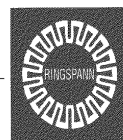
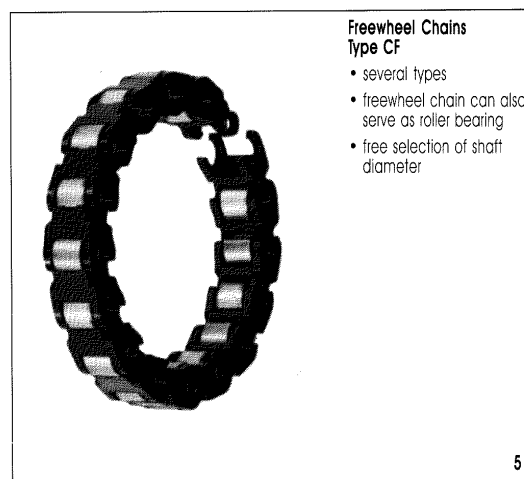
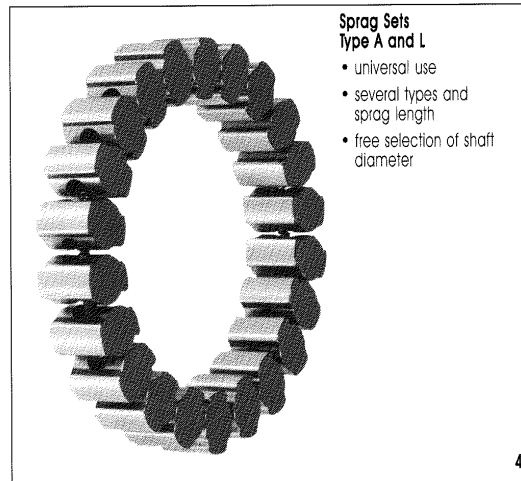
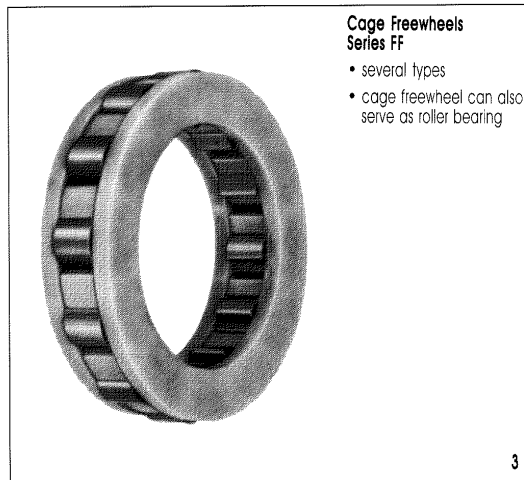


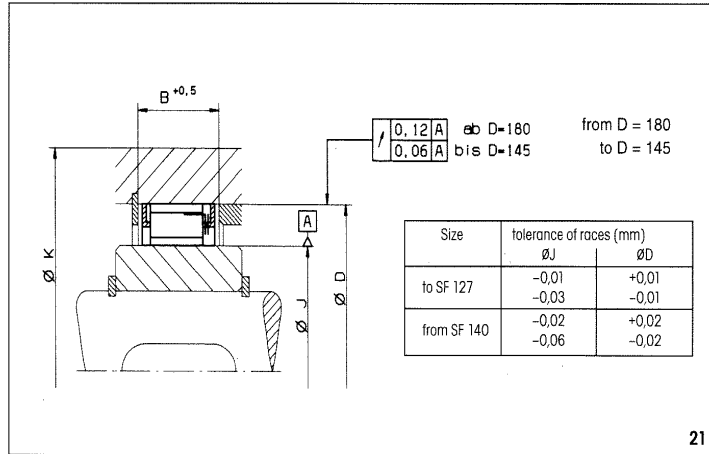
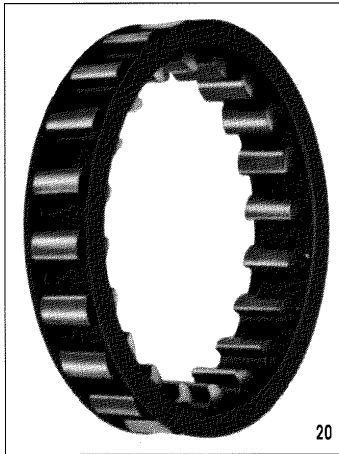
FREEWHEEL ELEMENTS FOR INDUSTRIAL APPLICATIONS



CAGE FREEWHEELS

Please note the technical information on page 22.

