

Section 4 Posistop Motor & Coupler Brakes

The Problem and the Solution...

The Problem - Heat Buildup

Heat buildup, the mortal enemy of electric motors can destroy conventional motor brakes. Although heat is the natural product of the braking process, increased starts and stops of the electric motor creates intense heat in conventional brake devices. Often heat buildup damages the brake as well as the electric motor - and frequently causes failure of the entire system. This can mean increased downtime - as well as higher maintenance costs.

Conventional brake devices can take the heat from industrial motors, but they sacrifice friction material with each stop. They deteriorate with repeated use. Even though the motor is spared the stress of excessive braking heat, the brakes require routine maintenance such as coil and friction material replacement .

The result of heat buildup - Breakdowns.

Dry brakes have a short life, suffer from increased wear and may cause downtime losses that come from frequent maintenance and replacement.

The Solution - Posistop Brakes

Posistop Oil Shear Brakes are designed to dissipate the heat buildup that destroy conventional braking devices. The **Posistop** absorbs the energy generated by the braking action and controls the heat buildup - thus providing greater reliability and repeatability, as well as heat dissipation.

Unlike conventional motor brakes, the **Posistop** is a multiple surface device that operates on a spring activated, pressure release system. Its' multiple disc stack and internal oil pump helps to eliminate the need to replace coils and friction material - and reduce the heat on any one friction surface.



Benefits...

- Long Service Life.
- Low Noise Level.
- Low Maintenance.
- Easy Service.
- Self Adjusting - No Linkages
- Energy Efficient.

Features...

- Totally Enclosed.
- High Heat Dissipation with Rugged Cast-Finned Housing.
- Multiple Spring Set Brake with Multiple Friction Surfaces.
- NEMA C-Face Mounting.
- Integral Oil Pump for Positive Oil Circulation.
- Air or Hydraulic Release.
- Low Cyclic Inertia

Standard Design Configurations...

The **Posistop** series of **Force Control** products is a Brake designed for stopping and holding. Many different configurations are available to fit a wide variety of applications. The **Posistop Brake** is available with air actuation. See **Section 5 - Magna Shear Motor Brakes** for electric actuated motor brakes.

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Motor Brakes (MB Series)

The **Posistop Motor Brake** is designed to mount directly onto the back of a NEMA or IEC Frame Brakeless Brake Motor. They come in (8) eight basic sizes from 56 Frame through a 449T Frame size.

They range from 3 Lb. Ft. to 2030 Lb. Ft. Braking Torque.

The **MB Series Posistop Brakes** are spring set, air release units used on various applications requiring a spring-set brake.

(See Page 4.3)



These **Posistop "Oil Shear" Motor Brakes** are certified by the **American Bureau of Shipping (ABS)** under ABS Product Design Assessment (PDA) Certificate # 02-HS310430-PDA and Manufacturing Assessment # 02JE305084-X.

They are ideal for a wide variety of heavy-duty and high-torque applications, which are common in the Shipping Industry, such as **Winches, Windlasses, Cranes and Conveyors for Docks and Shipboard Applications.**



Assembled Brake Motor (ABM)

The same unit as above already mounted on a Drive Motor, ready to use, is called the **Assembled Brake Motor**. The **ABM** is available in horsepower ranging from 1/4 HP up to 400 HP and Torque Values from 3 Lb. Ft. to 2030 Lb. Ft. A large variety of motor types and styles can be furnished in U and T frames.

(See Page 4.7)

Posistop Coupler Brakes (Double C-Face)

The **Posistop Coupler Brake** has a C-Face mounting on both ends. This allows the brake to be mounted on the drive end of a C-Face motor, which then can be connected to a C-Face Input Reducer.

Using the **Posistop Coupler Brake** allows the use of a standard C-Face Drive Motor rather than an expensive and often difficult to find brakeless brake motor.

Posistop Coupler Brakes are available in sizes for 56 Frame through 365TS Frame Drive Motors. They have Torque Ranges from 3 Ft.Lbs. to 450 Ft. Lbs.

(See Page 4.13)

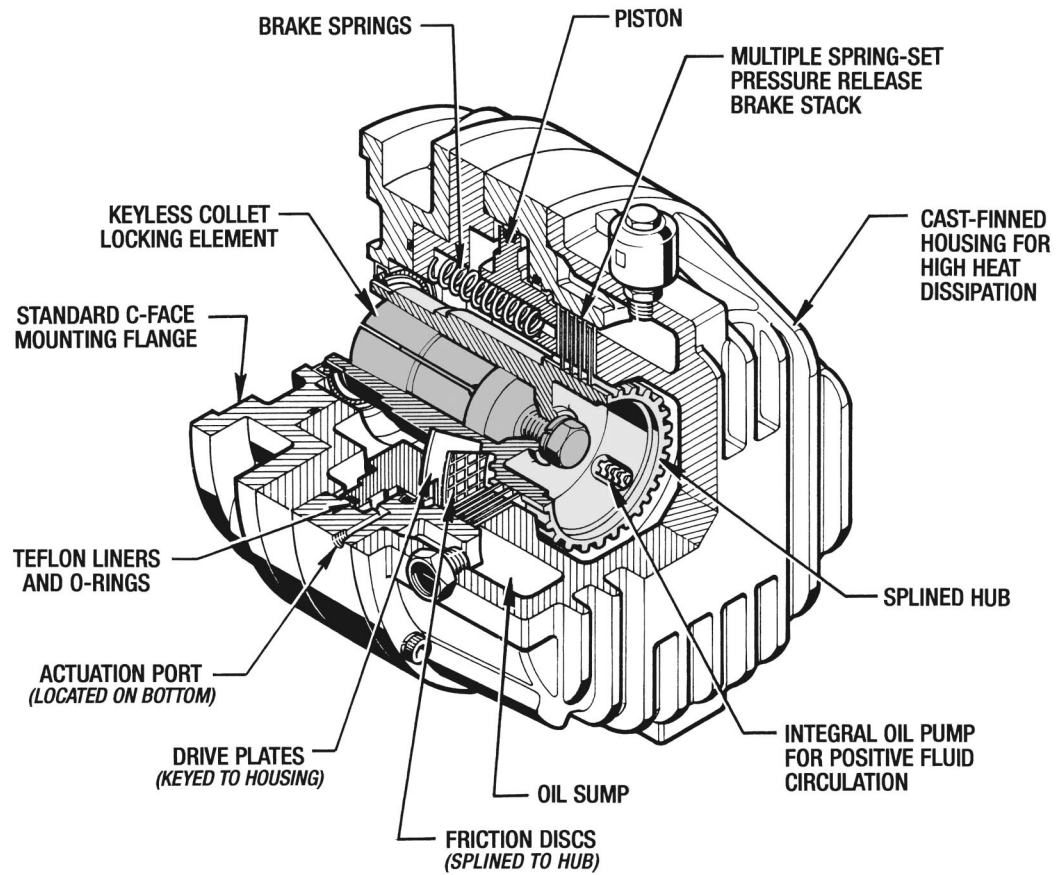




Posistop Motor Brake (MB Series)

