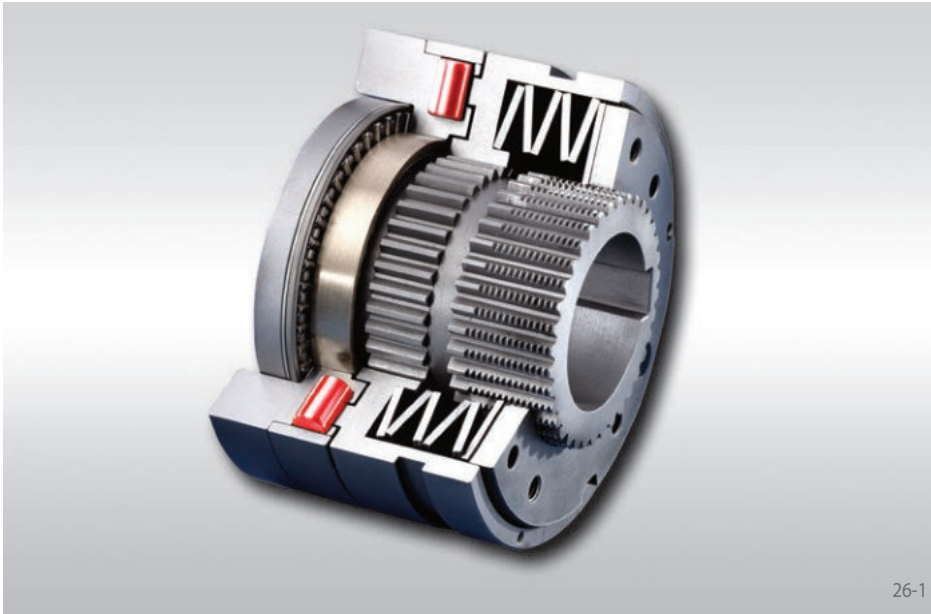


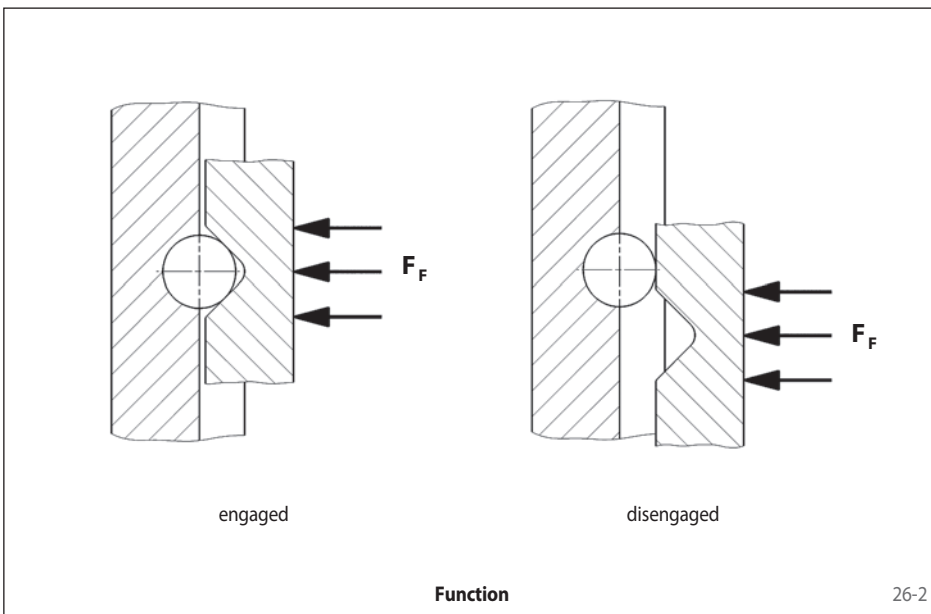
# Synchronous Ratcheting SIKUMAT® SN ...

with single rollers



## Advantages

- Synchronous re-engagement after 360°
- Integral fixed bearing
- Driving keyway in the connecting flange for maximum load capacity
- Calibrated micro adjustment of torque setting possible, even post-installation
- Cost effective



## The Single Roller Principle

The torque is transmitted via rollers which are pressed by Belleville springs into detents. When the preset limit torque has been reached, the detent ring is axially displaced. Re-engagement is effected synchronously after 360° due to the asymmetrical division of the detents.

