

56 Series

Mounting Face: NEMA 56C, 143TC and 145TC

The 56,X00 Series have the following design features:

- Spring-Set Electrically Released
- Static Torque 1.5 through 25 lb-ft
- Adjustable Torque, down to 50% of rated nameplate torque
- Manual Wear Adjustment
- Airgap Adjust Gage
- Splined Hub
- IP 21, 23 & 54 (formerly referred to by Stearns as NEMA type 1, 2 & 4 respectively)
- IP 55, 56, & 57 (formerly referred to by Stearns as NEMA Type 4X (BISSC Certified with epoxy coating and stainless steel hardware on exterior, or with a stainless steel enclosure)
- Universal mounting through 15 lb-ft. The 20 and 25 lb-ft are supplied with springs for vertical modification.

Specifications:

- Lead Wire Length: 24 inches
- Maximum Speed: Horizontal 5000 rpm Vertical 3600 rpm
- Coil Insulation: Standard Class B Optional Class H (56,800 Series Class H standard)
- Certified: CSA File LR-6254
- ABS Type Approval Certified

Product Overview

56000 Series

Designed for industrial applications requiring high performance in a compact lightweight package.

Construction:

Die cast aluminum endplate with stamped steel housing

Available Enclosures:

IP 23, 54 & 55

Release Type:

External knob manual release with or without automatic reset

Through Shaft Capability: Yes (IP 23 only)



56700 Series

Units designed for industrial applications that fit between a standard C-Face motor and gear reducer. Can also be used to retrofit installed units without braking capability.

Construction: Die cast aluminum endplate and housing

Available Enclosures:

IP 23, 54, 55 & 56

Release Type: External knob manual release with automatic reset

C-face brake has output shaft



56200 Series

Designed for industrial applications requiring the protection of a heavy duty cast iron enclosure.

Construction:

Cast iron endplate and housing.

Available Enclosures: IP 56 & 57

Release Type:

External side lever release with automatic reset

Through Shaft Capability: Yes



Also Available . . .

56100 Series

Full die cast aluminum endplate and housing with internal release lever

Available Enclosures:

IP 23, 56 & 57



56500 Series

Same as 56000 Series with 182TC / 184TC mounting.

Construction:

Cast iron endplate with stamped steel housing

(Direct mount to 182TC / 184TC)

Available Enclosures:

IP 23, 54 & 55

Release Type:

External knob manual release with or without automatic reset

Through Shaft Capability: Yes (IP 23 only)



56300 Series

Die cast aluminum endplate with stamped steel housing and external maintained release, IP 21



56400 Series

Cast iron endplate with stamped steel housing and external knob release

Available Enclosures:

IP 23 & 54



56900 Series

For use in severe environments found in process industries such as food, pulp and paper mills and chemical plants.

Construction: Stainless steel

Release Type:

Side lever with automatic reset

Available Enclosures: IP 56 & IP 57

Through Shaft Capability: with IP43 rating only



56600 Series

Cast iron endplate and housing with internal release lever

Available Enclosures: IP 23, 56 & 57



Series 56,000; 56,100; 56,200; 56,300; 56,400; 56,500; 56,600; 56,700; and 56,900

Mounting Face: NEMA 56C, 143TC and 145TC

Engineering Specifications

Maximum Solenoid Cycle Rate: ① Thermal Capacity: ②
 AC 36 cycles/min Horizontal 9 hp-sec/min (112 watts)
 DC 10 cycles/min Vertical 6.5 hp-sec/min (80 watts)

- ① Maximum solenoid cycle rate is based on ambient temperature of 72°F (22°C) with 50% duty cycle. Does not relate to brake cycle rate (see Thermal Capacity).
- ② Thermal capacity rating is based on ambient temperature of 72°F (22°C), stop time of one second or less, with no heat absorbed from motor. Refer to Selection Procedure Section.

Series 56,000; 56,100; 56,300; 56,500; and 56,700

Nominal Static Torque	Number of Friction Discs	Coil Size		Inertia (WK ²)
		AC	DC	
1.5-3 (2-4)	1	4	4+	.008 (3.36)
6 (8)	1	K4	K4+	.008 (3.36)
10 (14)	2	K4	K4+	.014 (5.88)
15 (20)	2	K4+	M4+	.014 (5.88)
20 (27)	3	K4+	M4+	.020 (8.40)
25 (34)	3	M4+	P4+	.020 (8.40)