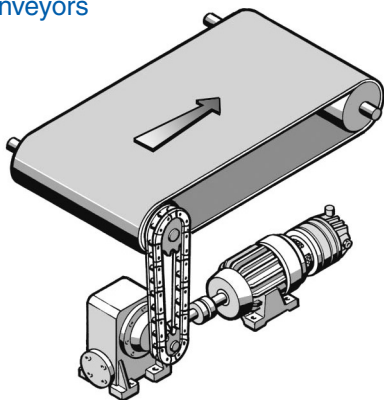
The **Posistop Motor Brake** is available as a motor mounted unit. This Motor Brake is designed to fit brakeless brake motor frame sizes 56 to 449T. It also comes complete with the motor. (See ABM - Assembled Brake Motor) The **Posistop Motor Brake** is designed with the same proven oil shear technology which includes the patented fluid recirculation system used in the **Posidyne Clutch/Brake Units** for smooth precise stops and long service life. The rugged cast iron and aluminum, totally enclosed, housings provide high heat dissipation and protects the multiple friction surfaces from hostile environments.

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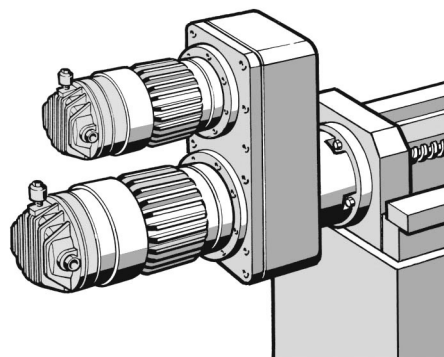


Typical Applications

Conveyors

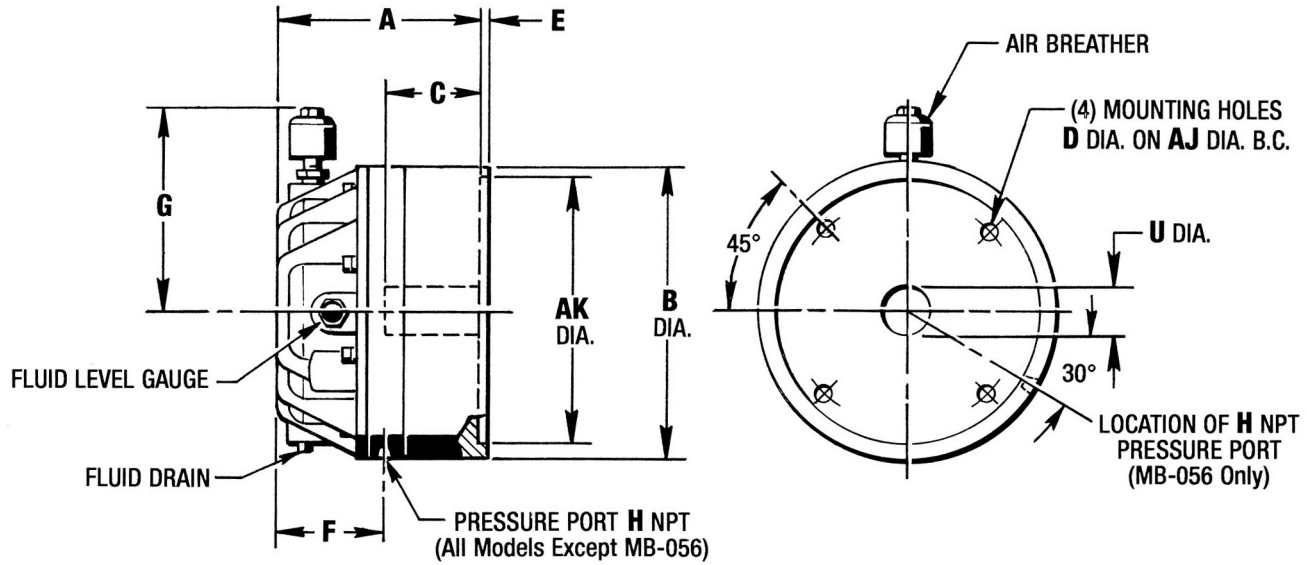


Ball Screw Feed & Traverse Drives



Posistop Motor Brake Dimensions (Inches)

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BRAKE SIZE	DIMENSIONS (Inches)											FLUID CAP.	WEIGHT (Lbs.)	
	A	B	C		D Dia.	E	F	G	H (NPT)	U* Dia.	AJ Dia.			AK Dia.
			Min.	Max.										
MB-056	4.81	6.63	1.38	2.13	.41	.25	1.88	4.63	1/8	.625	5.88	4.500	6 Oz.	15
MB-180	6.13	8.81	1.75	2.75			3.38	5.75		.875				
MB-210	6.13	8.81	1.75	2.62	.53	.19	3.38	5.75	1/8	.875	7.25	8.500	1 Qt.	45
MB-210L	6.88		2.50	3.50						1.125				
MB-250	10.00	10.88	2.00	4.13	.53	.19	5.38	6.25	1/4	1.125	7.25	8.500	2 Qt.	100
MB-280							5.44			1.375				
MB-320	10.63	12.88	2.50	4.63	.66	.19	6.06	7.25	1/4	1.375	11.00	12.500	5 Qt.	160
MB-440	17.61	16.75	4.00	5.00	.66	.22	4.54	9.76	3/4	2.125	14.00	16.000	5.5 Qt.	370
										2.375				
										2.875				
										3.375				

* Consult Factory for non-standard bore sizes and thru-shaft configurations.

Posistop Brake Operating Specifications

Posistop Motor Brakes (MB Series) may be assembled to obtain a broad range of torque ratings. The multiple disc and multiple spring design makes the **Posistop** a very flexible brake. How the stack is assembled determines the braking torque developed.

The following charts give an overview of all the combinations possible. **Standard Static Torque Ratings** are shown in bold blue numbers. Optional non-standard ratings are also shown in the Static Torque Rating Option Charts.

Static Torque (Lb. Ft.)	Dynamic Torque (Lb. Ft.)	Thermal Rating ($\frac{HP \text{ Sec.}}{Min.}$)	Max. KE per Engmt. w/Full Stack (Ft. Lbs.)	Piston Volume (In. ³)	Inertia WK ² (Lb.Ft. ²)
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Size 056

6	5.2	30	4650	.5	.009
9	7.8				
12	10.4				
18	15.6				

Sizes 180, 210 and 210L

20	17	25	6425	3	.034
30	26				
45	39				
60	52				
90	78				

* Torque not available with 7/8" dia. collet.

Sizes 250 and 280

75	65	50	18,500	5	.215
150	130				
225	194				
300	259				

* Torque not available with 1-1/8" or 1-3/8" dia. collet.

Size 320

120	104	70	18,500	6	.215
150	130				
200	173				
300	259				
450	388				

* Min.shaft diameter - 1-5/8" Δ Min. shaft dia. - 1-7/8"

Size 440

990	842	CF	CF	47.4	2.1
1340	1139				
1690	1437				
2030	1726				

NOTE: Maximum Speed - 1800 RPM, except Sizes 180 and 210 which is 3600 RPM in horiz. and vertical brake down position.