## Function

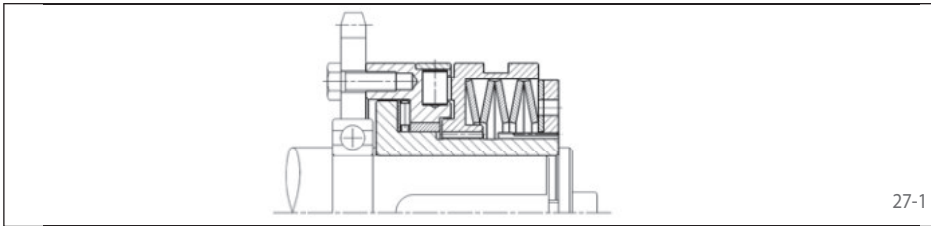
- When the preset limit torque has been reached the SIKUMAT® ratchets.
- Following elimination of overload automatic synchronous re-engagement of the SIKUMAT® to the starting position after 360°.
- The overload can be indicated by a proximity switch. This means that the drive can be switched off immediately or another control function can be activated.

# Synchronous Ratcheting SIKUMAT® SN ...

with single rollers

## Types

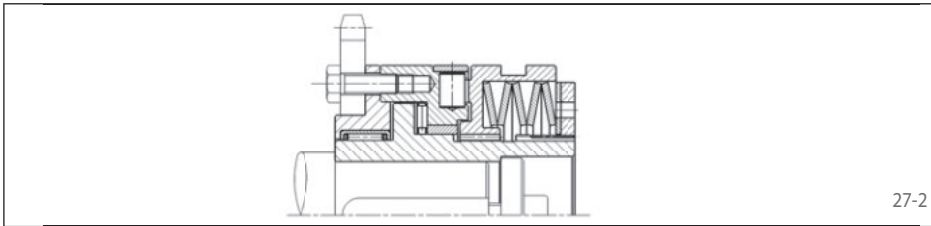
### Series SN - Basic version with flange connection



For attaching chain wheels, belt pulleys, gear wheels etc. Bearing of attached component on the shaft to be provided by the customer.

Page 28

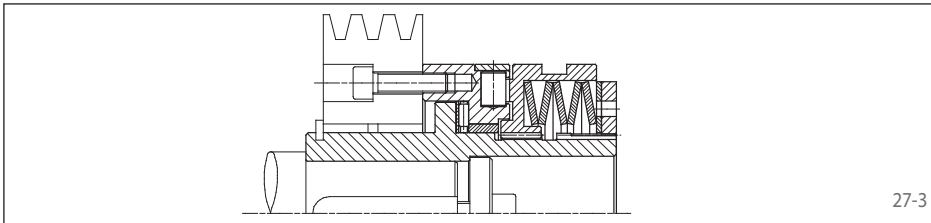
### Series SNR - with short hub and integral needle bearing



With short hub and needle bearing for narrow components to be connected.

Page 29

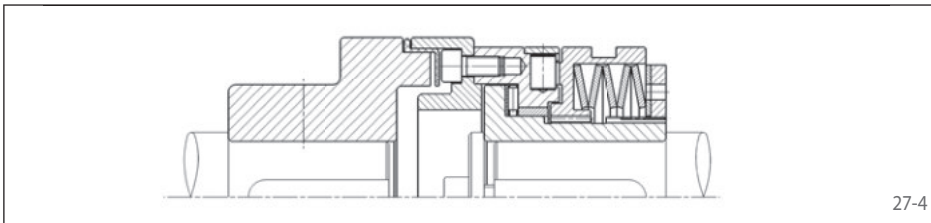
### Series SNG - with long hub



With long hub for wide components to be connected. Bearing of the attached component in the form of plain or needle bearing to be provided by the customer.

Page 30

### Series SNE - with flexible shaft coupling



For flexible connection of two shafts. The flexible elements are oil-proof.

Page 31

## Notes

### Torque setting

The limit torque can be set at the factory on request. Setting or modification of the limit torque can also be carried out by the customer. See operating instructions for further details.

