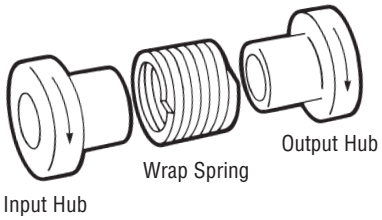
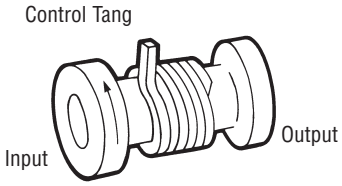
Principles of Operation

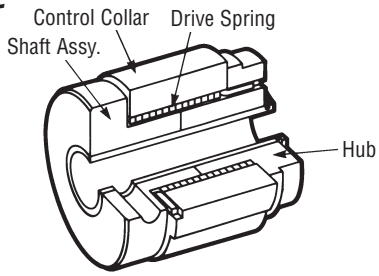
The three basic parts in the wrap spring clutch are the input hub, output hub, and spring. The inside diameter of the spring is slightly smaller than the outside diameter of the two hubs. Rotation at the input hub in the direction of the arrow engages the spring and positively locks the two hubs together.



Adding a control tang allows the spring to be disengaged, permitting the input hub to overrun.



SC

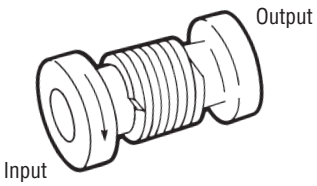


SC Series Clutch

SC clutches are mechanically actuated. They can be used in overrunning (OR), start/stop (SS) and single revolution (SR) applications.

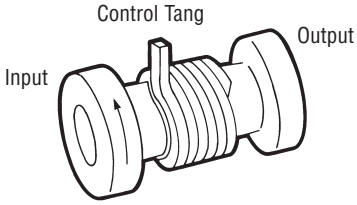
a.) SC Overrunning Clutch – OR

When the input hub is rotated in the direction shown, the spring wraps down and engages the input to the output hub. When the input hub is stopped or reversed, the spring unwraps, allowing the output hub to overrun. These clutches can also be used for backstopping and indexing. In the backstopping mode, either the input or output hub is attached to a fixed member, while the other hub is mounted on a rotating part. Rotation is permitted in one direction, but locked in reverse rotation. Indexing provides an accurate and smooth intermittent rotary output from reciprocating input in variable angular increments.



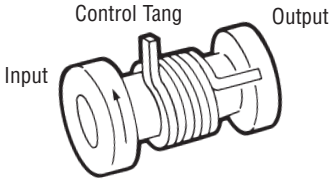
b.) SC Start/Stop Clutch – SS

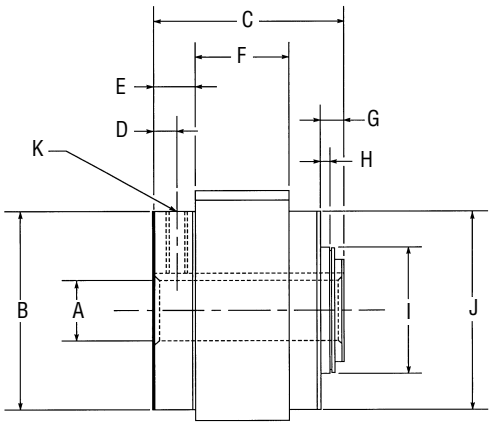
In this mode, the control tang rotates with the input hub, thus engaging the clutch. When the stop collar locks the control tang, the spring unwraps, allowing the output hub to coast while the input hub continues to run.

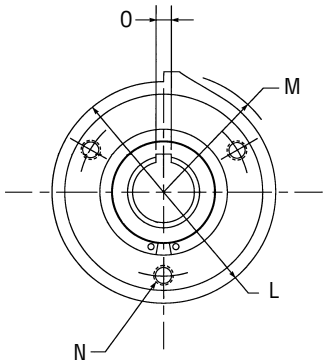


c.) SC Single Revolution Clutch – SR

In this mode, another control tang is added to the spring and fixed to the output hub. When the stop collar engages the control tang, the output hub will not overrun. Remember, only a maximum of 10% of the load will be stopped with the SC single revolution clutch.







SC Series Mechanical

MODEL NO.	STATIC TORQUE LB. – IN.	MAX. OPERATING SPEED (RPM)	MAX. RADIAL BEARING LOAD AT MAX. RPM
SC-2	25	1800	6.75 LB.
SC-4	125	1200	13.5 LB.
SC-5	250	750	31.5 LB.
SC-6	500	500	63.0 LB.
SC-8	2500	300	144.0 LB.

SC Series Dimensions

MODEL NO.	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
SC–2	0.250	0.94	1.25	0.16	0.34	0.49	0.344	0.250	0.877	0.940	8-32 SS	1.00	0.54	–	–
SC–4	0.375	1.25	1.38	0.14	0.28	0.67	0.347	0.250	1.125	1.250	0.125 Pin Hole	1.31	0.72	–	–
SC–5	0.500	1.56	1.88	0.14	0.38	1.00	0.345	0.250	1.500	1.562	0.188 Pin Hole	1.56	0.85	–	–
SC–6	0.750	2.44	2.31	0.28	0.50	0.87	0.282	0.124	1.562 -1.559	2.437	1/4 - 20 SS	2.70	1.50	3-Holes, 1/4-20 EQ. SP on 2.062 B.C.	3/4 Bore 3/16 x 3/32
	1.000	2.44	2.31	0.28	0.50	0.87	0.282	0.124	1.562 - 1.559	2.437	1/4 - 20 SS	2.70	1.50		1 Bore no Keyway
SC–8	1.000	4.00	3.50	0.30	0.60	1.98	0.463	0.180	2.374 - 2.372	4.000	3/8 - 16 SS	3.75	2.00	6-Holes, 5/16-18 EQ. SP on 3.375 B.C.	1 Bore 1/4 x 1/8
	1.250	4.00	3.50	0.30	0.60	1.98	0.463	0.180	2.374 - 2.372	4.000	3/8 - 16 SS	3.75	2.00		1-1/4 and 1-3/8 Bore 5/16 x 5/32
	1.375	4.00	3.50	0.30	0.60	1.98	0.463	0.180	2.374 - 2.372	4.000	3/8 - 16 SS	3.75	2.00		
	1.500	4.00	3.50	0.30	0.60	1.98	0.463	0.180	2.374 - 2.372	4.000	3/8 - 16 SS	3.75	2.00		1-1/2 Bore 3/8 x 3/16 Keyway

Note: Rotation is determined by looking at the pilot or free hub end.

How to Order:

3 __ __ __ - __ __ __ __ - __ 0 - 0 0

INPUT TYPE
1=Hub
2=Shaft

SIZE
02=2
04=4
05=5
06=6
08=8

BORE SIZE IN 1/8 INCHES
02=1/4 (.250)
03=3/8 (.375)
04=1/2 (.500)
06=3/4 (.750)
08-1 (1.000)
10=1-1/4 (1.250)
11=1-3/8 (1.375)
12=1-1/2 (1.500)

 # OF STOPS
99=0
01=1
02=2
04=4

ROTATION
1=CW, SR
2=CCW, SR
3=CW, SS
4=CCW, SS
5=CW, OR
6=CCW, OR

SR units (Brake Torque is 10% of Maximum Torque).

FEATURES
0=NONE

Example

SC-6 clutch, hub input, 3/4" bore, 2 stops, clockwise single revolution.
Part No. 3106-0602-10-00

See page 48 to 50 for applications and selection information