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:

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

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

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

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 1/2	1 1/2	3/4	3/4	3/4	3/8	3/8	3	1 1/2	1 1/2	1 1/2	3/4	3/4	3/8	3	3	1 1/2	1 1/2	1 1/2	3/4	3/4
1/4	3	3	1 1/2	1 1/2	3/4	3/4	3/4	3	3	1 1/2	1 1/2	1 1/2	3/4	3/4	6	3	3	3	1 1/2	1 1/2	3/4
1/3	3	3	3	1 1/2	1 1/2	3/4	3/4	6	3	3	3	1 1/2	1 1/2	3/4	6	6	3	3	3	1 1/2	1 1/2
1/2	6	3	3	3	3	1 1/2	3/4	6	6	6	3	3	1 1/2	1 1/2	10	6	6	6	3	3	1 1/2
3/4	6	6	6	3	3	1 1/2	1 1/2	10	10	6	6	6	3	1 1/2	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	105	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= 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	①	①							
5600 Style 60	1.5-15		①	X	X	①	①	①	①			
60	1.5-25		①	X	X	①	①	①	①			
1-70	1.5-25			①	①	X	X	X	①			
70	10-105			①	①	X	X	X	①			
80	25-175					①	①	①	X	①	①	①
90	125-450								①	X	X	X