Series SF



Standard Type			Type with RIDUVIT			Type with Centrifugal Lift-Off Z			J	D	B	K	
type	art. no.	M _{nom.}	type	art. no.	M _{nom.}	type	art. no.	M _{nom.}					lift-off speed min ⁻¹
	3673...	Nm	3673...	Nm	3673...	Nm							
SF 18-13,5/10J	018.001	66								18,80	35,47	13,5	50
SF 23-13,5/12J	023.001	120								23,63	40,29	13,5	55
SF 27-13,5/14J	027.001	160	SF 27-13,5/14JT	027.401	160	SF 27-13,5/14JZ	027.601	100	3600	27,78	44,42	13,5	65
SF 31-13,5/12J	031.013	170	SF 31-13,5/12JT	031.401	170	SF 31-13,5/12JZ	031.601	110	3400	31,75	48,41	13,5	70
SF 32-21,5/14J	032.001	400								32,77	49,44	21,5	65
SF 37-14,5/14K	037.001	270	SF 37-14,5/14KT	037.401	270	SF 37-14,5/14KZ	037.601	210	2900	37,00	55,00	14,5	75
SF 42-21/18J	042.001	720								42,10	58,76	21,0	85
SF 44-14,5/20K	044.010	500	SF 44-14,5/20KT	044.410	500	SF 44-14,5/20KZ	044.610	400	2250	44,00	62,00	14,5	90
SF 46-21/20J	046.001	840								46,77	63,43	21,0	90
SF 56-21/22J	056.001	1050								56,12	72,78	21,0	100
SF 57-18,5/24K	057.012	950	SF 57-18,5/24KT	057.412	950	SF 57-18,5/24KZ	057.612	800	2000	57,00	75,00	18,5	105
SF 61-21/26J	061.004	1300	SF 61-21/26JT	061.401	1300	SF 61-21/26JZ	061.601	1150	1550	61,91	78,57	21,0	110
SF 72-23,5/32K	072.010	2100	SF 72-23,5/32KT	072.411	2100	SF 72-23,5/32KZ	072.610	1850	1550	72,00	90,00	23,5	135
SF 82-25/36K	082.012	2300	SF 82-25/36KT	082.408	2300	SF 82-25/36KZ	082.612	2100	1450	82,00	100,00	25,0	140
SF 107-25/48K	107.005	3300	SF 107-25/48KT	107.406	3300	SF 107-25/48KZ	107.605	3100	1300	107,00	125,00	25,0	170
SF 127-25/56K	127.007	4900	SF 127-25/56KT	127.405	4900	SF 127-25/56KZ	127.605	4600	1200	127,00	145,00	25,0	210
SF 140-50/24S	140.001	13600	SF 140-50/24ST	140.401	13600	SF 140-50/24SZ	140.601	10500	950	140,00	180,00	50,0	260
SF 170-50/28S	170.001	17000	SF 170-50/28ST	170.401	17000	SF 170-50/28SZ	170.601	13500	880	170,00	210,00	50,0	290
SF 200-63/33S	200.001	29000	SF 200-63/33ST	200.401	29000	SF 200-63/33SZ	200.601	23500	680	200,00	240,00	63,0	325
SF 270-63/45S	270.001	44000	SF 270-63/45ST	270.401	44000	SF 270-63/45SZ	270.601	37000	600	270,00	310,00	63,0	410
SF 340-50/60S	340.001	45000	SF 340-50/60ST	340.401	45000	SF 340-50/60SZ	340.601	43000	640	340,00	380,00	50,0	510
SF 440-63/72S	440.001	93000	SF 440-63/72ST	440.401	93000	SF 440-63/72SZ	440.601	80000	470	440,00	480,00	63,0	640

The torque M presumes perfect concentricity between inner and outer ring. The maximum transmissible torque is twice the shown nominal torque. Therefore, the peak torque must not exceed twice the nominal torque.

Applications and Types

Standard type and type with RIDUVIT®

For universal use in overrunning clutches, backstops and feed indexing elements. Extended life through wear resistant RIDUVIT sprags.