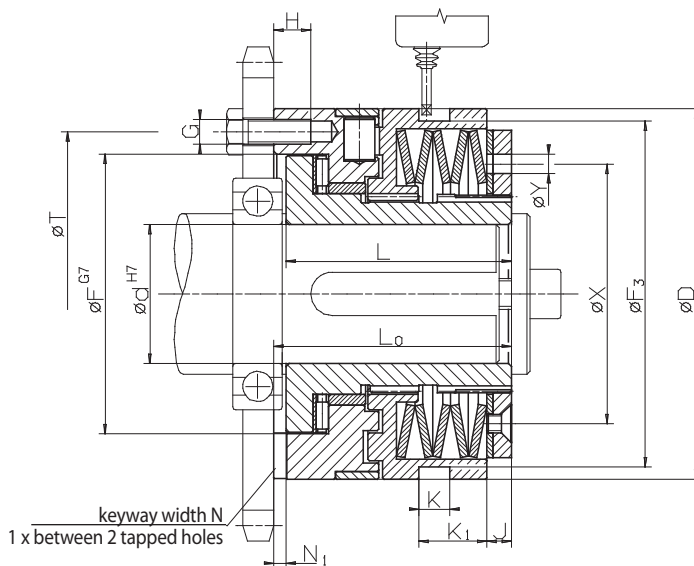
### Proximity switch

An overload can be indicated by a non-contact or a mechanical proximity switch. Further details on pages 62 and 63.

# Synchronous Ratcheting SIKUMAT® SN

with single rollers

Basic version with flange connection



Z = number of tapped holes G on pitch circle T · Installation must be shut down as soon as torque limiter responds

28-1

## Technical Data

| Type    | Art.-No.    | Torque type 1   |                              |            | Torque type 2   |                              |            | Torque type 3   |                              |            |
|---------|-------------|-----------------|------------------------------|------------|-----------------|------------------------------|------------|-----------------|------------------------------|------------|
|         |             | Limit torque Nm | max. speed min <sup>-1</sup> | End number | Limit torque Nm | max. speed min <sup>-1</sup> | End number | Limit torque Nm | max. speed min <sup>-1</sup> | End number |
| SN 32.x | 4470-020xxx | 5 - 10          | 1000                         | 801        | 10 - 20         | 1000                         | 802        | 20 - 40         | 500                          | 803        |
| SN 40.x | 4470-025xxx | 12 - 25         | 950                          | 801        | 25 - 50         | 950                          | 802        | 50 - 100        | 450                          | 803        |
| SN 55.x | 4470-035xxx | 25 - 50         | 800                          | 801        | 50 - 100        | 800                          | 802        | 100 - 200       | 400                          | 803        |
| SN 65.x | 4470-045xxx | 50 - 100        | 650                          | 801        | 100 - 200       | 650                          | 802        | 200 - 450       | 300                          | 803        |
| SN 80.x | 4470-055xxx | 100 - 200       | 550                          | 801        | 200 - 400       | 550                          | 802        | 400 - 800       | 250                          | 803        |
| SN 90.x | 4470-065xxx | 170 - 450       | 400                          | 801        | 350 - 900       | 400                          | 802        | 600 - 1800      | 150                          | 803        |

