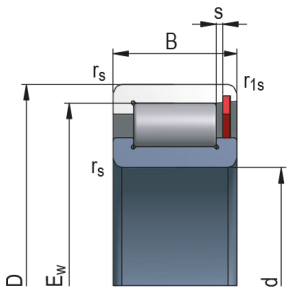
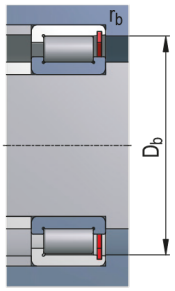
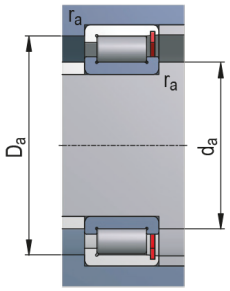
Full complement cylindrical roller bearings, type NCF



NCF



NCF



NCF

Bearing Designation	NCF2204V

Dimensions (mm)

d	20
D	47
B	18
r_s min	1,1
r_{1s} min	0,6

Abutment and Fillet Dimensions (mm)

F_w	31,5	r_a max	0,5
s	1	r_b max	0,5
d_a min	26		
D_a max	41		
D_b max	43		

Basic Load Rating (kN)

C	30
C_0	39

Limiting Speed for Lubrication (min^{-1})

Grease	3 300
Oil	8 600

Weight [kg]	0,160

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Tolerance Class

Tolerance Class	Inner Ring									
	Cylindrical Bore									
	Δ_{dmp}		V_{dp}			V_{dmp}	K_{ia}	Δ_{B_s}		V_{B_s}
			Diameter Series							
			7,8,9	0,1	2,3,4					
	max	min	max	max	max	max	max	max	min	max
	µm									
P0	0	-10	13	10	8	8	13	0	-120	20
P6	0	-8	10	8	6	6	8	0	-120	20

Tolerance Class	Inner Ring									
	Tapered Bore 1:12					Tapered Bore 1:30				
	Δ_{dmp}		$\Delta_{d1mp} - \Delta_{dmp}$		V_{dp} [1]	Δ_{dmp}		$\Delta_{d1mp} - \Delta_{dmp}$		V_{dp} [1]
	max	min	max	min	max	max	min	max	min	max
	µm									
P0	21	0	21	0	13	-	-	-	-	-

Tolerance Class	Outer Ring								
	Δ_{Dmp}		V_{Dp}			bearings [2] with seals	V_{Dmp}	K_{ea}	Δ_{CS}, V_{CS}
			Diameter Series						
			7,8,9	0,1	2,3,4				
	max	min	max	max	max	max	max	max	
	µm								
P0	0	-11	14	11	8	16	8	20	Corresponds to Δ_{BS}, V_{BS} of the same bearing inner ring
P6	0	-9	11	9	7	13	7	10	

1) Valid in any bore radial plane

2) P0 - Valid only for bearings in diameter series 2, 3 and 4 * P6 - Valid only for bearings in diameter series 0, 1, 2, 3 and 4

Radial Clearance - Cylindrical Bore

C2		normal		C3		C4		C5	
min	max	min	max	min	max	min	max	min	max
µm									
0	25	20	45	35	60	50	75	65	90

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Tolerance Symbols and Their Meaning

d nominal bore diameter
d_1 nominal diameter of larger theoretical tapered bore diameter
d_2 nominal diameter of the shaft washer of double direction thrust bearings
Δ_{ds} deviation of single bore diameter from nominal
Δ_{dmp} mean cylindrical bore diameter deviation in single radial plane (for tapered bore Δ_{dmp} is valid for theoretical bore diameter)
Δ_{d1mp} deviation of mean larger theoretical diameter of tapered bore
Δ_{d2mp} mean shaft washer bore diameter deviation of double direction thrust bearings in single radial plane
V_{dp} single bore diameter variation in single radial plane
V_{dmp} mean cylindrical bore diameter variation
V_{d2p} shaft washer bore diameter variation of double direction thrust bearings in single radial plane
D nominal outside diameter
Δ_{Ds} deviation of single outside diameter from the nominal dimension
Δ_{Dmp} mean outside cylindrical surface diameter deviation in single plane
V_{Dp} single outside cylindrical surface diameter variation in single radial plane
V_{Dmp} mean outside cylindrical surface diameter variation
B inner ring nominal width
T total nominal width of tapered roller bearings
T_1 nominal effective width of cup sub-unit
T_2 nominal effective width of cone sub-unit
H rated width of unidirectional axial bearing
H_1 rated height of unidirectional ball axial bearing including the body ring
H_2 rated height of bidirectional axial bearing
H_3 rated height of bidirectional axial ball bearing including body rings
H_4 rated height of spherical-roller bearing
Δ_{Bs} inner ring single width deviation
Δ_{Cs} outer ring single width deviation
Δ_{Ts} bearing single width deviation (total)
Δ_{T1s} cone sub-unit effective width deviation
Δ_{T2s} cup sub-unit effective width deviation
Δ_{Hs} height deviation of single direction axial bearings from nominal value
Δ_{H1s} height deviation of single direction axial ball bearings with sphered housing washer from nominal value
Δ_{H2s} height deviation of double direction axial bearings from nominal value
Δ_{H3s} height deviation of double direction axial ball bearings with sphered housing washer from nominal value
Δ_{H4s} height deviation of axial spherical-roller bearing from the rated value
C outer ring nominal width
V_{Bs} inner ring single width variation
V_{Cs} outer ring single width variation
K_{ia} radial runout of assembled bearing inner ring
K_{ea} radial runout of assembled bearing outer ring
S_i shaft washer raceway axial runout
S_e housing washer raceway axial runout
S_{ia} inner ring flat seat face axial runout of assembled bearing
S_{ea} outer ring flat seat face axial runout of assembled bearing
S_d flat seat face axial runout
S_D runout of outside cylindrical surface towards outer ring face
S_s runout of supporting face towards seat face for single row tapered roller bearings

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