CF - Consult Factory

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Static Torque Rating Options

		No. of Discs			20	30	40	60	Min. PSI to Rel.
		1	2	3					
Qty. of Springs	2	2	4	6					
	3	3	6	9					
	4	4	8	12					
	6	6	12	18					
		No. of Plates							
		8	6	4					

Static Torque Rating Options

		No. of Discs			20	28	35	51	Min. PSI to Rel.
		1	2	3					
Qty. of Springs	2	10	20	30					
	3	15	30	45					
	4	20	40	*60					
	6	30	60	*90					
		No. of Plates							
		7	6	4					

Static Torque Rating Options

		No. of Discs					20	28	35	51	Min. PSI to Rel.
		1	2	3	4	5					
Qty. of Springs	2	15	30	45	60	75					
	4	30	60	90	120	150					
	6	45	90	135	180	225					
	8	60	120	180	*240	*300					
		No. of Plates									
		11	10	8	7	6					

Static Torque Rating Options

		No. of Discs					20	28	35	51	Min. PSI to Rel.
		1	2	3	4	5					
Qty. of Springs	3	30	60	90	120	150					
	4	40	80	120	160	200					
	6	60	120	180	*240	*300					
	9	90	180	270	*360	Δ450					
		No. of Plates									
		11	10	8	7	6					

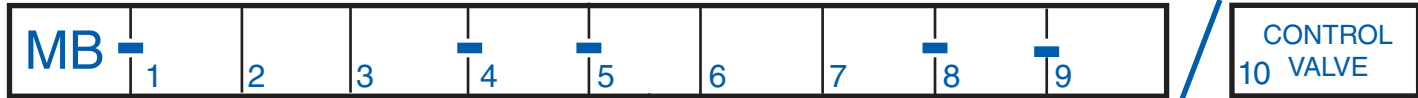
Static Torque Rating Options

		No. of Discs		20	30	40	60	Min. PSI to Rel.
		4	9					
Qty. of Springs	6	440	990					
	8	590	1340					
	10	750	1690					
	12	900	2030					
		No. of Plates						
		17	10					

How to order your Posistop Motor Brake

Ordering System Chart

Example: MB-210-S-090-1-E / _____



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Posistop Size (1, 2 and 3)

0	5	6	= 056
1	8	0	= 180
2	1	0	= 210
* 2	1	L	= 210L
2	5	0	= 250
2	8	0	= 280
3	2	0	= 320
4	4	0	= 440

* 21L = 210 Long, for use on 254 and 256 Frames when torque requirements are 90 Lb.Ft. static torque or less.

Type (4)

Horizontal

Vertical

S = Std.	1 = Std.-Brake Up
T = Thru-Shaft **	2 = Std.-Brake Down
	3 = Thru Shaft-Brake Up
	4 = Thru Shaft-Brake Down

** Thru Shaft - Not available on MB-056 size.

Static Torque (Lb.Ft.) (5, 6 and 7)

0	0	2	= 2
0	0	3	= 3
0	0	4	= 4
0	0	6	= 6
0	0	8	= 8
0	0	9	= 9
0	1	0	= 10
0	1	2	= 12
0	1	5	= 15
0	1	8	= 18
0	2	0	= 20
0	3	0	= 30
0	4	0	= 40
0	4	5	= 45
0	6	0	= 60
0	7	5	= 75
0	8	0	= 80
0	9	0	= 90
1	2	0	= 120
1	3	5	= 135
1	5	0	= 150
1	6	0	= 160
1	8	0	= 180
2	0	0	= 200
2	2	5	= 225
2	4	0	= 240
2	7	0	= 270
3	0	0	= 300
3	6	0	= 360
4	4	0	= 440
4	5	0	= 450
5	9	0	= 590
7	5	0	= 750
9	0	0	= 900
9	9	0	= 990
D	4	0	= 1340
G	9	0	= 1690
L	3	0	= 2030

CONTROL VALVE

See Section 10 for Ordering Number. Use N if no Valve is to be ordered.

Encoder/Tach. (9)

E = Encoder
T = Tachometer
N = None

Shaft Dia. (8)

A = 5/8"
0 = 7/8"
1 = 1-1/8"
2 = 1-1/4"
3 = 1-3/8"
5 = 1-5/8"
7 = 1-7/8"
C = 2-1/8"
D = 2-1/4"
E = 2-3/8"
J = 71/80*
K = 90/100*
L = 112/132S*
M = 132M/160M*
N = 160L/225*

* Sew Eurodrive Metric Frame Motors.

Posistop Type & Shaft Dia. Availabilities

Type (4)

	056	180	210	210L	250	280	320	440
S	X	X	X	X	X	X	X	X
T	----	X	X	X	X	X	X	X
1	X	X	X	X	X	X	X	X
2	X	X	X	X	X	X	X	X
3	----	X	X	X	X	X	X	X
4	----	X	X	X	X	X	X	X

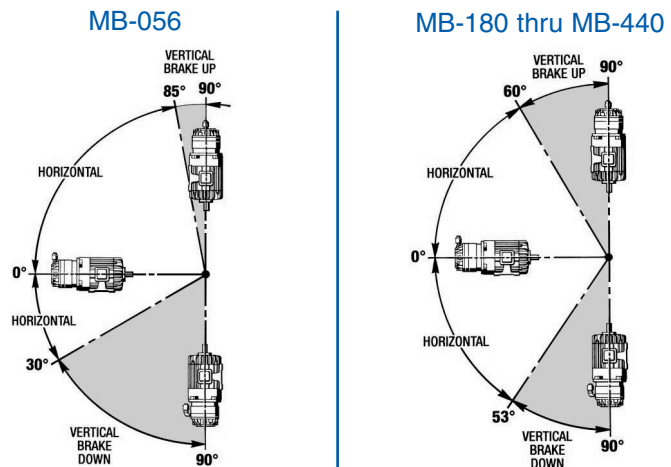
Shaft Diameter (8); FU

FU	056	180	210	210L	250	280	320	440
5/8	X ¹	----	----	----	----	----	----	----
7/8	X ¹	X ³	X ³	X ³	----	----	----	----
1-1/8	----	X	X	X	X	X	----	----
1-3/8	----	X ²	X ²	X ²	X	X	X	----
1-5/8	----	----	----	----	X ²	X ²	X	----
1-7/8	----	----	----	----	X ²	X ²	X	----
2-1/8	----	----	----	----	----	----	----	X ²
2-3/8	----	----	----	----	----	----	----	X ²

NOTES: 1 - Not available with thru-shaft configuration.
 2 - Consult factory for thru-shaft configuration.
 3 - Must be 45 Ft.Lbs. or less.