## Dimensions

| Type    | Art.-No.    | Bore d  |                  | D   | F     | F <sub>3</sub> | G    | H   | J   | K  | K <sub>1</sub> | L    | L <sub>0</sub> | N  | N <sub>1</sub> | T   | X    | Y  | Z | Engage-ment travel mm |
|---------|-------------|---------|------------------|-----|-------|----------------|------|-----|-----|----|----------------|------|----------------|----|----------------|-----|------|----|---|-----------------------|
|         |             | min. mm | max. mm          |     |       |                |      |     |     |    |                |      |                |    |                |     |      |    |   |                       |
| SN 32.x | 4470-020xxx | 7       | 20               | 55  | 41    | 50             | M 5  | 6,5 | 3   | 9  | 13,5           | 35   | 38,5           | 6  | 3,1            | 48  | 38,5 | 5  | 6 | 1,2                   |
| SN 40.x | 4470-025xxx | 10      | 25               | 82  | 60    | 72,5           | M 5  | 8   | 6   | 9  | 14,5           | 48   | 52             | 6  | 3,1            | 70  | 54   | 6  | 6 | 1,8                   |
| SN 55.x | 4470-035xxx | 14      | 35               | 100 | 78    | 90,5           | M 6  | 10  | 6   | 9  | 15             | 56   | 61             | 8  | 3,6            | 89  | 70   | 6  | 6 | 2,0                   |
| SN 65.x | 4470-045xxx | 18      | 45               | 120 | 90,5  | 112            | M 8  | 12  | 8,5 | 10 | 22,5           | 72   | 78             | 10 | 4,1            | 105 | 84   | 6  | 6 | 2,2                   |
| SN 80.x | 4470-055xxx | 24      | 55               | 146 | 105   | 140            | M 10 | 15  | 11  | 9  | 25             | 93,5 | 100            | 12 | 4,1            | 125 | 108  | 7  | 6 | 2,5                   |
| SN 90.x | 4470-065xxx | 30      | 70 <sup>1)</sup> | 176 | 120,5 | 170            | M 12 | 17  | 12  | 9  | 30             | 107  | 113,5          | 14 | 4,6            | 155 | 129  | 10 | 6 | 3,0                   |

Keyway as per DIN 6885, page 1 · Tolerance of keyway width JS9

<sup>1)</sup> Keyway as per DIN 6885, page 3 · Tolerance of keyway width JS9

## Example for Ordering

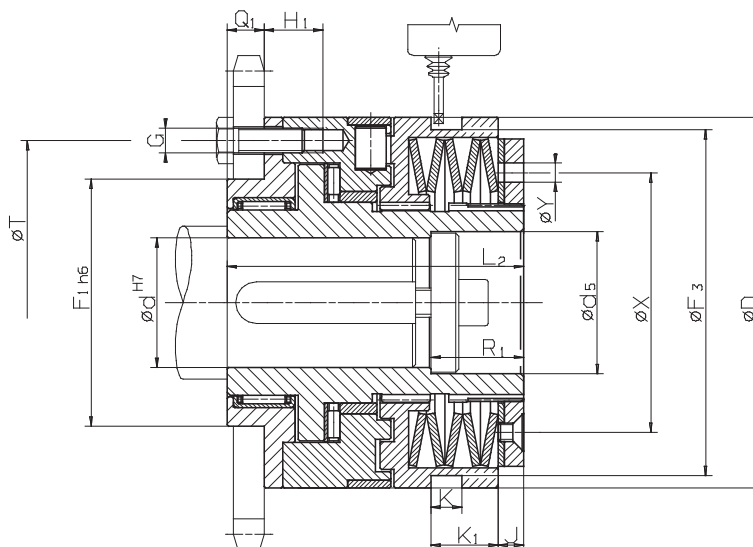
| Type     | Art.-No.     | Preset limit torque | Bore d | with proximity switch |
|----------|--------------|---------------------|--------|-----------------------|
| SN 32. 3 | 4470-020 803 | 30 Nm               | 9 mm   | See pages 62 and 63   |

Torque type

End number

# Synchronous Ratcheting SIKUMAT® SNR

with single rollers  
with short hub and integral needle bearing



Z = number of tapped holes G on pitch circle T · Installation must be shut down as soon as torque limiter responds