Series 56,200; 56,400; 56,600; and 56,900

Nominal Static Torque	No. of Friction discs	Coil Size		Inertia (WK ²)
		AC	DC	
3-6 (4-8)	2	4	4+	.014 (5.88)
10 (14)	2	K4	K4+	.014 (5.88)
15 (20)	2	K4+	M4+	.014 (5.88)
20 (27)	3	K4+	M4+	.020 (8.40)
25 (34)	3	M4+	P4+	.020 (8.40)

Current Ratings (amperes)

Solenoid Coil Size*	AC Current	Voltage: 60 Hz					Voltage: 50 Hz			Voltage: DC				
		115	200	230	400	460	575	110	220	380	24	95	115	230
4	Inrush	3.6	2.1	1.8	1.1	.9	.7	4.1	2.1	.9	13.3	3.6	2.8	1.5
	Holding	.3	.2	.2	.08	.08	.06	.3	.2	.08	.3	.1	.05	.03
4+	Inrush	-	-	-	-	-	-	-	-	-	12.0	4.7	3.7	2.0
	Holding	-	-	-	-	-	-	-	-	-	.4	.1	.08	.04
K4	Inrush	4.3	2.5	2.2	1.3	1.1	.9	3.8	1.9	1.1	17.5	4.7	3.7	2.0
	Holding	.3	.2	.2	.1	.08	.07	.4	.2	.08	.4	.1	.08	.04
K4+	Inrush	4.6	2.5	2.3	1.2	1.0	.9	4.9	2.0	1.0	20.5	7.5	5.5	2.0
	Holding	.4	.2	.2	.1	.1	.08	.4	.2	.1	.5	.1	.08	.04
M4	Inrush	3.0	1.7	1.5	.9	.8	.6	-	-	.8	-	-	-	-
	Holding	.6	.3	.3	.2	.1	.21	-	-	.1	-	-	-	-
M4+	Inrush	4.6	2.5	2.3	1.2	1.0	.9	4.1	2.0	1.3	30.3	7.9	5.5	2.0
	Holding	.4	.2	.2	.1	.1	.08	.4	.2	.1	.5	.1	.1	.04
P4+	Inrush	-	-	-	-	-	-	-	-	-	30.3	11.3	8.4	3.0
	Holding	-	-	-	-	-	-	-	-	-	.5	.1	.08	.04

Motor Frame Adapters: Series 56,000 through 56,600

WARNING! Before selecting an adapter to mount a brake on a larger motor frame, the torque and thermal capacity required by the application should be determined as shown in the "Selection Procedure" section. A larger motor may indicate a requirement for greater thermal capacity than the brake is designed for. The brake selection must be matched to the motor and application requirements, before use of an adapter is considered.

To Adapt to NEMA Frame Size	AK Dim.	Reg. No.	Brake Enclosure ①	Brake Torque	Adapter Stock Number	Additional Shaft Length Required
	in. (mm)					in. (mm)
182TC 184TC 213TC 215TC 254TC 256TC	8.50 (215.90)	-9	IP 23	1.5-15	5-55-5041-00 List \$700.00	.94 (23.81)
	8.50 (215.90)	-9	IP 54	1.5-6	5-55-5041-00 List \$700.00	.94 (23.81)
	8.50 (215.90)	-9	IP 23	20 & 25	5-55-5043-00 List \$700.00	.94 (23.81)
	8.50 (215.90)	-9	IP 54	10-25	5-55-5043-00 List \$700.00	.94 (23.81)

① 56,300 Series have NEMA 1 enclosure. For adapter dimensions, see Technical Data

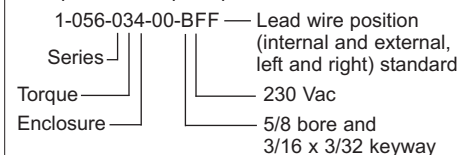
Brake set and release times in milliseconds, when brake and motor are switched separately (for T1/T2 definitions, see page 101):

Static Torque lb-ft	Coil Size	T1	T2
1.5 - 25	4, K4, K4+, M4+	25	14

Ordering and Identification Information

The following example and tables provide information for selecting the appropriate three-letter suffix when ordering a Stearns Brake.

Example of a complete part number:



Hub Selection

Character	Bore (in.)	Keyway** (in. x in.)
A*	5/8	1/8 x 1/16
B	5/8	3/16 x 3/32
C	3/4	3/16 x 3/32
D	7/8	3/16 x 3/32
E	1-1/8	1/4 x 1/8
F*	1-1/4	1/4 x 1/8
K	1/2	1/8 x 1/16
L*	1	1/4 x 1/8
N*	9/16	1/8 x 1/16
O*	11/16	3/16 x 3/32
P*	1-1/16	1/4 x 1/8
R*	13/16	3/16 x 3/32
S*	15/16	1/4 x 1/8
Z	.460	pilot bore

Minimum bore is .500. Maximum allowable bore is 1.25. (maximum shaft length not to exceed end of hub). For through-shaft applications, .875 is maximum

*These bores are non-standard. Add \$225.00 to list price.