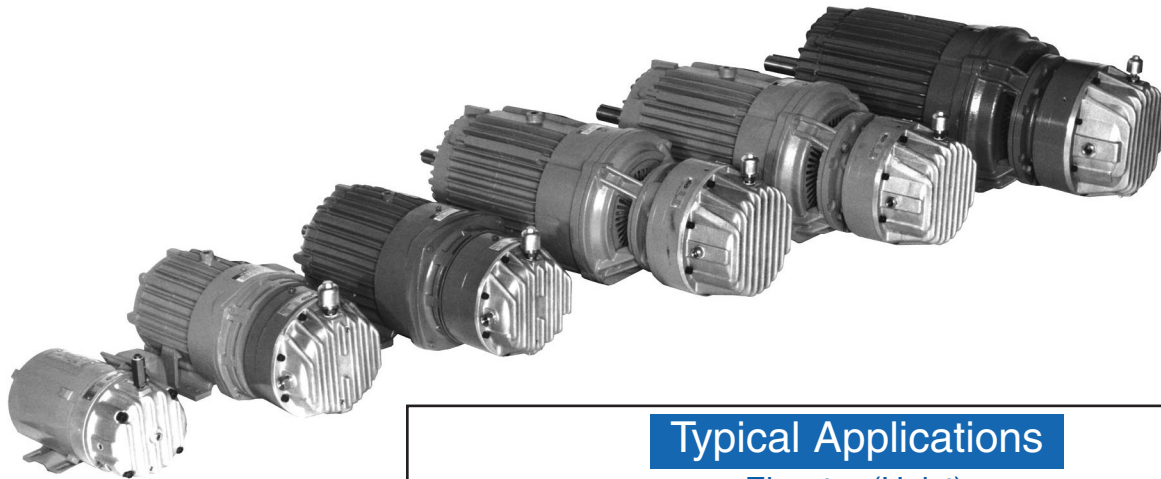
Horizontal / Vertical Mounting

The illustration below shows when it is necessary to specify **Vertical Mounting** when you know the mounting angle of the **Posistop Brake**.



Assembled Brake Motor (ABM)

The **ABM** consists of a motor with a **Posistop Motor Brake** assembled and ready to use. The **ABM** is available in many sizes, types and torque ranges up to 2030 Lb.Ft. By specifying the **Posistop ABM**, complete motor and brake assembly, installation time is reduced to simply mounting the motor and connecting the air supply.



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Standard Features:

- 13 Different Std. HP Ratings
- 1800 & 1200 RPM Motors
- 8 *Posistop* Brake Sizes
- 38 Torque Ratings
- 12 Assembly Configurations
- 43 Motor Frame Sizes



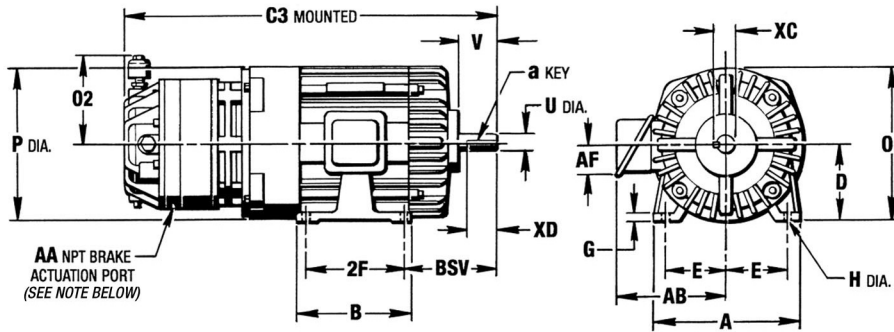
ABM units are pre-assembled to your specified torque ratings and configuration, filled with the proper amount of fluid and cycle tested ready for quick installation.

Typical Applications

Elevator (Hoist)

Tap Heads

Posistop ABM Brake Dimensions (Inches)



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Dimensions are subject to change without notice. Certified Installation Drawings are available upon request.

Frame Size	Brake Size	Overall Dimensions							Foot Mounting Dimensions							Shaft Dimensions					
		AB	AF	BSV	C3	O1	P	O2	A	B	D	E	2F	G	H	a	U	V	XC	XD	
56	056	5.94	1.80	4.62	16.25	6.81	6.53	4.62	6.5	4	3.5	2.06	3	.16	.34	3/16 x 3/32	5/8	1.94	.70	1.25	
56Z				4.75	16.50		6.88										7/8	2.19	.96	1.38	
U - F R A M E D R I V E M O T O R S																					
182U	056	7.19	2.06	5.0	20.94	9.25	9.0	4.62	9.0	6.62	4.5	3.75	4.5	.44	.41	3/16 x 3/32	7/8	2.06	.96	1.38	
184U													5.5								
182U	180	7.19	2.06	5.0	22.95	9.25	9.0	5.75	9.0	6.62	4.5	3.75	4.5	.44	.41	3/16 x 3/32	7/8	2.06	.96	1.38	
184U													5.5								
213U	210	9.41	2.62	6.5	26.44	10.62	10.5	5.75	10.5	8.12	5.25	4.25	5.5	.50	.41	1/4 x 1/8	1-1/8	2.81	1.24	2.00	
215U													7.0								
254U	210L	10.28	2.62	8.0	34.06	12.56	12.62	5.75	12.5	11.38	6.25	5.0	8.25	.68	.53	5/16 x 5/32	1-3/8	3.56	1.51	2.75	
256U													10.0								
254U	250	10.28	2.62	8.0	37.19	12.56	12.62	6.75	12.5	11.38	6.25	5.0	8.25	.68	.53	5/16 x 5/32	1-3/8	3.56	1.51	2.75	
256U													10.0								
284U	280	10.97	2.62	9.62	39.62	14.0	14.0	6.75	14.0	12.5	7.0	5.5	9.5	.75	.53	3/8 x 3/16	1-5/8	4.69	1.51	3.75	
286U													11.0								
324U	320	13.03	3.44	10.88	43.25	16.0	16.0	7.75	15.94	14.0	8.0	6.25	10.5	.88	.66	1/2 x 1/4	1-7/8	5.44	2.09	4.25	
326U													12.0								
364U	320	14.16	3.44	12.25	46.75	18.25	18.0	7.75	17.38	14.5	9.0	7.0	11.25	1.0	.66	1/2 x 1/4	2-1/8	6.19	2.34	5.0	
365U													12.25								
T - F R A M E D R I V E M O T O R S																					
143T	056	7.03	2.06	4.50	19.56	7.34	7.69	4.62	7.0	5.94	3.5	2.75	4.0	.38	.34	3/16 x 3/32	7/8	2.06	.96	1.38	
145T													5.0								
143T	180	7.03	2.06	4.50	20.88	7.34	7.69	5.75	7.0	5.94	3.5	2.75	4.0	.38	.34	3/16 x 3/32	7/8	2.06	.96	1.38	
145T													5.0								
182T	056	7.19	2.06	5.50	21.56	9.25	9.0	4.62	9.0	6.62	4.50	3.75	4.5	.44	.41	1/4 x 1/8	1-1/8	2.62	1.24	1.75	
180	22.88				5.75																
210	22.88				5.75																
184T	210	7.19	2.06	5.50	22.88	9.25	9.0	5.75	9.0	6.62	4.50	3.75	5.5	.44	.41	1/4 x 1/8	1-1/8	2.62	1.24	1.75	
210	26.81				5.75																
213T	210L	9.41	2.62	6.88	27.56	10.62	10.5	5.75	10.5	8.12	5.25	4.25	5.5	.50	.41	5/16 x 5/32	1-3/8	3.25	1.51	2.38	
250	30.69				6.75																
215T	210L	9.41	2.62	6.88	27.56	10.62	10.5	5.75	10.5	8.12	5.25	4.25	7.0	.50	.41	5/16 x 5/32	1-3/8	3.25	1.51	2.38	
250	30.69				6.75																
254T	210L	10.28	2.62	8.25	34.31	12.56	12.62	5.75	12.5	11.38	6.25	5.0	8.25	.69	.53	3/8 x 3/16	1-5/8	3.81	1.79	2.88	
250	37.44				6.75			10.0													
254T	250	10.28	2.62	8.25	37.44	12.56	12.62	6.75	12.5	11.38	6.25	5.0	8.25	.69	.53	3/8 x 3/16	1-5/8	3.81	1.79	2.88	
256T	10.0																				
284T	280	12.03	3.06	9.38	40.00	14.0	14.0	6.75	14.0	12.50	7.0	5.5	9.5	.75	.53	1/2 x 1/4	1-7/8	4.44	2.09	3.25	
286T													11.0								
324T	320	13.03	3.50	10.5	42.88	16.0	16.0	7.50	15.94	14.0	8.0	6.25	10.5	.88	.66	1/2 x 1/4	2-1/8	5.06	2.34	3.88	
326T													12.0								
364T	320	15	4.12	11.75	46.25	18.25	18.0	7.50	17.38	14.50	9.0	7.00	11.25	1.0	.66	5/8 x 5/16	2-3/8	5.69		2.65	
365T													12.25								