29-1

## Technical Data

| Type     | Art.-No.    | Torque type 1   |                              |            | Torque type 2   |                              |            | Torque type 3   |                              |            |
|----------|-------------|-----------------|------------------------------|------------|-----------------|------------------------------|------------|-----------------|------------------------------|------------|
|          |             | Limit torque Nm | max. speed min <sup>-1</sup> | End number | Limit torque Nm | max. speed min <sup>-1</sup> | End number | Limit torque Nm | max. speed min <sup>-1</sup> | End number |
| SNR 32.x | 4470-920xxx | 5 - 10          | 1000                         | 801        | 10 - 20         | 1000                         | 802        | 20 - 40         | 500                          | 803        |
| SNR 40.x | 4470-925xxx | 12 - 25         | 950                          | 801        | 25 - 50         | 950                          | 802        | 50 - 100        | 450                          | 803        |
| SNR 55.x | 4470-935xxx | 25 - 50         | 800                          | 801        | 50 - 100        | 800                          | 802        | 100 - 200       | 400                          | 803        |
| SNR 65.x | 4470-945xxx | 50 - 100        | 650                          | 801        | 100 - 200       | 650                          | 802        | 200 - 450       | 300                          | 803        |
| SNR 80.x | 4470-955xxx | 100 - 200       | 550                          | 801        | 200 - 400       | 550                          | 802        | 400 - 800       | 250                          | 803        |
| SNR 90.x | 4470-965xxx | 170 - 450       | 400                          | 801        | 350 - 900       | 400                          | 802        | 600 - 1800      | 150                          | 803        |

## Dimensions

| Type     | Art.-No.    | Bore d  |                  | d <sub>5</sub> | D   | F <sub>1</sub> | F <sub>3</sub> | G    | H <sub>1</sub> | J   | K  | K <sub>1</sub> | L <sub>2</sub> | Q <sub>1</sub> | R <sub>1</sub> | T   | X    | Y  | Z | Engage-ment travel mm |
|----------|-------------|---------|------------------|----------------|-----|----------------|----------------|------|----------------|-----|----|----------------|----------------|----------------|----------------|-----|------|----|---|-----------------------|
|          |             | min. mm | max. mm          |                |     |                |                |      |                |     |    |                |                |                |                |     |      |    |   |                       |
| SNR 32.x | 4470-920xxx | 7       | 20               | 21             | 55  | 38             | 50             | M 5  | 11,5           | 3   | 9  | 13,5           | 51,5           | 8              | 15             | 48  | 38,5 | 5  | 6 | 1,2                   |
| SNR 40.x | 4470-925xxx | 10      | 25               | 26             | 82  | 50             | 72,5           | M 5  | 16             | 6   | 9  | 14,5           | 70             | 10             | 20             | 70  | 54   | 6  | 6 | 1,8                   |
| SNR 55.x | 4470-935xxx | 14      | 35               | 36             | 100 | 60             | 90,5           | M 6  | 15             | 6   | 9  | 15             | 78             | 12             | 25             | 89  | 70   | 6  | 6 | 2,0                   |
| SNR 65.x | 4470-945xxx | 18      | 45               | 46             | 120 | 80             | 112            | M 8  | 18             | 8,5 | 10 | 22,5           | 96             | 12             | 30             | 105 | 84   | 6  | 6 | 2,2                   |
| SNR 80.x | 4470-955xxx | 24      | 55               | 56             | 146 | 100            | 140            | M 10 | 23,5           | 11  | 9  | 25             | 124,5          | 16             | 30             | 125 | 108  | 7  | 6 | 2,5                   |
| SNR 90.x | 4470-965xxx | 30      | 70 <sup>1)</sup> | 66             | 176 | 120            | 170            | M 12 | 25,5           | 12  | 9  | 30             | 140            | 18             | 30             | 155 | 129  | 10 | 6 | 3,0                   |