**Keyseats made to ANSI B17.1 Standard.

Standard AC Voltage Ratings

Character	Voltage	Hertz
B	115	60
D	110	50
E	200	60
F	230	60
	190	50
H	220	50
L	460	60
	380	50
M	415	50
N	575	60
O	110/220	50
P	115/208-230	60
Q	208-230/460	60
	190/380	50
R	200/400	60

Direct Current

Character	Voltage
T	12
U	24
V	36
W	48
X	95
Y	115
Z	230

Consult factory if other DC voltage is needed.

Voltages below 70VDC are polarity sensitive.

Modifications are available—see SAB Modification Section

Dimensional Drawings are on the pages following.

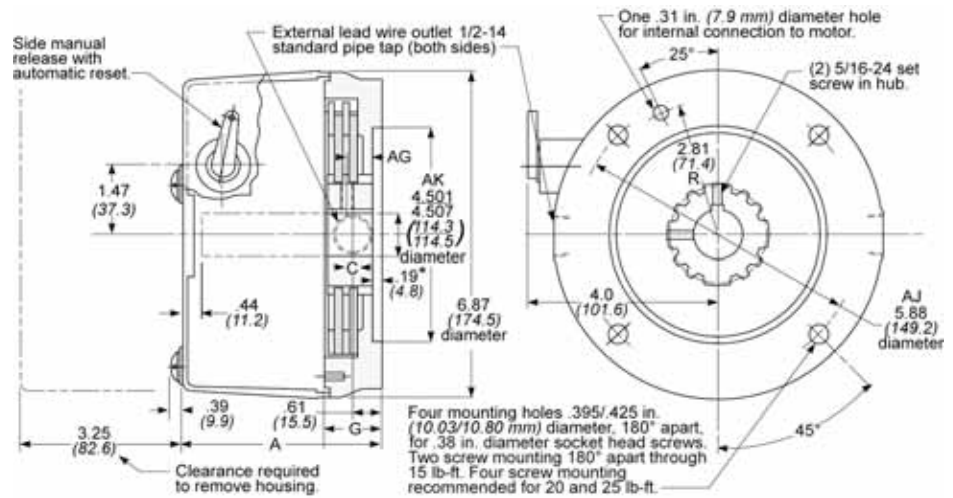
Series 56,200 (1-056-2XX) Cast Iron & Series 56,900 (1-056-9XX) Stainless Steel

Mounting Face: NEMA 56C, 143TC and 145TC

4.5" AK, 5.88" AJ

Installation and Service:
P/N 8-078-905-60

Modifications: Pages 54-63



56,200 Series: Heavy Duty Cast Iron Enclosure

Parts List: P/N 8-078-906-02

Enclosure:
IP 56 & 57 (formerly referred to by Stearns as NEMA Type 4X, BISSC Certified)

Mounting: Fanguard-mounted brakes requiring IP 56 or IP 57 protection may require additional sealing measures beyond seals provided with the brake - Refer to Installation & Service Instruction Sheets.



56,900 Series: Stainless Steel Enclosure

Parts List: P/N 8-078-906-09

Enclosure Protection:
IP 56 & 57 (formerly referred to by Stearns as NEMA Type 4X)

Mounting: Fanguard-mounted brakes requiring IP 56 or IP 57 protection may require additional sealing measures beyond seals provided with the brake - Refer to Installation & Service Instruction Sheets.

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

IP 56 / IP 57 Dimensions

Nominal Static Torque lb-ft (Nm)	Dimensions in Inches (Dimensions in Millimeters)				Wt lbs (Kg) 56,200	Wt lbs (Kg) 56,900
	A	AG	C Hub Width	G		
3 (4)	4.67 (118.6)	.59 (15.0)	1.18 (30.0)	1.66 (42.2)	17 (7.7)	17 (7.7)
6 (8)					17 (7.7)	17 (7.7)
10 (14)					18 (8.0)	17 (7.7)
15 (20)					18 (8.0)	17 (7.7)
20 (27)					21 (9.5)	21 (9.5)
25 (34)					21 (9.5)	21 (9.5)

Series 56,200 Pricing (Discount Symbol B4)