NOTE:
 AA Actuation Port - Size 056, 180, 210 and 210L (1/8" NPT) ; Size 250, 280 and 320 (1/4" NPT)
 Dimensions can vary on motor mfg.

Posistop ABM Brake Dimensions (Continued) (Inches)

Frame Size	Brake Size	Overall Dimensions							Foot Mounting Dimensions							Shaft Dimensions					
		AB	AF	BSV	C3	01	P	02	A	B	D	E	2F	G	H	a	U	V	XC	XD	
U - F R A M E D R I V E M O T O R S																					
404U	440	16	4.12	13.75	58	20.5	20	9.76	19.38	16	10	8	12.25	1.25	0.81	5/8 x 5/16	2-3/8	6.94	2.646	5.50	
405U				13.75																	
404US				10.87	55								12.25								
405US				5	13.75																
444U		17	4.12	16.12	42	22.25	22	9.76	21.38	18.5	11	9	14.5	1.25	0.81	3/4 x 3/8	2-7/8	8.44	3.200	7.00	
445U				5	16.5																
444US				11.75	60								14.5								
445US				11.75	60								16.5								
T - F R A M E D R I V E M O T O R S																					
404T	440	16	4.12	13.88	58	20.5	20	9.76	19.38	16	10	8	12.25	1.25	0.81	3/4 x 3/8	2-7/8	7.06	3.200	5.62	
405T				13.75																	
404TS				10.88	55								12.25								
405TS				10.88	55								13.75								
444T		19.8	5.5	16	64.25	22.25	22	9.76	21.38	18.5	11	9	14.5	1.25	0.81	7/8 x 7/16	3-3/8	8.31	3.755	6.88	
445T				1	16								64.25								16.5
444TS				1	12.25								60.5								14.5
445TS				1	12.25								60.5								16.5
447T	25.7	6.94	16	66.36	24.22	26.28	9.76	21.5	28.25	11	9	20	1.25	0.81	7/8 x 7/16	3-3/8	8.50	3.755	6.88		
449T												1								20	25

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Posistop ABM Brake Operating Specifications

Posistop Motor Brakes (ABM Series) may be assembled to obtain a broad range of torque ratings. The multiple disc and multiple spring design makes the **Posistop** a very flexible brake. How the stack is assembled determines the braking torque developed.

The following charts give an overview of all the combinations possible. **Standard Static Torque Ratings** are shown in bold blue numbers. Optional non-standard ratings are also shown in the Static Torque Rating Option Charts.

4

Static Torque (Lb. Ft.)	Dynamic Torque (Lb. Ft.)	Thermal Rating ($\frac{HP \text{ Sec.}}{Min.}$)	Max. KE per Engmt. w/Full Stack (Ft. Lbs.)	Piston Volume (In. ³)	Inertia WK ² (Lb.Ft. ²)
----------------------------	-----------------------------	--	--	--------------------------------------	--

Size 056

6	5.2	30	4650	.5	.009
9	7.8				
12	10.4				
18	15.6				

Sizes 180, 210 and 210L

20	17	25	6425	3	.034
30	26				
45	39				
60	52				
90	78				

* Torque not available with 7/8" dia. collet.

Sizes 250 and 280

75	65	50	18,500	5	.215
150	130				
225	194				
300	259				

* Torque not available with 1-1/8" or 1-3/8" dia. collet.

Size 320

120	104	70	18,500	6	.215
150	130				
200	173				
300	259				
450	388				

* Min.shaft diameter - 1-5/8" Δ Min. shaft dia. - 1-7/8"

Size 440

990	842	CF	CF	47.4	2.1
1340	1139				
1690	1437				
2030	1726				

NOTE: Maximum Speed - 1800 RPM, except Sizes 180 and 210 which is 3600 RPM in horiz. and vertical brake down position.

CF - Consult Factory

Static Torque Rating Options

		No. of Discs			
		1	2	3	
Qty. of Springs	2	2	4	6	20
	3	3	6	9	30
	4	4	8	12	40
	6	6	12	18	60
		8	6	4	
		No. of Plates			Min. PSI to Rel.

Static Torque Rating Options

		No. of Discs			
		1	2	3	
Qty. of Springs	2	10	20	30	20
	3	15	30	45	28
	4	20	40	*60	35
	6	30	60	*90	51
		7	6	4	
		No. of Plates			Min. PSI to Rel.

Static Torque Rating Options

		No. of Discs					
		1	2	3	4	5	
Qty. of Springs	2	15	30	45	60	75	20
	4	30	60	90	120	150	28
	6	45	90	135	180	225	35
	8	60	120	180	*240	*300	51
		11	10	8	7	6	
		No. of Plates					Min. PSI to Rel.

Static Torque Rating Options

		No. of Discs					
		1	2	3	4	5	
Qty. of Springs	3	30	60	90	120	150	20
	4	40	80	120	160	200	28
	6	60	120	180	*240	*300	35
	9	90	180	270	*360	Δ450	51
		11	10	8	7	6	
		No. of Plates					Min. PSI to Rel.