Keyway as per DIN 6885, page 1 · Tolerance of keyway width JS9

<sup>1)</sup> Keyway as per DIN 6885, page 3 · Tolerance of keyway width JS9

## Example for Ordering

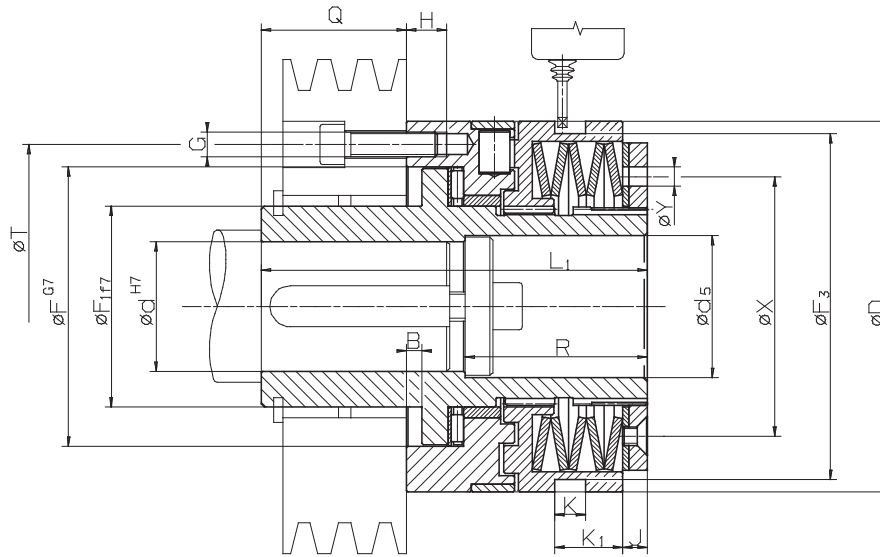
| Type      | Art.-No.     | Preset limit torque | Bore d | with proximity switch |
|-----------|--------------|---------------------|--------|-----------------------|
| SNR 32. 2 | 4470-920 802 | 15 Nm               | 13 mm  | See pages 62 and 63   |

└─┬─┘  
Torque type

└─┬─┘  
End number

# Synchronous Ratcheting SIKUMAT® SNG

with single rollers  
with long hub



Z = number of tapped holes G on pitch circle T · Installation must be shut down as soon as torque limiter responds

30-1

## Technical Data

| Type     | Art.-No.    | Torque type 1   |                              |            | Torque type 2   |                              |            | Torque type 3   |                              |            |
|----------|-------------|-----------------|------------------------------|------------|-----------------|------------------------------|------------|-----------------|------------------------------|------------|
|          |             | Limit torque Nm | max. speed min <sup>-1</sup> | End number | Limit torque Nm | max. speed min <sup>-1</sup> | End number | Limit torque Nm | max. speed min <sup>-1</sup> | End number |
| SNG 32.x | 4470-120xxx | 5 - 10          | 1000                         | 801        | 10 - 20         | 1000                         | 802        | 20 - 40         | 500                          | 803        |
| SNG 40.x | 4470-125xxx | 12 - 25         | 950                          | 801        | 25 - 50         | 950                          | 802        | 50 - 100        | 450                          | 803        |
| SNG 55.x | 4470-135xxx | 25 - 50         | 800                          | 801        | 50 - 100        | 800                          | 802        | 100 - 200       | 400                          | 803        |
| SNG 65.x | 4470-145xxx | 50 - 100        | 650                          | 801        | 100 - 200       | 650                          | 802        | 200 - 450       | 300                          | 803        |
| SNG 80.x | 4470-155xxx | 100 - 200       | 550                          | 801        | 200 - 400       | 550                          | 802        | 400 - 800       | 250                          | 803        |
| SNG 90.x | 4470-165xxx | 170 - 450       | 400                          | 801        | 350 - 900       | 400                          | 802        | 600 - 1800      | 150                          | 803        |

## Dimensions

| Type     | Art.-No.    | Bore d  |                  | d <sub>5</sub> | B   | D   | F     | F <sub>1</sub> | F <sub>3</sub> | G    | H   | J   | K  | K <sub>1</sub> | L <sub>1</sub> | Q    | R    | T   | X    | Y  | Z | Engage-ment travel mm |     |
|----------|-------------|---------|------------------|----------------|-----|-----|-------|----------------|----------------|------|-----|-----|----|----------------|----------------|------|------|-----|------|----|---|-----------------------|-----|
|          |             | min. mm | max. mm          |                |     |     |       |                |                |      |     |     |    |                |                |      |      |     |      |    |   |                       |     |
| SNG 32.x | 4470-120xxx | 7       | 20               | 21             | 4   | 55  | 41    | 28             | 50             | M 5  | 6,5 | 3   | 9  | 13,5           | 66             | 27,5 | 25,5 | 48  | 38,5 | 5  | 6 | 6                     | 1,2 |
| SNG 40.x | 4470-125xxx | 10      | 25               | 26             | 4   | 82  | 60    | 38             | 72,5           | M 5  | 8   | 6   | 9  | 14,5           | 83             | 33   | 35   | 70  | 54   | 6  | 6 | 6                     | 1,8 |
| SNG 55.x | 4470-135xxx | 14      | 35               | 36             | 5   | 100 | 78    | 52             | 90,5           | M 6  | 10  | 6   | 9  | 15             | 100            | 39   | 45   | 89  | 70   | 6  | 6 | 6                     | 2,0 |
| SNG 65.x | 4470-145xxx | 18      | 45               | 46             | 5   | 120 | 90,5  | 65             | 112            | M 8  | 12  | 8,5 | 10 | 22,5           | 125            | 47   | 59   | 105 | 84   | 6  | 6 | 6                     | 2,2 |
| SNG 80.x | 4470-155xxx | 24      | 55               | 56             | 6,5 | 146 | 105   | 78             | 140            | M 10 | 15  | 11  | 9  | 25             | 152,5          | 52,5 | 60   | 125 | 108  | 7  | 6 | 6                     | 2,5 |
| SNG 90.x | 4470-165xxx | 30      | 70 <sup>1)</sup> | 66             | 6,5 | 176 | 120,5 | 90             | 170            | M 12 | 17  | 12  | 9  | 30             | 171            | 57,5 | 60   | 155 | 129  | 10 | 6 | 6                     | 3,0 |

