## for assembly with inner and outer ring with sprags



## Mounting

The lateral guidance of the Cage Freewheels can be effected either by a shoulder on the outer ring or by guard rings or guard discs which are fixed in the outer ring. There must be no undercuts, recesses, shoulders or chamfers, or any eccentricity whatsoever, over dimension „B". For ease of assembly we recommend that the inner and outer races be chamfered at an angle of 15 degrees for a leghts of 3 mm .

Please note the technical points on page 108 regarding the sprag tracks.

## Application as

Backstop
$\Rightarrow$ Overrunning Clutch
Indexing Freewheel

## Features

Cage Freewheels BWX are sprag freewheels to be installed between customer-supplied inner and outer rings.
Nominal torques up to 4900 Nm .

## Disengaging

When the outer ring is rotating the centrifugal force causes the sprags to lift off from the inner race. This reduces wear during freewheeling operation.

## Engaging

When the outer ring is rotating the centrifugal force presses the sprags against the inner ring. This enhances the ability of the sprags to engage immediately when torque is applied.

## Drag strips

To reduce wear during freewheeling operation between sprags and the inner race, drag strips made from wear-resistant beryllium copper alloy are attached to the inner cage.This results in increased friction between inner cage and inner race. This counteracts individual sprag activation during freewheeling operation, thereby greatly reducing sprag pressure on the inner race.

## Brake clips

Some freewheel sizes are available with brake clips fitted on the outer cage to prevent further automatic rotation of the Cage Freewheel during rapid acceleration and deceleration of the outer ring (e.g. in indexing freewheels).

## Cage Freewheels BWX

## for assembly with inner and outer ring with sprags



| Freewheel Size | Type | Nominal torque $M_{N}$ Nm | $\begin{gathered} \mathrm{J} \\ +0,008 \\ -0,005 \\ \mathrm{~mm} \end{gathered}$ | $\begin{gathered} \text { D } \\ \pm 0,013 \\ \mathrm{~mm} \end{gathered}$ | B <br> min. <br> mm | K <br> mm | Sprags <br> Quantity | Drag strips <br> Quantity | Brake clips <br> Quantity | Design as <br> ill. | Weight <br> kg |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| BWX 133590A | Disengaging | 63 | 22,225 | 38,887 | 10,0 | 44,0 | 12 |  |  | 101-2 | 0,03 |
| BWX 13143A | Engaging | 120 | 27,767 | 44,425 | 13,5 | 51,0 | 14 |  |  | 101-2 | 0,06 |
| BWX 133392 | Disengaging | 280 | 38,092 | 54,750 | 16,0 | 71,0 | 18 |  |  | 101-3 | 0,09 |
| BWX 1310145 | Disengaging | 180 | 41,275 | 57,937 | 13,5 | 74,2 | 14 |  | 3 | 101-2 | 0,07 |
| BWX 132909A | Disengaging | 360 | 44,450 | 61,112 | 16,0 | 78,5 | 20 | 2 | 3 | 101-2 | 0,10 |
| BWX 133339 | Disengaging | 310 | 49,721 | 66,383 | 13,5 | 85,0 | 22 | 2 | 4 | 101-2 | 0,09 |
| BWX 1310003 | Disengaging | 310 | 49,721 | 66,383 | 13,5 | 85,0 | 22 |  | 4 | 101-2 | 0,09 |
| BWX 137222 | Engaging | 570 | 49,721 | 66,383 | 19,0 | 85,0 | 22 |  |  | 101-2 | 0,12 |
| BWX 1310445 | Disengaging | 400 | 54,765 | 71,427 | 13,5 | 91,7 | 24 |  |  | 101-2 | 0,09 |
| BWX 1310172 | Engaging | 540 | 54,765 | 71,427 | 16,0 | 91,7 | 24 |  |  | 101-2 | 0,12 |
| BWX 1310226 | Disengaging | 520 | 54,765 | 71,427 | 16,0 | 91,7 | 24 | 2 | 4 | 101-2 | 0,12 |
| BWX 136709 | Engaging | 770 | 54,765 | 71,427 | 21,0 | 91,7 | 24 | 3 | 10 | 101-2 | 0,16 |
| BWX 1310147 | Disengaging | 1000 | 54,765 | 71,427 | 25,4 | 91,7 | 24 | 3 | 8 | 101-2 | 0,20 |
| BWX 136324 | Engaging | 600 | 57,760 | 74,427 | 19,0 | 95,0 | 26 |  |  | 101-3 | 0,14 |
| BWX 1310080 | Disengaging | 670 | 72,217 | 88,882 | 13,5 | 115,0 | 30 |  | 4 | 101-2 | 0,12 |
| BWX 13168 | Engaging | 1300 | 72,217 | 88,882 | 21,0 | 115,0 | 30 |  |  | 101-3 | 0,20 |
| BWX 134012 | Engaging | 1300 | 72,217 | 88,882 | 21,0 | 115,0 | 30 | 4 | 10 | 101-3 | 0,20 |
| BWX 137322 | Disengaging | 2000 | 79,698 ${ }^{2}$ | 96,363 | 25,4 | 124,0 | 34 | 5 | 12 | 101-2 | 0,28 |
| BWX 138316 | Disengaging | 2960 | 83,597 ${ }^{2}$ | 102,596 | 25,4 | 131,6 | 34 | 5 | 12 | 101-2 | 0,30 |
| BWX 13261A ${ }^{1}$ | Disengaging | 1600 | 103,231 ${ }^{2}$ | 119,893 | 16,0 | 154,0 | 40 | 6 | 10 | 101-3 | 0,19 |
| BWX 13236 | Disengaging | 1700 | 117,391 ${ }^{2}$ | 136,391 | 16,0 | 175,3 | 30 | 5 | 6 | 101-3 | 0,25 |
| BWX 133403B | Engaging | 4900 | 123,881 ${ }^{2}$ | 142,880 | 25,4 | 188,0 | 44 |  | 11 | 101-2 | 0,46 |

Cage Freewheels BWX are available with short delivery times.
${ }^{1}$ With this Freewheel Size the centering flange of the inner cage is on the right hand side!
${ }^{2}$ Tolerance of the inner ring race diameter may be increased by $\pm 0,013 \mathrm{~mm}$ !
The theoretical nominal torque applies only for ideal concentricity between the inner and outer ring
The maximum transmissible torque is 2 times the specified nominal torque. See page 14 for determination of selection torque.

## Example for ordering

Freewheel size BWX 13143A, standard type:

- BWX 13143A