Static Torque Rating Options

		No. of Discs		
		4	9	
Qty. of Springs	6	440	990	20
	8	590	1340	30
	10	750	1690	40
	12	900	2030	60
		17	10	
		No. of Plates		Min. PSI to Rel.

Posistop ABM Size Specifications

Motor HP	Motor RPM	Frame Size			Posistop Size	Motor HP	Motor RPM	Frame Size			Posistop Size
		T	U	IEC				T	U	IEC	
1/4	1800	56	56	DT71K4	MB-056	40	1800	324T	364U	DV200L4	MB-320
	1200										
1/3	1800	56	56	DT71C4	MB-056	50	1800	326T	365U	----	MB-320
	1200										
1/2	1800	56	56	DT71D4	MB-056	60	1800	364T	405U	----	MB-320, MB-440
	1200										
3/4	1800	56	56	DT80K4	MB-056	75	1800	365T	444U	----	MB-440
	1200										
1	1800	143T	184U	DT80N4	MB-056, MB-180	100	1800	405T	445U	----	MB-440
	1200										
	1200			145T							
1-1/2	1800	145T	184U	DT90S4	MB-056, MB-180	125	1800	444T	445U	----	MB-440
	1200	182T									
2	1800	145T	184U	DT90L4	MB-056, MB-180	150	1800	445T	----	MB-440	
	1200	184T	213U	DT100L6	MB-210						
3	1800	182T	213U	DT100LS4	MB-056, MB-210	200	1800	445T	----	MB-440	
	1200	213T	215U	DV112M6	MB-210						
5	1800	184T	215U	DT100L4	MB-210	250	1800	445T	----	MB-440	
	1200	215T	254U	DV132M6	MB-210, MB-210L, MB-250						
7-1/2	1800	213T	254U	DV132S4	MB-210, MB-210L, MB-250	300	1800	447T	----	MB-440	
	1200	254T	256U	DV132ML6	MB-210L, MB-250						
10	1800	215T	256U	DV132M4	MB-210, MB-210L, MB-250	350	1800	445T	----	MB-440	
	1200										
12-1/2	1800	----	----	DV132ML4	MB-210	400	1800	447T	----	MB-440	
15	1800	254T	284U	DV160M4	MB-210, MB-250, MB-280						
	1200	284T	324U	DV160L6	MB-280, MB-320						
20	1800	256T	286U	DV160L4	MB-250, MB-280	350	1800	447T	----	MB-440	
	1200	286T	326U	DV180L6	MB-280, MB-320						
25	1800	284T	324U	DV180M4	MB-280, MB-320	400	1800	447T	----	MB-440	
	1200	324T	364U	DV200LS6							
30	1800	286T	326U	DV180L4	MB-320						
	1200	326T	365U	DV200L6							

4

NOTE: All IEC frame motors are TENV, 50% maximum duty.

Selection...

Selecting your ABM for your application may be accomplished by following five easy steps as you use the Ordering System Chart on page (4.12).

Many custom options are available. Please contact your local authorized distributor, area representative or the factory for any special needs and applications.

1. Determine the motor HP and RPM your specific application requires.
2. Determine the brake torque requirement of your application. (See Section 15 for procedure.)
3. Select the correct size of *Posistop* and torque setting from the Specification Tables on this page.
4. Determine the correct motor specification.
5. Determine the ABM mounting position.

How to order your Posistop ABM

Ordering System Chart

Example: ABM-5/1200-215T-210-045-T-F1 / _____

4



Posistop Size (3, 4 and 5)

0	5	6	= 056
1	8	0	= 180
2	1	0	= 210
2	1	L	= 210L
2	5	0	= 250
2	8	0	= 280
3	2	0	= 320
4	4	0	= 440

Static Torque (Lb.Ft.) (6, 7 and 8)

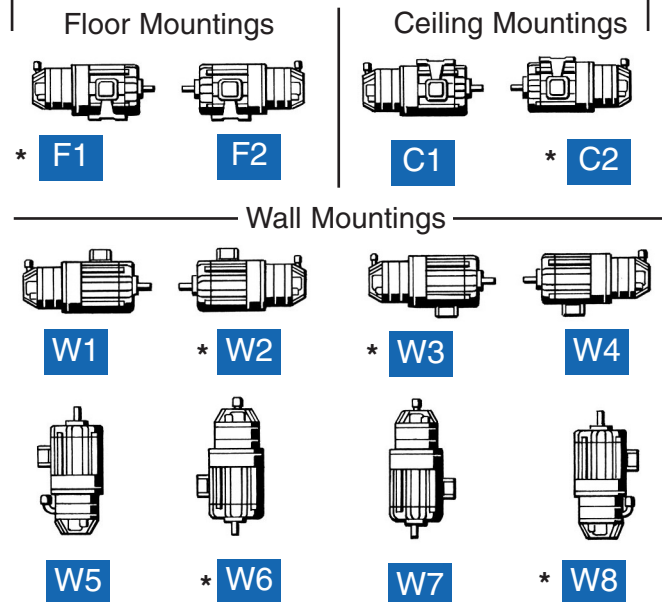
0	0	2	= 2
0	0	3	= 3
0	0	4	= 4
0	0	6	= 6
0	0	8	= 8
0	0	9	= 9
0	1	0	= 10
0	1	2	= 12
0	1	5	= 15
0	1	8	= 18
0	2	0	= 20
0	3	0	= 30
0	4	0	= 40
0	4	5	= 45
0	6	0	= 60
0	7	5	= 75
0	8	0	= 80
0	9	0	= 90
1	2	0	= 120
1	3	5	= 135
1	5	0	= 150
1	6	0	= 160
1	8	0	= 180
2	0	0	= 200
2	2	5	= 225
2	4	0	= 240
2	7	0	= 270
3	0	0	= 300
3	6	0	= 360
4	4	0	= 440
4	5	0	= 450
5	9	0	= 590
7	5	0	= 750
9	0	0	= 900
9	9	0	= 990
D	4	0	= 1340
G	9	0	= 1690
L	3	0	= 2030

Motor Specifications (9)

- 7EQ** = GM Std. Efficiency (U Frame)
- 7EH** = GM High Efficiency (U Frame)
- EM1** = Ford (U Frame)
- NPEM100** = Chrysler (U Frame)
- T** = T Frame
- IEC** = IEC Frame

See Section 10 for Ordering Number. Use **N** if no valve is ordered

Mounting (10)



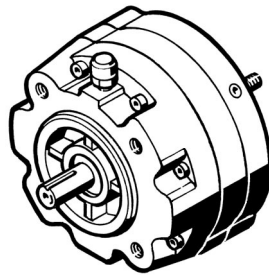
***NOTE:** Motors are standard in these arrangements and should be ordered with these conduit box locations whenever possible.



