

Selection

For Product Selection Follow 3 Easy Steps

Wrap spring clutches and brakes are pre-packaged, pre-assembled units which are as easy to select as they are to install. The simple three step selection process includes:

Step 1 Determine the clutch or brake function

Step 2 Determine size function (as on page 7)

Step 3 Verify design considerations

This selection process is based on the assumption that the diameter of the shaft at the clutch or clutch/brake location has been designed through good machine design practice. For most applications, this process will determine the correct size product. When the performance requirements of a given application are marginally within the capabilities of a specific product, consider using the next larger size. In instances where

required load/speed performance data is known and unit size is uncertain, use the technical selection process starting on page 36 which will help you review the necessary aspects of your application.

Step 1

Determine clutch or brake function

Wrap spring clutches and brakes can perform three control functions—overrunning, start/coast-to-stop, and single revolution. Determine the function which will provide the best control for your application. Using the chart below, select the series which best fits your application requirements.

Step 2

Determine size

To select the correct size unit, determine the maximum rpm at which the clutch or brake will be operated and the

shaft diameter on which the wrap spring unit will be mounted. A wrap spring clutch engages almost instantly, and, since spring wrap increases with load, the unit must be sized carefully to insure that it is correct for the application. If there is any uncertainty regarding the correct unit size, we recommend using the technical selection process starting on page 36. To select the correct wrap spring unit, locate the corresponding speed and shaft diameter points on the appropriate chart on page 7. For applications requiring speed or diameter values higher than those illustrated, please contact your local Warner Electric Distributor, your Area Sales Manager, or Warner Electric Technical Support at (800) 825-9050.

Selection by Function

Function	Performance	Max. Torque				
		Wrap Spring Product	Starting lb. in. (N-m)	Stopping lb. in. (N-m)	Max. rpm	Actuation Method
Overrunning 	An overrunning clutch will transmit torque in one direction only when the input hub is stopped or reversed. Consequently, the load is disengaged and free to rotate or overrun.	WSC Series Model O	2,500 (282.5)	N/A	1,800	Reverse input rotation
Engaged in one direction only						
Start/Coast-To-Stop 	A start/coast-to-stop clutch will engage and disengage a load either by mechanical or electrical actuation. Start/coast-to-stop clutches provide a random stop position for the load.	WSC Series Model SS	2,500 (282.5)	0	1,800	Mechanical
Random Positioning						
Single Revolution 	A single revolution clutch or clutch/brake will accurately position a load with no cumulative error for each single revolution cycle. Multiple stop collars with up to 24 stops (per revolution) provide fractional revolution capability.	WSC Series Model S	2,500 (282.5)	250 (282.5)	1,800	Mechanical
		Super CB	5,000 (565)	5,000 (565)	750	AC or DC Solenoid
		Standard CB	5,000 (565)	5,000 (565)	1,800	AC or DC Solenoid
Accurate positioning for single or multiple stops						

Step 3

Verify design function considerations

Once the appropriate series and model size have been determined, review the design considerations. A complete checklist of these and other options available are detailed in the How to Order section for each series.

Design Considerations

All Models

- ☐ CW or CCW rotation
- ☐ Single or multiple stop collar
- ☐ Bore size

Super CB and CB Series

- ☐ AC or DC solenoid
- ☐ CB-5, CB-6, CB-8 and CB-10 available in the long life, Super CB Series (SCB). See pages 19–25 for specific details.

WSC Series

- ☐ Hub input/shaft output or shaft input/hub output
- ☐ Overrunning Model O, start/coast-to-stop Model SS or single revolution Model S

Selection Charts – RPM vs. Shaft Diameter

		Super CB and Standard CB Series																
Clutch Size	Bore Size	200	300	400	500	600	700	800	900	1000	1100	1200	1300	1400	1500	1600	1700	1800
2	1/4																	
4	3/8																	
5	1/2																	
6	3/4																	
6	1																	
8	1*																	
8	1 1/4																	
8	1 3/8*																	
8	1 1/2																	
10	1 1/4*																	
10	1 1/2																	
10	1 5/8*																	
10	1 3/4																	

RPM

* Special Order

		Metric Super CB and Standard CB Series																
Clutch Size	Bore Size	200	300	400	500	600	700	800	900	1000	1100	1200	1300	1400	1500	1600	1700	1800
2	6mm																	
4	10mm																	
5	12mm																	
6	20mm																	
6	25mm																	
8	35mm																	
8	40mm																	
10	35mm*																	
10	40mm																	

RPM

* Special Order

		WSC Series																
Clutch Size	Bore Size	200	300	400	500	600	700	800	900	1000	1100	1200	1300	1400	1500	1600	1700	1800
2	1/4																	
4	3/8																	
5	1/2																	
6	3/4																	
6	1																	
8	1*																	
8	1 1/4																	
8	1 3/8*																	
8	1 1/2																	

RPM

* Special Order