

# ROLLER CLUTCHES



FOR 1/8 TO 3/4 HARDENED SHAFTS  
UNIDIRECTIONAL DRIVE

PHONE: 516.328.3300 • FAX: 516.326.8827 • WWW.SDP-SI.COM



**> MATERIAL:**

- Roller Cup** - Case-Hardened Steel
- Needle Bearing** - 52100 Hardened Chrome Steel
- Springs** - Stainless Steel
- Cage** - Nylon 66 (or Equivalent)

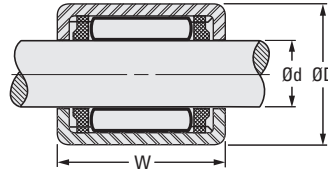


**> OPERATING TEMPERATURE:**

Grease +50°F to +160°F

**> FEATURES:**

- Ideal for indexing, backstopping or overrunning operations.
- Free rolling one way, drives in opposite direction.
- Lightweight, low profile.
- High indexing frequency, up to 4 CPS.
- Minimum backlash.

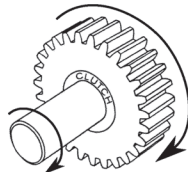


**> SHAFT REQUIREMENTS:**

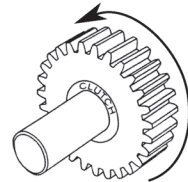
Shaft surface hardness must be Rc 58 min.

**WHAT IT DOES:**

Transmits torque load in one direction.  
Overruns freely in opposite direction.  
Either shaft or housing can be driving member.



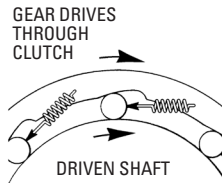
GEAR DRIVES  
SHAFT CLOCKWISE



GEAR OVERRUNS  
SHAFT COUNTERCLOCKWISE

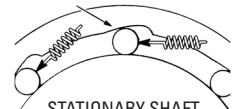
**HOW IT WORKS:**

Rollers wedge between shaft and outer race. Positive wedging forces prevent slipping. Springs position rollers for instantaneous lockup.



DRIVEN SHAFT

GEAR OVERRUNS  
COUNTERCLOCKWISE  
CLEARANCE  
EXAGGERATED



STATIONARY SHAFT  
CAUSES ROLLER TO MOVE  
OUT OF WEDGE TO RELEASE  
CLUTCH WHEN OVERRUNNING

**INCH COMPONENT**

| Catalog Number  | Bore | D<br>O.D. | W<br>Clutch<br>Width<br>+.00<br>-.01 | Max.<br>Torque<br>lbf in. | d<br>Recom.<br>Shaft Dia.<br>+.0000<br>-.0005 | Housing<br>Bore<br>+.001<br>-.000 | Max. Rotating<br>Overrun Speed<br>rpm |         |
|-----------------|------|-----------|--------------------------------------|---------------------------|---|-----------------------------------|---------------------------------------|---------|
|                 |      |           |                                      |                           |   |                                   | Shaft                                 | Housing |
| *S99NH3-URC0204 | 1/8  | 9/32      | .250                                 | 2.86                      | .1250   | .2812                             | 5000                                  | 30000   |
| S99NH3-URC0408  | 1/4  | 7/16      | .500                                 | 18.60                     | .2500   | .4370                             | 21000                                 | 12000   |
| S99NH3-URC0608  | 3/8  | 5/8       |                                      | 50.40                     | .3750   | .6245                             | 14000                                 |         |
| S99NH3-URC0808  | 1/2  | 3/4       | .500                                 | 85.90                     | .5000   | .7495                             | 11000                                 | 9000    |
| S99NH3-URC1010  | 5/8  | 7/8       | .625                                 | 175.20                    | .6250   | .8745                             | 8500                                  | 5000    |
| S99NH3-URC1210  | 3/4  | 1         |                                      | 206.00                    | .7500   | .9995                             | 12000                                 | 7000    |

\* Plastic Springs



# ROLLER CLUTCHES • WITH BEARING SUPPORT

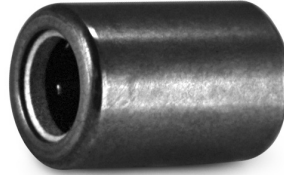


FOR 3/8 TO 5/8 HARDENED SHAFTS  
UNIDIRECTIONAL DRIVE

PHONE: 516.328.3300 • FAX: 516.326.8827 • WWW.SDP-SI.COM

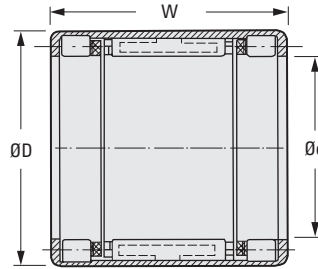
› **MATERIAL:**

- Roller Cup** - Case-Hardened Steel
- Needle Bearing** - 52100 Hardened Chrome Steel
- Springs** - Stainless Steel
- Cage** - Plastic
- Bearing Support** - Sintered Bronze Bearings



› **SHAFT REQUIREMENTS:**

Shaft surface hardness must be Rc 58 min.



**INCH COMPONENT**

| Catalog Number | d<br>Shaft<br>Dia.<br>+.0000<br>-.0003 | D<br>O.D. | W<br>Width | Max.<br>Torque<br>lbf in. | Max. Rotating<br>Overrun Speed<br>rpm |         | Load Ratings<br>lbf |        | Recommended<br>Housing Bore<br>Tolerance |                |
|----------------|--|-----------|------------|---------------------------|---------------------------------------|---------|---------------------|--------|--|----------------|
|                |  |           |            |                           | Shaft                                 | Housing | Dynamic             | Static | Steel                                    | Aluminum       |
| S99NH4-URC1228 | .375                                   | .625      | .875       | 50.4                      | 14000                                 | 12000   | 1350                | 1240   | ±.0005                                   | +.0001/-0.0009 |
| S99NH4-URC2032 | .625                                   | .875      | 1.000      | 175.2                     | 8500                                  | 5000    | 1720                | 1890   | ±.0005                                   | +.0000/-0.0010 |

I

R

T

1

2

3

4

5

6

7

8

9

10

11

12

**13**

14

15

16