Type with Centrifugal Lift-Off Z

For fast running backstops and for over-running clutches in drives with two different speeds (barring drives, spin drives, gear drives). The arrangement of the freewheel must be such that during freewheeling the freewheel outer ring rotates at the high

speed. When the outer ring exceeds the lift-off speed given in the table, the sprags disengage from the inner ring so that no wear can occur in the freewheel. With over-running clutches the driving speed (power transmission) must not exceed 40% of the lift-off speed.

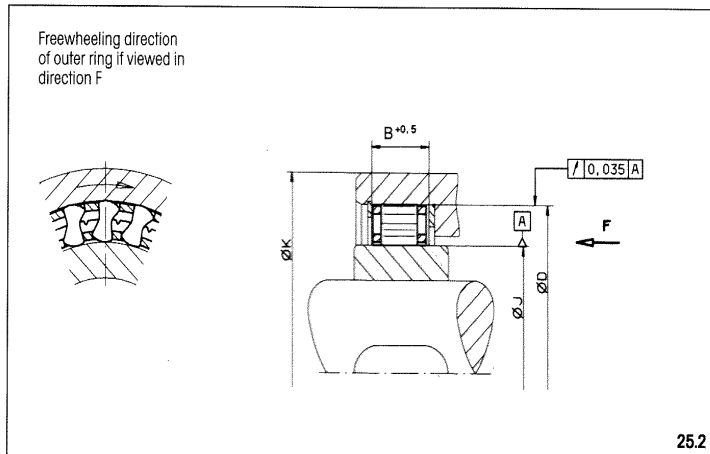
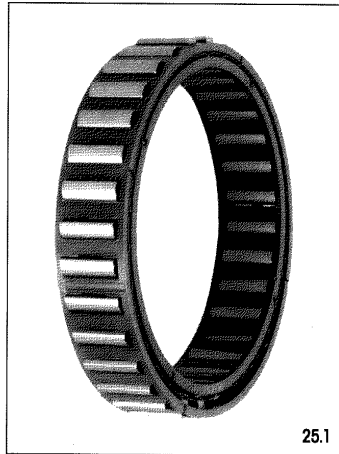
Installation

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. The torque capability can be increased many times

over if several cages are arranged side by side.

Original BorgWarner 
Series K



Series K	M _{nom} Nm	J -0.008 mm	D +0.01 mm	B mm	K mm	Sprags no.
K 2400 01	46	24	32	8.7	44	20
K 2900 02	67	29	37	8.7	53	24
K 3400 02	93	34	42	8.7	58	27
K 4100 03	220	41	49	11.7	66	32
K 4700 02	350	47	55	13.2	73	36
K 5100 02	400	51	59	13.2	79	39
K 5700 01	470	57	65	13.2	88	43

The torque M presumes perfect concentricity between inner and outer ring. The maximum transmissible torque is twice the shown nominal torque. Therefore, the peak torque must not exceed twice the nominal torque.

Application and Types

Double-cage freewheels of the K and BWX series are complete sprag assemblies ready for installation and capable of transmitting high torques within a small space. They are fitted between cylindrical inner and outer races and are thus easy to mount. The sprags are guided by both an inner and an outer cage and individually

energised by a ribbon spring to ensure simultaneous response and, hence, equal load sharing even under the most arduous operating conditions. Two designs of sprag are available in the BWX series:

Disengaging

When the outer element is rotating centrifugal force results in lift-off from the inner race giving wear-free operation during

overrunning. This occurs at relatively high speeds.

Engaging

With this design as the outer ring rotates the resulting centrifugal force acts to force the sprags against the inner race and into engagement. This serves to improve the accuracy and repeatability in indexing applications.

Installation

The outer cage should be axially restrained by circlips, end plates or locking washers. The inner cage should be free to move over the 'B' dimension. 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 length of 3 mm.

To reduce wear when overrunning, or to ensure the greatest accuracy in high speed indexing applications, some BWX types are available fitted with drag strips on the inner cage or clips on the outer cage.

For indexing either the inner or outer race may be used. For backstopping with the

outer overrunning disengaging sprags should be selected. With the inner overrunning either engaging or disengaging may be used.

K-series cages are made of glass fibre reinforced polyamide 6.6. Permissible continuous operating temperature ranges from -20 deg. C to +130 deg. C.

Inner and Outer Rings

A comprehensive range of standard inner and outer races is available for which our dimensional data sheet is available on request.

