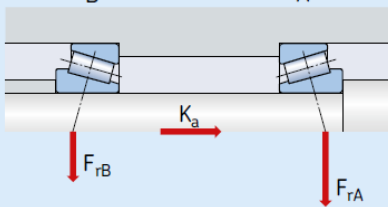
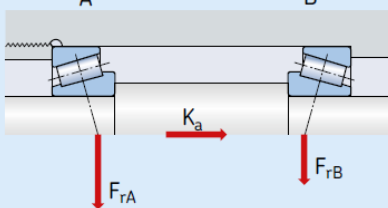
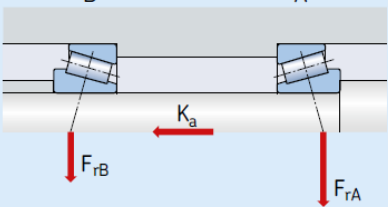
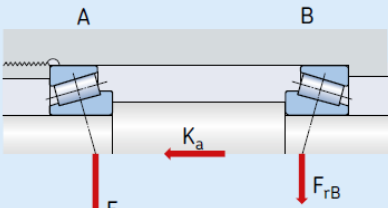


Axial loading of bearing arrangements incorporating two single row tapered roller bearings and/or bearing pairs in tandem

Bearing arrangement	Load case	Axial loads	
<p>Back-to-back</p> 	<p>Case 1a</p> $\frac{F_{rA}}{Y_A} \geq \frac{F_{rB}}{Y_B}$ $K_a \geq 0$	$F_{aA} = \frac{0,5 F_{rB}}{Y_A}$	$F_{aB} = F_{aA} + K_a$
	<p>Case 1b</p> $\frac{F_{rA}}{Y_A} < \frac{F_{rB}}{Y_B}$ $K_a \geq 0,5 \left(\frac{F_{rB}}{Y_B} - \frac{F_{rA}}{Y_A} \right)$	$F_{aA} = \frac{0,5 F_{rB}}{Y_A}$	$F_{aB} = F_{aA} + K_a$
<p>Face-to-face</p> 	<p>Case 1c</p> $\frac{F_{rA}}{Y_A} < \frac{F_{rB}}{Y_B}$ $K_a < 0,5 \left(\frac{F_{rB}}{Y_B} - \frac{F_{rA}}{Y_A} \right)$	$F_{aA} = F_{aB} - K_a$	$F_{aB} = \frac{0,5 F_{rB}}{Y_B}$
<p>Back-to-back</p> 	<p>Case 2a</p> $\frac{F_{rA}}{Y_A} \leq \frac{F_{rB}}{Y_B}$ $K_a \geq 0$	$F_{aB} = F_{aA} + K_a$	$F_{aA} = \frac{0,5 F_{rB}}{Y_A}$
	<p>Case 2b</p> $\frac{F_{rA}}{Y_A} > \frac{F_{rB}}{Y_B}$ $K_a \geq 0,5 \left(\frac{F_{rB}}{Y_B} - \frac{F_{rA}}{Y_A} \right)$	$F_{aA} = F_{aB} + K_a$	$F_{aB} = \frac{0,5 F_{rB}}{Y_B}$
<p>Face-to-face</p> 	<p>Case 2c</p> $\frac{F_{rA}}{Y_A} > \frac{F_{rB}}{Y_B}$ $K_a < 0,5 \left(\frac{F_{rA}}{Y_A} - \frac{F_{rB}}{Y_B} \right)$	$F_{aA} = \frac{0,5 F_{rB}}{Y_A}$	$F_{aB} = F_{aA} - K_a$

Loads		Single row tapered roller bearings	Matched bearings
Minimum load		$F_{rm} = 0,02 C$	
		SKF Explorer and SKF E2 bearings $F_{rm} = 0,017 C$	
For additional information (→ page 86)		The weight of the components supported by the bearings, together with external forces, generally exceed the requisite minimum load. If this is not the case, the bearings must be subjected to an additional radial load or axial preload.	
Equivalent dynamic bearing load		$F_a/F_r \leq e \rightarrow P = F_r$ $F_a/F_r > e \rightarrow P = 0,4 F_r + Y F_a^{1)}$	Face-to-face or back-to-back arrangement: $F_a/F_r \leq e \rightarrow P = F_r + Y_1 F_a$ $F_a/F_r > e \rightarrow P = 0,67 F_r + Y_2 F_a$
	For additional information (→ page 85)		Tandem arrangement ¹⁾ : $F_a/F_r \leq e \rightarrow P = F_r$ $F_a/F_r > e \rightarrow P = 0,4 F_r + Y F_a$
Equivalent static bearing load		$P_0 = 0,5 F_r + Y_0 F_a^{1)}$	Face-to-face or back-to-back arrangement: $P_0 = F_r + Y_0 F_a$
	For additional information (→ page 88)		Tandem arrangement ¹⁾ : $P_0 = 0,5 F_r + Y_0 F_a$
		$P_0 < F_r \rightarrow P_0 = F_r$	
Symbols		C = basic dynamic load rating [kN] (→ product tables) e = calculation factor (→ product tables) F_a = axial load [kN] F_r = radial load [kN] F_{rm} = minimum radial load [kN] P = equivalent dynamic bearing load [kN] P_0 = equivalent static bearing load [kN] Y, Y_0 , Y_1 , Y_2 = calculation factors (→ product tables)	