

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Magnetic Head Pulleys

Dings Magnetic Head Pulleys are permanent (nonelectric) magnetic separators that operate as head pulleys on belt conveyors. These low-cost, self-cleaning magnets remove tramp iron and purify materials conveyed in bulk form. Dings pulleys are shipped ready to install.

Eddy Current Separators

The Eddy Current Separator is ideal for recovering nonferrous metals from recyclables, plastics, glass, material processed at composting or waste-to-energy facilities, automotive shredder residue, and other processed materials. Dings provides both concentric and eccentric models for various applications.

Magnetic Deep Draw Drums

The Deep Draw Drums is a permanent self-cleaning magnetic separator. Its rugged construction is ideal for separating ferrous metal from material such as shredded cars, slag, crushed ore, and ash at mass burn plants.

Services

Custom Design

Our highly experienced sales engineers will work with you to design the perfect separator for your application. Our engineers will provide certified prints prior to production to ensure everything meets your requirements.

Rebuilds

If your magnet has been damaged, consider having Dings rebuild it. In many cases, we can bring a magnet back to near-new condition at a cost substantially less than that of a new one.

Notes

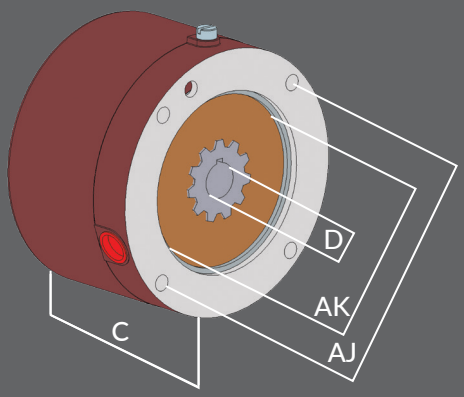
Dings CO. DYNAMICS GROUP

Direct Acting Spring-Set Brakes

Simple Installation | Simple Operation | Simple Service

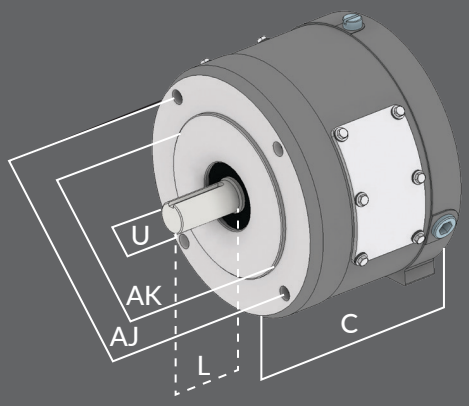
Proven Performance in Applications Such As...

- Construction Elevators
- Crane & Hoist
- Conveyors
- Winches
- Freight Elevators
- Food Processing Equipment
- Mining Elevators
- Door & Gate Operators
- Mining Conveyors
- Saws
- Automated Assembly Equipment
- Printing Equipment
- Baggage Delivery Equipment
- Satellite Positioning Equipment
- Palletizers
- Packaging Equipment
- Overhead Doors
- Escalators
- Shipboard Cranes
- Gantry Cranes
- Railway Equipment
- Theater/Stage Equipment
- Boat Lifts
- Asphalt Shingle Equipment
- Truss Manufacturing Equipment
- And More...



End-Mount and Double C-Face Brake (Motor Side)

C = Brake Length
D = Hub Bore Diameter
AK = Brake Register Diameter
AJ = Brake Mounting Hole Bolt Circle



Double C-Face Brake

C = Brake Length
U = Brake Shaft Diameter
L = Shaft Length
AK = Brake Register Diameter
AJ = Brake Mounting Hole Bolt Circle

An Engineering Driven Company

Dings Company — A U.S. Manufacturer

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