

## THE SELECTION PROCEDURE: WE ADVISE, YOU DECIDE.

If we have the data described on the previous page, Stieber can make the most accurate selection.  
If all of the information is not available, or if you want to make a selection yourself, the following service factor procedure may be used.

Note: The following method and the service factors used are only a guide based on experience and cannot cover all situations. We cannot accept responsibility for incorrect selection resulting from the use of these tables.

### STEP 1 TORQUE SELECTION

The first step is to calculate the catalogue torque ( $T_{KN}$ ) of the unit to be chosen. This torque is derived from the application nominal torque ( $T_{appl}$ ) multiplied by a service factor (S.F.) depending on the function of the freewheel and working conditions.

Nominal torque of the application:

$$T_{appl} (Nm) = \frac{9550 \times P (kW)}{n (min^{-1})}$$

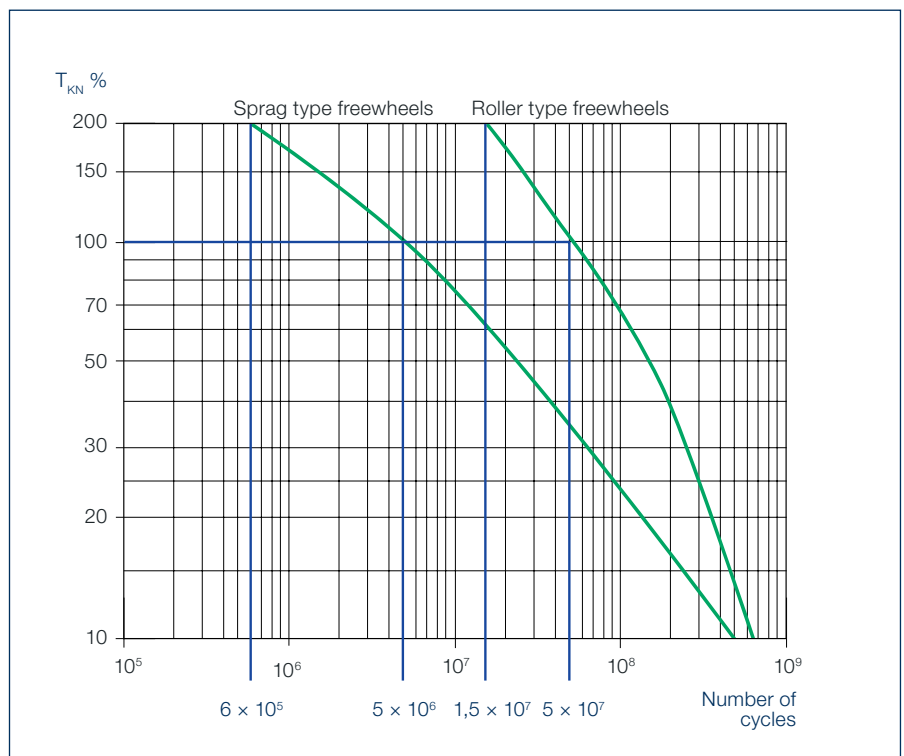
The catalogue torque will be:

$$T_{KN} \geq T_{appl} \times SF$$

Service factor (SF) can be read from the selection tables on page 8.

Note: All the units shown in this catalog can support a maximum torque equal to 2 times the catalogue torque  $T_{KN}$  indicated in the respective data tables.

The following curve may be used as a guide to determine the relationship between torque transmitted and the number of cycles (applications of this torque) the unit would withstand in its life time. Average values are shown.



## SERVICE FACTORS.

### APPLICATION INDEXING

Indexing speed	Type of freewheel	
	Roller type	Sprag type
Over 150 strokes/min	3.0	4.0
Angle > 90°   Over 100 strokes/min	2.5	4.0
Angle > 90°   Less than 100 strokes/min	2.0	3.5

### APPLICATION BACKSTOP

Driving machine	Driven machine				
	Elastic conveyor belts with risk of jam	Pump drives with more than 5 metres shaft	Fans	Other machines	
				No overloads	Dynamic overloads
Motors with hydraulic couplings	1.3	1.6	0.5	1.0	1.5
Asynchronous motors with direct start <sup>1</sup>	1.6	1.6	0.5	1.0	1.5
Steam or gas turbine	—	1.6	0.5	1.0	1.5
Internal combustion engine	1.6	1.6	0.5	1.0	1.5

1) These values do not cover a motor start in the wrong direction.

### APPLICATION OVERRUNNING

Driving machine		Working conditions			
		Starting torque not higher than nominal Smooth drive.	Starting torque up to 2 times running torque. Moderate load variations.	Starting torque 2 to 3 times running torque. Load variations.	High starting torque. High load torque variations.
DC - motor. AC - motor with soft start or hydraulic coupling		1.3	1.5	1.8	—
Asynchronous motor with direct start	Speed reduction between motor & freewheel < 20	—	2.5	3.0	4.0
	Speed reduction between motor & freewheel > 20	—	1.5	2.5	3.5
Steam or gas turbine		1.3	1.5	—	—
Internal combustion Engine	Petrol 4 cyl.or Diesel < 6 cyl.	4.0	5.0	Contact Stieber.	—
	Diesel N 6 cyl.	5.0	6.0	Contact Stieber.	—



## STEP 2 MODEL SELECTION

When the catalogue torque is known, the model will be selected from the following criteria:

- Built-in or self-contained design
- Driving and overrunning speed limits
- Dimensions
- Lubrication and maintenance

Please refer to the selection table page 10 for a guide to selection. The product range is presented in this order:

### SELF-CONTAINED BALL BEARING UNITS (CSK RANGE)

General purpose, economical units for light applications. Grease lubricated, maintenance free. With or without key(s) mounting to shaft and housing.

### BUILT-IN UNITS

Made of inner- and outer race and clamping elements (sprags, rollers). Bearing support and lubrication must be provided.

### SELF-CONTAINED UNITS

- Low speed, grease lubricated, maintenance free (RSBW, AV series).
- Medium overrunning speed inner race. High overrunning speed outer race. Roller types, oil lubricated (AL, GFR series).

- High overrunning speed inner race. Medium overrunning speed outer race. Sprag types, oil or grease lubricated (SMZ, FS, FSO series).
- High speed, high power, for continuous duty encased overrunning clutches (AL..G, CEUS., BC..MA series).

### CENTRIFUGAL LIFT OFF SPRAG TYPES

Special overrunning clutches and backstops contact free during overrunning. Please be aware of the speeds permissible in driving and overrunning modes.

- Built-in units: Low lubrication requirement. Accept a large range of lubricants (RSCI series).
- Self-contained units: Grease lubricated, long life and maintenance free (RIZ series).