Keyway as per DIN 6885, page 1 · Tolerance of keyway width JS9  
<sup>1)</sup> Keyway as per DIN 6885, page 3 · Tolerance of keyway width JS9

## Example for Ordering

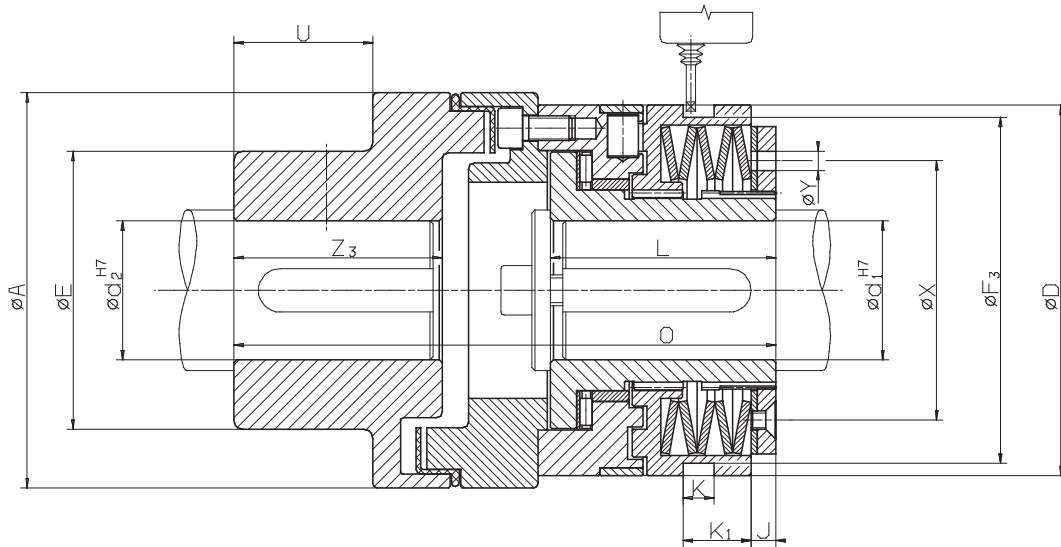
| Type      | Art.-No.     | Preset limit torque | Bore d | with proximity switch |
|-----------|--------------|---------------------|--------|-----------------------|
| SNG 32. 2 | 4470-120 802 | 15 Nm               | 10 mm  | See pages 62 and 63   |