Posistop Coupler Brakes (Double C-Face)

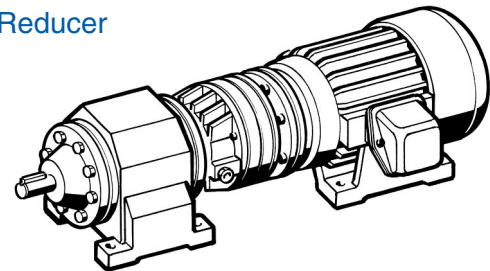
The **Coupler Motor Brake** is designed for indexing applications where cycle rates are too low to justify a clutch/brake (roughly less than 10 CPM) or in applications where the motor must reverse. The **Coupler Brake** utilizes a standard Nema C-Face motor driving through a durable, keyless collet connection. Common applications include palletizers, indexing conveyors, shrink wrappers package and general material handling equipment. The **Coupler Brakes** are rated from 6 Ft. Lbs. to 450 Ft. Lbs. of torque.

Standard Posistop Coupler Brakes



The Standard **Posistop Coupler Brake** has a C-Face register on both ends. This enables mounting the brake between a C-Face Motor and C-Face Reducer.

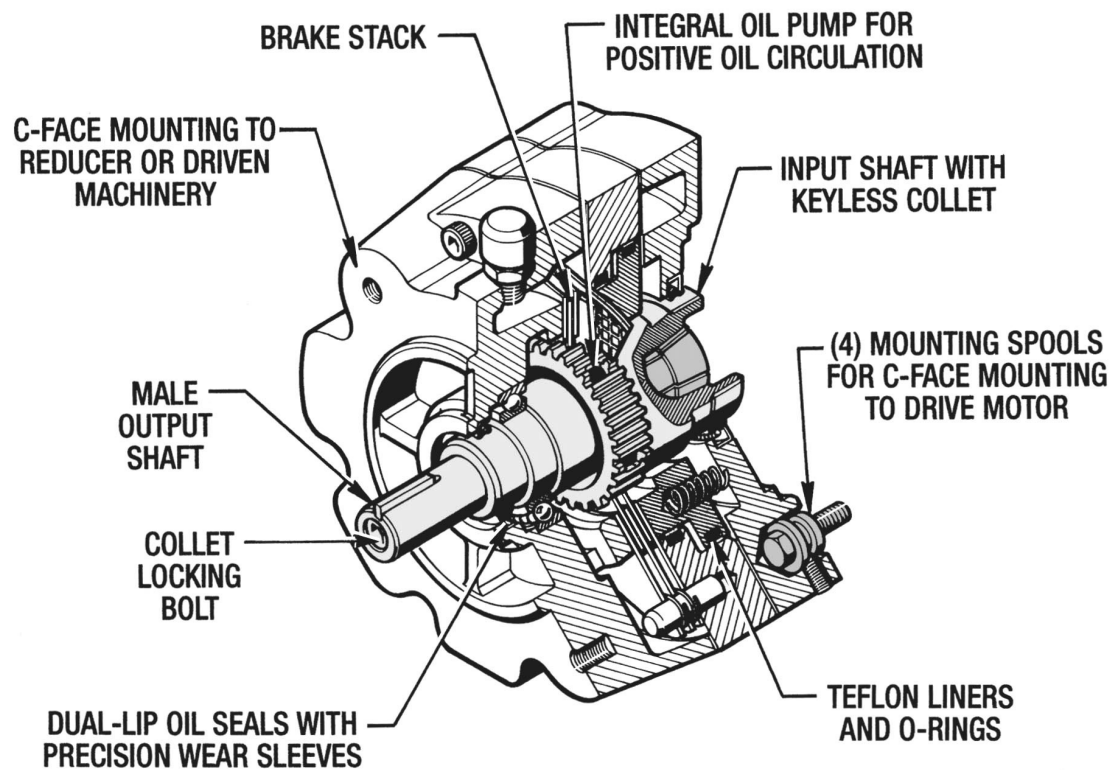
Posistop Coupler Brakes with Drive Motor and Gear Reducer



A complete package can be furnished including the gear reducer and motor. Force Control's application engineers will be glad to select the proper size components for a long service life in cycling applications.

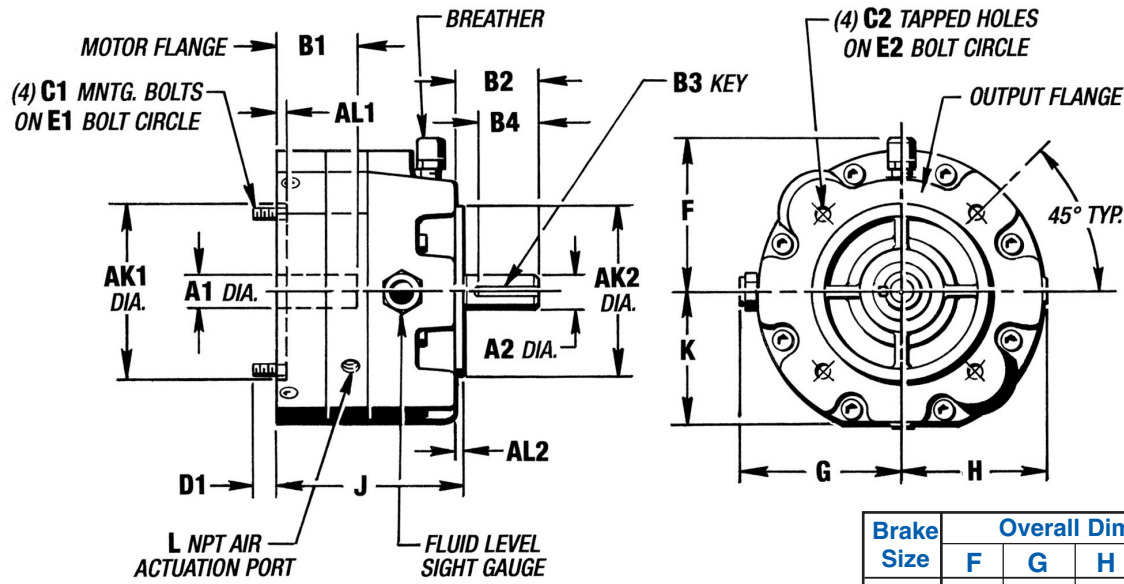
4

Posistop Coupler Brake Features



Standard Coupler Brake Dimensions (Inches)

4



	Brake Size					
	056	210	210L	250	280	320
Fluid Capacity	1 Pt.	1 Qt.	1 Qt.	2 Qts.	2 Qts.	5 Qts.
Weight (Lbs.)	15	45	45	100	108	160

Brake Size	Overall Dimensions					NPT L
	F	G	H	J	K	
056	4.12	4.38	3.84	5.00	3.38	1/8
210	5.80	4.50	4.50	6.52	4.78	1/8
210L	5.80	4.50	4.50	7.28	4.78	1/8
250	7.00	5.50	5.50	10.00	5.50	1/4
280	5.50	5.50	5.50	10.37	5.50	1/4
320	7.75	6.00	5.63	10.50	6.44	1/4

