



BEARING TOLERANCES, INCH & METRIC - continued

TAPERED ROLLER BEARINGS

Timken tapered roller bearings are manufactured to a number of specifications or “classes” that define tolerances on dimensions such as bore, O.D., width and runout. The Timken Company produces bearings to both inch and metric systems. The boundary dimension tolerances applicable to these two categories of bearings differ.

The major difference between the two tolerance systems is that inch bearings have historically been manufactured to positive bore and O.D. tolerances, whereas metric bearings have been manufactured to negative tolerances.

Metric system bearings (ISO and “J” prefix parts)

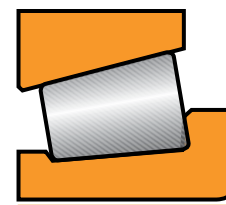
Timken manufactures metric system bearings to six tolerance classes. Classes K and N are often referred to as standard classes. Class N has more closely controlled bearing width tolerances than K. Classes C, B, A and AA are “precision” classes. These tolerances lie within those currently specified in ISO 492 with the exception of a small number of dimensions indicated in the tables. The differences normally have an insignificant effect on the mounting and performance of tapered roller bearings.

The following table illustrates the current ISO bearing class that corresponds approximately to each of The Timken Company metric bearing classes.

For the exact comparison, please consult your Timken representative.

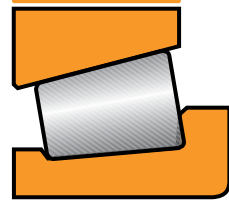
BEARING CLASS						
Metric Inch	K 4	N 2	C 3	B 0	A 00	AA 000
ISO/DIN	Normal	6X	P5	P4	P2	–

METRIC BEARING TOLERANCES (µm)														
CONE BORE		Bearing Class												
		Standard				Precision				AA				
		K		N		C		B		A		AA		
Bearing types	Bore, mm over	Bore, mm incl.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
	10	18	0	-12	0	-12	0	-7	0	-5	0	-5	0	-5
	18	30	0	-12	0	-12	0	-8	0	-6	0	-6	0	-6
	30	50	0	-12	0	-12	0	-10	0	-8	0	-8	0	-8
	50	80	0	-15	0	-15	0	-12	0	-9	0	-8	0	-8
	80	120	0	-20	0	-20	0	-15	0	-10	0	-8	0	-8
TS	120	180	0	-25	0	-25	0	-18	0	-13	0	-8	0	-8
	180	250	0	-30	0	-30	0	-22	0	-15	0	-8	0	-8
TSF	250	265	0	-35	0	-35	0	-22	0	-15	0	-8	0	-8
	265	315	0	-35	0	-35	0	-22	0	-15	0	-8	0	-8
SR ⁽¹⁾	315	400	0	-40	0	-40	0	-25	–	–	–	–	–	–
	400	500	0	-45	0	-45	0	-25	–	–	–	–	–	–
	500	630	0	-50	–	–	0	-30	–	–	–	–	–	–
	630	800	0	-80	–	–	0	-40	–	–	–	–	–	–
	800	1000	0	-100	–	–	0	-50	–	–	–	–	–	–
	1000	1200	0	-130	–	–	0	-60	–	–	–	–	–	–
	1200	1600	0	-150	–	–	0	-80	–	–	–	–	–	–
	1600	2000	0	-200	–	–	–	–	–	–	–	–	–	–
	2000		0	-250	–	–	–	–	–	–	–	–	–	–



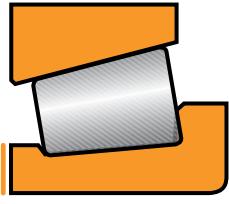
⁽¹⁾SR assemblies are manufactured to tolerance class N only.

METRIC BEARING TOLERANCES (µm)													
CUP O.D.		Bearing Class											
		Standard				Precision				AA			
		K		N		C		B		A		AA	
Bearing types	O. D., mm over incl.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
	10 18	-	-	-	-	-	-	-	-	0	-8	0	-8
	18 30	0	-12	0	-12	0	-8	0	-6	0	-8	0	-8
	30 50	0	-14	0	-14	0	-9	0	-7	0	-8	0	-8
	50 80	0	-16	0	-16	0	-11	0	-9	0	-8	0	-8
TS	80 120	0	-18	0	-18	0	-13	0	-10	0	-8	0	-8
	120 150	0	-20	0	-20	0	-15	0	-11	0	-8	0	-8
TSF	150 180	0	-25	0	-25	0	-18	0	-13	0	-8	0	-8
	180 250	0	-30	0	-30	0	-20	0	-15	0	-8	0	-8
SR ⁽¹⁾	250 265	0	-35	0	-35	0	-25	0	-18	0	-8	0	-8
	265 315	0	-35	0	-35	0	-25	0	-18	0	-8	0	-8
	315 400	0	-40	0	-40	0	-28	0	-18	-	-	-	-
	400 500	0	-45	0	-45	0	-30	-	-	-	-	-	-
	500 630	0	-50	0	-50	0	-35	-	-	-	-	-	-
	630 800	0	-80	-	-	0	-40	-	-	-	-	-	-
	800 1000	0	-100	-	-	0	-50	-	-	-	-	-	-
	1000 1200	0	-130	-	-	0	-60	-	-	-	-	-	-
	1200 1600	0	-165	-	-	0	-80	-	-	-	-	-	-
	1600 2000	0	-200	-	-	-	-	-	-	-	-	-	-
2000	0	-250	-	-	-	-	-	-	-	-	-	-	



⁽¹⁾SR assemblies are manufactured to tolerance class N only.