Torque type

End number

# Synchronous Ratcheting SIKUMAT® SNE

with single rollers  
with flexible shaft coupling



Installation must be shut down as soon as torque limiter responds

31-1

## Technical Data

| Type     | Art.-No.    | Torque type 1   |                              |            | Torque type 2   |                              |            | Torque type 3   |                              |            |
|----------|-------------|-----------------|------------------------------|------------|-----------------|------------------------------|------------|-----------------|------------------------------|------------|
|          |             | Limit torque Nm | max. speed min <sup>-1</sup> | End number | Limit torque Nm | max. speed min <sup>-1</sup> | End number | Limit torque Nm | max. speed min <sup>-1</sup> | End number |
| SNE 32.x | 4470-620xxx | 5 - 10          | 1000                         | 801        | 10 - 20         | 1000                         | 802        | 20 - 40         | 500                          | 803        |
| SNE 40.x | 4470-625xxx | 12 - 25         | 950                          | 801        | 25 - 50         | 950                          | 802        | 50 - 100        | 450                          | 803        |
| SNE 55.x | 4470-635xxx | 25 - 50         | 800                          | 801        | 50 - 100        | 800                          | 802        | 100 - 200       | 400                          | 803        |
| SNE 65.x | 4470-645xxx | 50 - 100        | 650                          | 801        | 100 - 200       | 650                          | 802        | 200 - 450       | 300                          | 803        |
| SNE 80.x | 4470-655xxx | 100 - 200       | 550                          | 801        | 200 - 400       | 550                          | 802        | 400 - 800       | 250                          | 803        |
| SNE 90.x | 4470-665xxx | 170 - 450       | 400                          | 801        | 350 - 900       | 400                          | 802        | 600 - 1800      | 150                          | 803        |

## Dimensions

| Type     | Art.-No.    | Bore d <sub>1</sub> |                  | d <sub>2</sub> | A   | E   | D   | F <sub>3</sub> | J   | K  | K <sub>1</sub> | L    | O     | U  | X    | Y  | Z <sub>3</sub> | Engage-ment travel |
|----------|-------------|---------------------|------------------|----------------|-----|-----|-----|----------------|-----|----|----------------|------|-------|----|------|----|----------------|--------------------|
|          |             | min. mm             | max. mm          |                |     |     |     |                |     |    |                |      |       |    |      |    |                |                    |
| SNE 32.x | 4470-620xxx | 7                   | 20               | 30             | 67  | 46  | 55  | 50             | 3   | 9  | 13,5           | 35   | 86    | 15 | 38,5 | 5  | 28             | 1,2                |
| SNE 40.x | 4470-625xxx | 10                  | 25               | 50             | 112 | 79  | 82  | 72,5           | 6   | 9  | 14,5           | 48   | 137,5 | 38 | 54   | 6  | 58             | 1,8                |
| SNE 55.x | 4470-635xxx | 14                  | 35               | 50             | 112 | 79  | 100 | 90,5           | 6   | 9  | 15             | 56   | 147   | 38 | 70   | 6  | 58             | 2,0                |
| SNE 65.x | 4470-645xxx | 18                  | 45               | 60             | 128 | 90  | 120 | 112            | 8,5 | 10 | 22,5           | 72   | 176,5 | 45 | 84   | 6  | 67             | 2,2                |
| SNE 80.x | 4470-655xxx | 24                  | 55               | 60             | 148 | 90  | 146 | 140            | 11  | 9  | 25             | 93,5 | 211,5 | 45 | 108  | 7  | 67             | 2,5                |
| SNE 90.x | 4470-665xxx | 30                  | 70 <sup>1)</sup> | 70             | 177 | 107 | 176 | 170            | 12  | 9  | 30             | 107  | 242,5 | 52 | 129  | 10 | 75             | 3,0                |
| SNE 90.x | 4470-665xxx | 30                  | 70 <sup>1)</sup> | 90             | 198 | 140 | 176 | 170            | 12  | 9  | 30             | 107  | 272   | 52 | 129  | 10 | 75             | 3,0                |

Keyway as per DIN 6885, page 1 - Tolerance of keyway width JS9

<sup>1)</sup> Keyway as per DIN 6885, page 3 - Tolerance of keyway width JS9

## Example for Ordering

| Type      | Art.-No.     | Preset limit torque | Bore d <sub>1</sub> | Bore d <sub>2</sub> | with proximity switch |
|-----------|--------------|---------------------|---------------------|---------------------|-----------------------|
| SNE 32. 2 | 4470-620 802 | 15 Nm               | 10 mm               | 20 mm               | See pages 62 and 63   |

└─┬─┘  
Torque type

└─┬─┘  
End number

**Morskate®**



Any questions? Please contact us.

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