

# Internal Freewheels FZ ...

## with ball bearing properties



### Application as

- Backstop
- Overrunning Clutch
- Indexing Freewheel

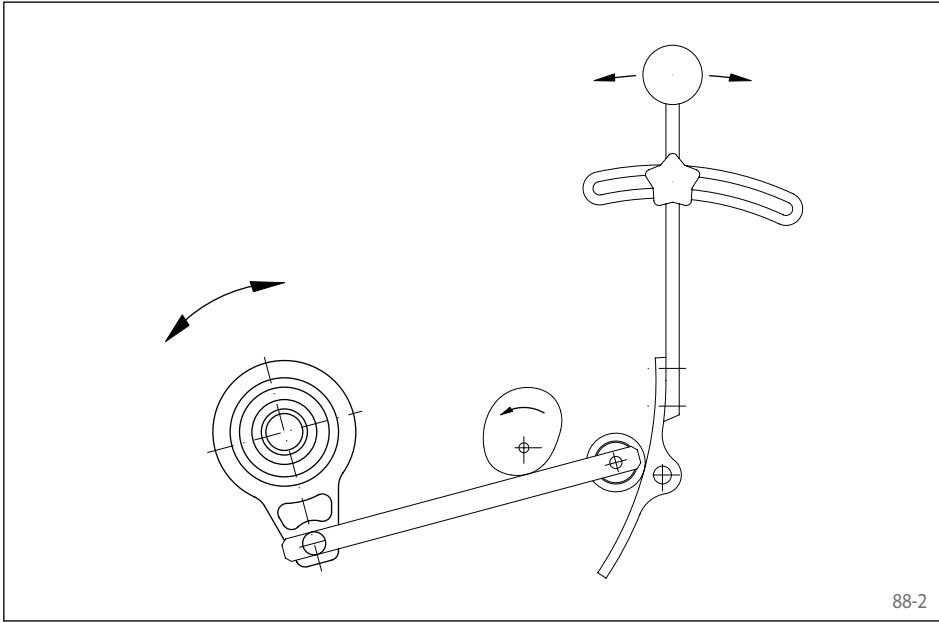
### Features

Internal Freewheels FZ ... are sprag freewheels with bearing support and ball bearing properties. The freewheels are supplied grease-filled for normal operating conditions.

The freewheel is built into the customer housing. This makes compact, space-saving fitting solutions possible.

Nominal torques up to 420 Nm. The torque is transmitted on the inner ring and/or on the outer ring by press fit or keyway connection.

Bores up to 40 mm.



The following series are available:

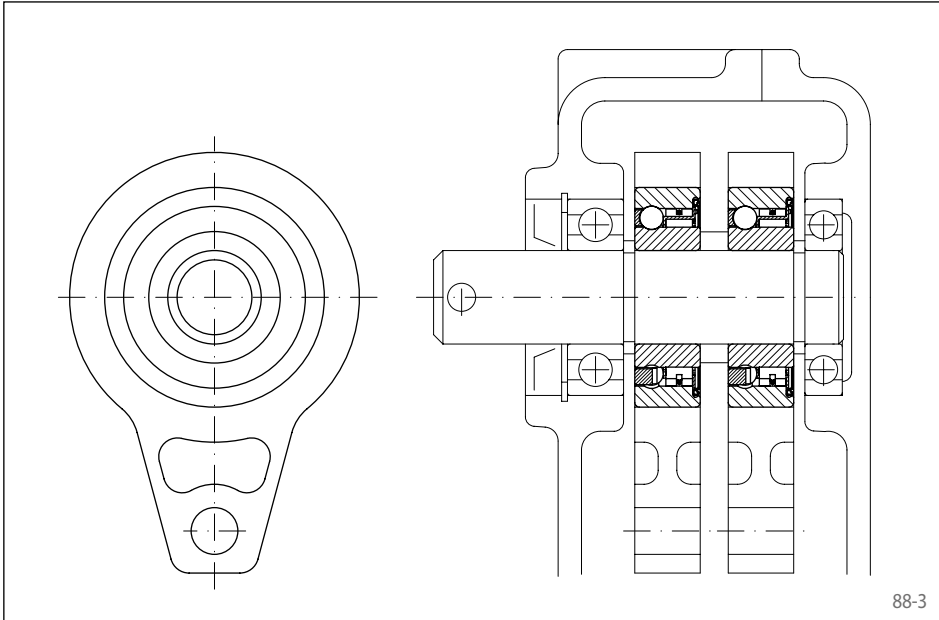
| Series      | Torque transmission on |           |               |           | 2RS-seals | Page |
|-------------|------------------------|-----------|---------------|-----------|-----------|------|
|             | Outer ring by          |           | Inner ring by |           |           |      |
|             | keyway                 | press fit | keyway        | press fit |           |      |
| FZ          |                        | ●         |               | ●         |           | 89   |
| FZ ... 2RS  |                        | ●         |               | ●         | ●         | 90   |
| FZ ... P2RS |                        | ●         | ●             |           | ●         | 91   |
| FZ ... P    |                        | ●         | ●             |           |           | 92   |
| FZ ... PP   | ●                      |           | ●             |           |           | 93   |