METRIC BEARING TOLERANCES (µm)													
CONE WIDTH		Bearing Class											
		Standard				Precision				AA			
		K		N		C		B		A		AA	
Bearing types	Bore, mm over incl.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
	10 50	0	-100	0	-50	0	-200	0	-200	0	-200	0	-200
	50 120	0	-150	0	-50	0	-300	0	-300	0	-300	0	-300
TS	120 180	0	-200	0	-50	0	-300	0	-300	0	-300	0	-300
	180 250	0	-200	0	-50	0	-350	0	-350	0	-350	0	-350
TSF	250 265	0	-200	0	-50	0	-350	0	-350	0	-350	0	-350
	265 315	0	-200	0	-50	0	-350	0	-350	0	-350	0	-350
	315 500	0	-250	0	-50	0	-350	-	-	-	-	-	-
	500 630	0	-250	-	-	0	-350	-	-	-	-	-	-
	630 1200	0	-300	-	-	0	-350	-	-	-	-	-	-
	1200 1600	0	-350	-	-	0	-350	-	-	-	-	-	-
	1600	0	-350	-	-	-	-	-	-	-	-	-	-

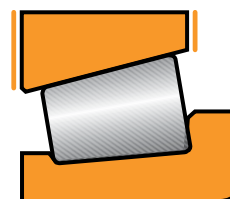




BEARING TOLERANCES, INCH & METRIC - *continued*

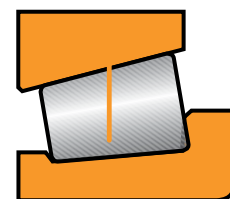
METRIC BEARING TOLERANCES (µm)													
CUP WIDTH		Bearing Class											
		Standard				Precision				AA			
		K		N		C		B		A		AA	
Bearing types	O. D., mm	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
	over incl.												
	10 80	0	-150	0	-100	0	-150	0	-150	0	-150	0	-150
	80 150	0	-200	0	-100	0	-200	0	-200	0	-200	0	-200
	150 180	0	-200	0	-100	0	-250	0	-250	0	-250	0	-250
	180 250	0	-250	0	-100	0	-250	0	-250	0	-250	0	-250
TS	250 265	0	-250	0	-100	0	-300	0	-300	0	-300	0	-300
	265 315	0	-250	0	-100	0	-300	0	-300	0	-300	0	-300
TSF	315 400	0	-250	0	-100	0	-300	0	-300	-	-	-	-
	400 500	0	-300	0	-100	0	-350	-	-	-	-	-	-
	500 800	0	-300	0	-100	0	-350	-	-	-	-	-	-
	800 1200	0	-350	-	-	0	-400	-	-	-	-	-	-
	1200 1600	0	-400	-	-	0	-400	-	-	-	-	-	-
	1600	0	-400	-	-	-	-	-	-	-	-	-	-

▲These differ slightly from tolerances in ISO 492. These differences normally have an insignificant effect on the mounting and performance of tapered roller bearings. The 30000 series ISO bearings are also available with the above parameter according to ISO 492.



METRIC BEARING TOLERANCES (µm)													
CONE STAND		Bearing Class											
		Standard				Precision				AA			
		K		N		C		B		A		AA	
Bearing types	Bore, mm	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
	over incl.												
	10 80	+100	0	+50	0	+100	-100	*	*	*	*	*	*
	80 120	+100	-100	+50	0	+100	-100	*	*	*	*	*	*
TS	120 180	+150	-150	+50	0	+100	-100	*	*	*	*	*	*
	180 250	+150	-150	+50	0	+100	-150	*	*	*	*	*	*
	250 265	+150	-150	+100	0	+100	-150	*	*	*	*	*	*
TSF	265 315	+150	-150	+100	0	+100	-150	*	*	-	-	-	-
	315 400	+200	-200	+100	0	+150	-150	-	-	-	-	-	-
	400	*	*	*	*	*	*	-	-	-	-	-	-

* These sizes manufactured as matched assemblies only.

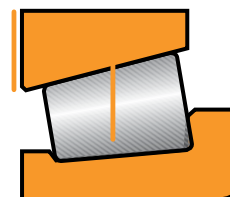


Cone Stand. Cone stand is a measure of the variation in cone raceway size and taper and roller diameter and taper which is checked by measuring the axial location of the reference surface of a master cup or other type gage with respect to the reference face of the cone.