Brake Size	Motor Mounting Flange								Output Flange							
	A1	B1		C1	D1	E1	AK1	AL1	A2	B2	B3	B4	C2	E2	AK2	AL2
		Min.	Max.													
056	.625	1.44	2.00	3/8-16	.62	5.88	4.50	.25	.875	2.13	3/16	1.70	3/8-16	5.88	4.50	.18
	.875	1.38	2.13													
210	.875	1.75	2.75	1/2-13	.86	7.25	8.50	.19	.875	2.13	3/16	1.41	1/2-13	7.25	8.50	.25
	1.125								2.63	1/4	1.78					
	1.375								3.13	5/16	2.41					
210L	.875	2.50	3.50	1/2-13	.86	7.25	8.50	.19	.875	2.13	3/16	1.41	1/2-13	7.25	8.50	.25
	1.125								2.63	1/4	1.78					
	1.375								3.13	5/16	2.41					
	1.375								3.13	5/16	2.41					
250	1.125	1.63	3.88	1/2-13	.75	7.25	8.50	.19	1.125	2.63	1/4	1.75	1/2-13	7.25	8.50	.25
	1.375	1.88	4.00						1.375	3.50	5/16	2.75				
	1.625	2.00	4.00						1.625	4.00	3/8	3.25				
280	1.625	2.00	4.00	1/2-13	.75	9.00	10.50	.19	1.625	4.00	3/8	3.25	1/2-13	9.00	10.50	.25
	1.875	2.25	4.63						1.875	4.00	3/8	3.25				
320	1.625	2.50	4.88	5/8-11	.88	11.00	12.50	.19	1.625	3.00	3/8	1.88	5/8-11	11.00	12.50	.25
	1.875	2.88	4.88						1.875	5.12	1/2	3.50				

Posistop Coupler Brake Specifications

Posistop Coupler Brakes may be assembled to obtain a broad range of torque ratings. The multiple disc and multiple spring design makes the **Posistop Coupler Brake** a very flexible brake. How the stack is assembled determines the braking torque developed.

The following charts give an overview of all the combinations possible. Standard static torque ratings are shown in bold blue numbers. Optional non-standard ratings are also shown in the **Static Torque Rating Option Charts**.

Static Torque (Lb. Ft.)	Dynamic Torque (Lb. Ft.)	Thermal Rating (HP Sec./Min.)	Max. KE per Engmt. w/Full Stack (Ft. Lbs.)	Piston Volume (In. ³)	Inertia WK ² (Lb. Ft. ²)
----------------------------	-----------------------------	----------------------------------	---	--------------------------------------	--

Size 056

6	5.2	30	4650	1	.009
9	7.7				
12	10.3				
18	15.5				

Size 210 and 210L

20	17	25	6425	3	.034
30	26				
45	39				
60	52				
90	78				

Sizes 250 and 280

75	65	50	18,500	5	.215
150	130				
225	194				
300	259				

Size 320

120	104	25	6425	3	.034
150	130				
200	173				
300	259				
450	388				

NOTE: Maximum Speed - 1800 RPM, except Size 210 which is 3600 RPM in horizontal and vertical brake down position.

Static Torque Rating Options

		No. of Discs			
		1	2	3	
Qty. of Springs	3	4.5	9	15	Min PSI to Rel.
	4	6	12	20	
	6	9	18	30	
		No. of Plates			
		1	2		

Static Torque Rating Options

		No. of Discs				
		1	2	3		
Qty. of Springs	2	10	20	30	20	Min PSI to Rel.
	3	15	30	45	28	
	4	20	40	*60	35	
	6	30	*60	*90	51	
		No. of Plates				
		7	6	4		

* Torque not available with 7/8" dia. collet.

Static Torque Rating Options

		No. of Discs						
		1	2	3	4	5		
Qty. of Springs	2	15	30	45	60	75	20	Min PSI to Rel.
	4	30	60	90	120	150	28	
	6	45	90	135	180	225	35	
	8	60	120	180	*240	*300	51	
		No. of Plates						
		11	10	8	7	6		

* Torque not available with 1-1/8" or 1-3/8" dia. collet.

Static Torque Rating Options

		No. of Discs						
		1	2	3	4	5		
Qty. of Springs	3	30	60	90	120	150	20	Min PSI to Rel.
	4	40	80	120	160	200	28	
	6	60	120	180	240	300	35	
	9	90	180	270	*360	Δ450	51	
		No. of Plates						
		11	10	8	7	6		

* Min. shaft diameter - 1-5/8" Δ Min. shaft dia. - 1-7/8"

How to order your Posistop Coupler Brake?

Ordering System Chart

Example: CB-210-C-045-C-H-V7 / _____



4

Coupler Brake

Brake Size (1, 2, 3)

0	5	6	= 056
2	1	0	= 210
2	1	L	= 210L
2	5	0	= 250
2	8	0	= 280
3	2	0	= 320

Quill Input Shaft (4)

- A** = 5/8" Dia.
- B** = 7/8" Dia.
- C** = 1-1/8" Dia.
- D** = 1-1/4" Dia.
- E** = 1-3/8" Dia.
- F** = 1-5/8" Dia.
- G** = 1-7/8" Dia.

Output Shaft (8)

- A** = 5/8" Dia.
- B** = 7/8" Dia.
- C** = 1-1/8" Dia.
- D** = 1-1/4" Dia.
- E** = 1-3/8" Dia.
- F** = 1-5/8" Dia.
- G** = 1-7/8" Dia.

CONTROL VALVE

See Section 10 for Ordering Number. Use **N** if no valve is ordered.

Shaft Diameters Availability (4) and (8)

A1,A2	056	180	210	210L	250	280	320
5/8	X	----	----	----	----	----	----
7/8	X	X ¹	X ¹	X ¹	----	----	----
1-1/8	----	X	X	X	X	X	----
1-3/8	----	X	X	X	X	X	X
1-5/8	----	----	----	----	X	X	X
1-7/8	----	----	----	----	X	X	X

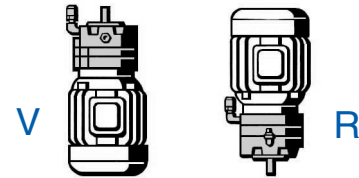
NOTE 1 - Must be 45 Lb.Ft. or less.

Static Torque (Lb.Ft.) (5, 6, 7)

0	0	2	= 2	0	3	0	= 30	1	6	0	= 160
0	0	3	= 3	0	4	0	= 40	1	8	0	= 180
0	0	4	= 4	0	4	5	= 45	2	0	0	= 200
0	0	6	= 6	0	6	0	= 60	2	2	5	= 225
0	0	9	= 9	0	7	5	= 75	2	4	0	= 240
0	1	0	= 10	0	8	0	= 80	2	7	0	= 270
0	1	2	= 12	0	9	0	= 90	3	0	0	= 300
0	1	5	= 15	1	2	0	= 120	3	6	0	= 360
0	1	8	= 18	1	3	5	= 135	4	5	0	= 450
0	2	0	= 20	1	5	0	= 150				

Mounting (9)

- A** = Horizontal
- V** = Vert. Output Up
- R** = Vert. Output Down



Horizontal / Vertical Mounting

The illustration below shows when it is necessary to specify **Vertical Mounting** when you know the mounting angle of the **Posistop Coupler Brake**.