Internal Freewheels FZ 6201 to FZ 6207, FZ 6201 P to FZ 6207 P and FZ 6202 PP to FZ 6207 PP have the same dimensions as the respective ball bearings of series 62. The freewheel sizes FZ 6208, FZ 6208 P and FZ 6208 PP as well as the series FZ ... 2RS and FZ ... P2RS have a different width B.

The series FZ ... 2RS and FZ ... P2RS have 2RS seals.

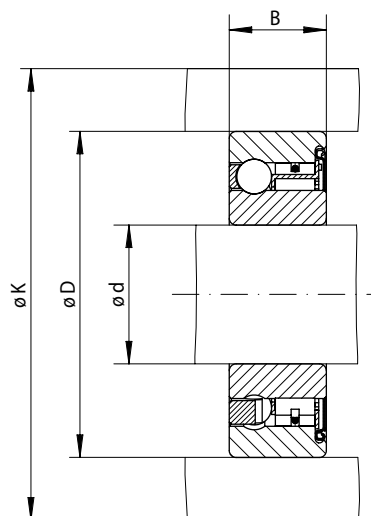
### Application example

Two Internal Freewheels FZ 6206 as indexing freewheels in the drive of the metering roller of a seed spreader. The freewheels are built in an infinitely variable oil bath gearbox. Two cam disks that are set off by 180° are arranged on the gearbox shaft. By means of lever arms, these drive the outer rings of the two adjacent Internal Freewheels, which then gradually turn the metering shaft. The infinite speed settings of the gearbox's drive shaft are executed by means of the respective pivoting of the roller support plate, so that the lever arms can execute lifts of differing amounts.



# Internal Freewheels FZ

for press fit on the outer ring  
with sprags and bearing support



89-1

| Indexing Freewheel<br>Overrunning Clutch<br>Backstop | Standard type<br>For universal use | Dimensions |
|------------------------------------------------------|------------------------------------|------------|
|                                                      |                                    |            |

| Freewheel<br>Size | Nominal<br>torque | Max. speed        | Load rating of<br>bearing support |                               | Bore<br>d | B   | D  | K  | Weight |
|-------------------|-------------------|-------------------|-----------------------------------|-------------------------------|-----------|-----|----|----|--------|
|                   | $M_N$<br>Nm       | $\text{min}^{-1}$ | dynamic<br>C<br>N                 | static<br>C <sub>0</sub><br>N | mm        | mm  | mm | mm | kg     |
| FZ 6201           | 9                 | 10000             | 5140                              | 2370                          | 12        | 10  | 32 | 39 | 0,04   |
| FZ 6202           | 21                | 9400              | 5160                              | 2410                          | 15        | 11  | 35 | 42 | 0,06   |
| FZ 6203           | 32                | 8200              | 5650                              | 2860                          | 17        | 12  | 40 | 51 | 0,08   |
| FZ 6204           | 88                | 6800              | 6890                              | 4190                          | 20        | 14  | 47 | 58 | 0,12   |
| FZ 6205           | 100               | 5600              | 7230                              | 4660                          | 25        | 15  | 52 | 63 | 0,15   |
| FZ 6206           | 230               | 4000              | 7730                              | 5660                          | 30        | 16  | 62 | 73 | 0,25   |
| FZ 6207           | 330               | 3600              | 8170                              | 6630                          | 35        | 17  | 72 | 85 | 0,30   |
| FZ 6208           | 420               | 3000              | 8950                              | 7990                          | 40        | 22* | 80 | 94 | 0,50   |

The maximum transmissible torque is 2 times the specified nominal torque. See page 14 for determination of selection torque.

\* The width of freewheel size FZ 6208 is different to the corresponding ball bearing 6208.

## Mounting

The torque is transmitted on the inner and outer ring by press fit. In order to transmit the torques specified in the table, the outer ring must be accommodated in a housing with an external diameter K. The housing is made of steel or grey cast iron in minimum quality GG-20. When using other housing materials or smaller external diameters, we urge you to contact us regarding the transmissible torque.

The tolerance of the housing bore D must be ISO N6 and the tolerance of the shaft must be ISO n6.

The permissible operating temperature of the freewheel is -40 °C to 80 °C.

## Lubrication

The freewheels are supplied grease-filled for normal operating conditions.

However, the freewheels can also be connected to the customer's oil lubrication system; this is particularly recommended in the case of higher speeds.

## Example for ordering

Freewheel size FZ 6202, standard type:

- FZ 6202