Nominal Static Torque lb-ft (Nm)	Enclosure	Basic Model Number and List Price*			
		AC	AC List Price*	DC	DC List Price*
3 (4)	IP 56	1-056-212-00	\$1,350.00	1-056-216-00	\$1,650.00
	IP 57	1-056-214-00	1,425.00	1-056-218-00	1,725.00
6 (8)	IP 56	1-056-222-00	1,415.00	1-056-226-00	1,715.00
	IP 57	1-056-224-00	1,490.00	1-056-228-00	1,790.00
10 (14)	IP 56	1-056-232-00	1,520.00	1-056-236-00	1,820.00
	IP 57	1-056-234-00	1,595.00	1-056-238-00	1,895.00
15 (20)	IP 56	1-056-242-00	1,620.00	1-056-246-00	1,920.00
	IP 57	1-056-244-00	1,695.00	1-056-248-00	1,995.00
20 (27)	IP 56	1-056-252-00	1,705.00	1-056-256-00	2,005.00
	IP 57	1-056-254-00	1,780.00	1-056-258-00	2,080.00
25 (34)	IP 56	1-056-262-00	1,800.00	1-056-266-00	2,100.00
	IP 57	1-056-264-00	1,875.00	1-056-268-00	2,175.00

Series 56,900 Pricing (Discount Symbol B4)

Nominal Static Torque lb-ft (Nm)	Enclosure	Basic Model Number and List Price*			
		AC	AC List Price*	DC	DC List Price*
3 (4)	IP 57	1-056-914-00	\$3,425.00	1-056-918-00	\$3,725.00
6 (8)	IP 57	1-056-924-00	3,490.00	1-056-928-00	3,790.00
10 (14)	IP 57	1-056-934-00	3,595.00	1-056-938-00	3,895.00
15 (20)	IP 57	1-056-944-00	3,695.00	1-056-948-00	3,995.00
20 (27)	IP 57	1-056-954-00	3,780.00	1-056-958-00	4,080.00
25 (34)	IP 57	1-056-964-00	3,875.00	1-056-968-00	4,175.00

* Subtract \$30.00 for brake ordered less hub.

Series 56,100 (1-056-1XX) Die Cast Aluminum & Series 56,600 (1-056-6XX) Cast Iron

Mounting Face: NEMA 56C, 143TC and 145TC , 4.5" AK, 5.88" AJ

Release Type: Internal Lever, Non-Maintained

Installation and Service: P/N 8-078-905-60

Modifications: Pages 54-63

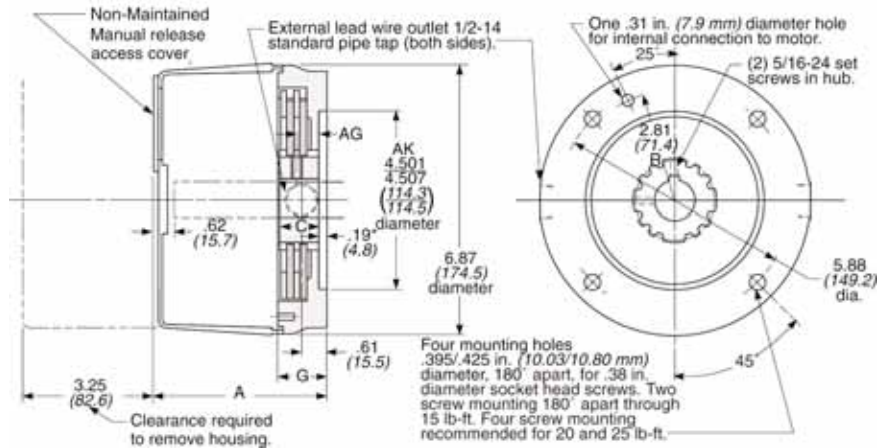
Enclosure Protection: IP 23; 56 & 57 (formerly referred to by Stearns as NEMA 2, 4 & 4X respectively)

Visual Wear Indicator

Mounting: Fanguard-mounted brakes requiring IP 56 or IP 57 protection may require additional sealing measures beyond seals provided with the brake - Refer to Installation & Service Instruction sheets

56,100 Series: Die Cast aluminum enclosure
Parts List: P/N 8-078-906-01

56,600 Series: Cast iron enclosure
Parts List: P/N 8-078-906-06



Series 56,100 Dimensions

Nominal Static Torque lb-ft (Nm)	Enclosure	Dimensions in Inches (mm)				Wt lbs (Kg)
		A	AG	C Hub Width	G	
1.5-15 (2-20)	IP 23	4.41 (112.0)	.59 (15.0)	.81 (20.6)	1.21 (30.7)	8 (3.6)
20-25 (27-34)		4.86 (123.4)		1.18 (30.0)	1.66 (42.2)	10 (4.5)
1.5-6 (2-8)	IP 56/57	4.50 (114.3)	.47 (11.9)	.81 (20.6)	1.21 (30.7)	8 (3.6)
10-25 (14-34)		4.95 (125.7)	.59 (15.0)	1.18 (30.0)	1.66 (42.2)	10 (4.5)

Series 56,600 Dimensions

Nominal Static Torque lb-ft (Nm)	Enclosure	Dimensions in Inches (mm)				Wt lbs (Kg)
		A	AG	C Hub Width	G	
3-25 (4-34)	IP 23	4.95 (125.7)	.59 (15.0)	1.18 (30.0)	1.66 (42.2)	21 (9.5)
3-25 (4-34)	IP 56/57	5.05 (128.3)		1.66 (42.2)		

Series 56,100 Pricing (Discount Symbol B4)

Nominal Static Torque lb-ft (Nm)	Enclosure	Basic Model Number and List Price*			
		AC	AC List Price*	DC	DC List Price*
1.5 (2)	IP 23	1-056-101-00	\$505.00	1-056-105-00	\$805.00
	IP 56	1-056-102-00	640.00	1-056-106-00	940.00
	IP 57	1-056-104-00	715.00	1-056-108-00	1,015.00
3 (4)	IP 23	1-056-111-00	525.00	1-056-115-00	825.00
	IP 56	1-056-112-00	660.00	1-056-116-00	960.00
	IP 57	1-056-114-00	735.00	1-056-118-00	1,035.00
6 (8)	IP 23	1-056-121-00	590.00	1-056-125-00	890.00
	IP 56	1-056-122-00	725.00	1-056-126-00	1,025.00
	IP 57	1-056-124-00	800.00	1-056-128-00	1,100.00
10 (14)	IP 23	1-056-131-00	690.00	1-056-135-00	990.00
	IP 56	1-056-132-00	830.00	1-056-136-00	1,130.00
	IP 57	1-056-134-00	905.00	1-056-138-00	1,205.00
15 (20)	IP 23	1-056-141-00	790.00	1-056-145-00	1,090.00
	IP 56	1-056-142-00	930.00	1-056-146-00	1,230.00
	IP 57	1-056-144-00	1,005.00	1-056-148-00	1,305.00
20 (27)	IP 23	1-056-151-00	880.00	1-056-155-00	1,180.00
	IP 56	1-056-152-00	1,015.00	1-056-156-00	1,315.00
	IP 57	1-056-154-00	1,090.00	1-056-158-00	1,390.00
25 (34)	IP 23	1-056-161-00	975.00	1-056-165-00	1,275.00
	IP 56	1-056-162-00	1,110.00	1-056-166-00	1,410.00
	IP 57	1-056-164-00	1,185.00	1-056-168-00	1,485.00

Series 56,600 Pricing (Discount Symbol B4)

Nominal Static Torque lb-ft (Nm)	Enclosure	Basic Model Number and List Price*			
		AC	AC List Price*	DC	DC List Price*
3 (4)	IP 23	1-056-611-00	1,200.00	1-056-615-00	1,500.00
	IP 56	1-056-612-00	1,335.00	1-056-616-00	1,635.00
	IP 57	1-056-614-00	1,410.00	1-056-618-00	1,710.00
6 (8)	IP 23	1-056-621-00	1,265.00	1-056-625-00	1,565.00
	IP 56	1-056-622-00	1,400.00	1-056-626-00	1,700.00
	IP 57	1-056-624-00	1,475.00	1-056-628-00	1,775.00
10 (14)	IP 23	1-056-631-00	1,365.00	1-056-635-00	1,665.00
	IP 56	1-056-632-00	1,505.00	1-056-636-00	1,805.00
	IP 57	1-056-634-00	1,580.00	1-056-638-00	1,880.00
15 (20)	IP 23	1-056-641-00	1,465.00	1-056-645-00	1,765.00
	IP 56	1-056-642-00	1,605.00	1-056-646-00	1,905.00
	IP 57	1-056-644-00	1,680.00	1-056-648-00	1,980.00
20 (27)	IP 23	1-056-651-00	1,555.00	1-056-655-00	1,855.00
	IP 56	1-056-652-00	1,690.00	1-056-656-00	1,990.00
	IP 57	1-056-654-00	1,765.00	1-056-658-00	2,065.00
25 (34)	IP 23	1-056-661-00	1,650.00	1-056-665-00	1,950.00
	IP 56	1-056-662-00	1,785.00	1-056-666-00	2,085.00
	IP 57	1-056-664-00	1,860.00	1-056-668-00	2,160.00

* Subtract \$30.00 for brake ordered less hub.