METRIC BEARING TOLERANCES (µm)													
CUP STAND		Bearing Class											
		Standard				Precision				AA			
		K		N		C		B		A		AA	
Bearing types	Bore, mm	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
	over incl.												
	10 18	+100	0	+50	0	+100	-100	*	*	*	*	*	*
	18 80	+100	0	+50	0	+100	-100	*	*	*	*	*	*
TS	80 120	+100	-100	+50	0	+100	-100	*	*	*	*	*	*
	120 265	+200	-100	+100	0	+100	-150	*	*	*	*	*	*
TSF ⁽¹⁾	265 315	+200	-100	+100	0	+100	-150	*	*	-	-	-	-
	315 400	+200	-200	+100	0	+100	-150	-	-	-	-	-	-
	400	*	*	*	*	*	*	-	-	-	-	-	-

* These sizes manufactured as matched assemblies only.

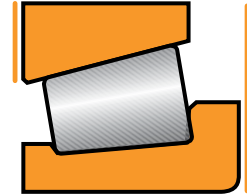
⁽¹⁾Stand for flanged cup is measured from flange backface (seating face).



Cup Stand. Cup stand is a measure of the variation in cup I.D. size and taper which is checked by measuring the axial location of the reference surface of a master plug or other type gage with respect to the reference face of the cup.

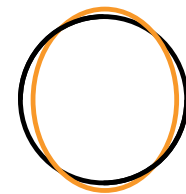
BEARING TOLERANCES, INCH & METRIC - *continued*

METRIC BEARING TOLERANCES (µm)														
OVERALL BEARING WIDTH		Bearing Class												
		Standard						Precision						
		K		N		C		B		A		AA		
Bearing types	Bore, mm		Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
	over	incl.												
	10	80	+200	0	+100	0	+200	-200	+200	-200	+200	-200	+200	-200
	80	120	+200	-200	+100	0	+200	-200	+200	-200	+200	-200	+200	-200
	120	180	+350	-250	+150	0	+350	-250	+200	-250	+200	-250	+200	-250
	180	250	+350	-250	+150	0	+350	-250	+200	-300	+200	-300	+200	-300
TS	250	265	+350	-250	+200	0	+350	-300	+200	-300	+200	-300	+200	-300
	265	315	+350	-250	+200	0	+350	-300	+200	-300	+200	-300	+200	-300
TSF ⁽²⁾	315	500	+400	-400	+200	0	+350	-300	-	-	-	-	-	-
	500	800	+400	-400	-	-	+350	-400	-	-	-	-	-	-
	800	1000	+450	-450	-	-	+350	-400	-	-	-	-	-	-
	1000	1200	+450	-450	-	-	+350	-450	-	-	-	-	-	-
	1200	1600	+450	-450	-	-	+350	-500	-	-	-	-	-	-
	1600		+450	-450	-	-	-	-	-	-	-	-	-	-
SR ⁽³⁾	10	500	-	-	0	-150	-	-	-	-	-	-	-	-



⁽²⁾ For bearing type TSF the tolerance applies to the dimension T₁.
⁽³⁾ SR assemblies are manufactured to tolerance class N only.

METRIC BEARING TOLERANCES (µm)												
ASSEMBLED BEARING MAXIMUM RADIAL RUNOUT		Bearing Class										
		Standard				Precision						
		K		N		C		B		A		AA
Bearing types	O.D., mm											
	over	incl.										
	10	18	-	-	-	-	-	-	1.9	-	1	-
	18	30	18	18	5	3	3	3	1.9	-	1	-
	30	50	20	20	6	3	3	3	1.9	-	1	-
	50	80	25	25	6	4	4	4	1.9	-	1	-
	80	120	35	35	6	4	4	4	1.9	-	1	-
	120	150	40	40	7	4	4	4	1.9	-	1	-
	150	180	45	45	8	4	4	4	1.9	-	1	-
TS	180	250	50	50	10	5	5	5	1.9	-	1	-
	250	265	60	60	11	5	5	5	1.9	-	1	-
TSF	265	315	60	60	11	5	5	5	1.9	-	1	-
	315	400	70	70	13	5	5	5	-	-	-	-
SR ⁽¹⁾	400	500	80	80	18	-	-	-	-	-	-	-
	500	630	100	-	25	-	-	-	-	-	-	-
	630	800	120	-	35	-	-	-	-	-	-	-
	800	1000	140	-	50	-	-	-	-	-	-	-
	1000	1200	160	-	60	-	-	-	-	-	-	-
	1200	1600	180	-	80	-	-	-	-	-	-	-
	1600	2000	200	-	-	-	-	-	-	-	-	-
	2000		200	-	-	-	-	-	-	-	-	-



⁽¹⁾ SR assemblies are manufactured to tolerance class N only.

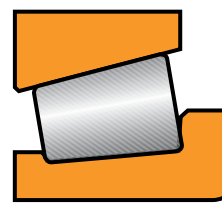
BEARING TOLERANCES, INCH & METRIC - *continued*

INCH SYSTEM BEARINGS

Inch system bearings are manufactured to a number of tolerance classes. Classes 4 and 2 are often referred to as “standard” classes.

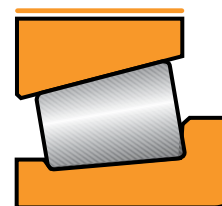
Class 2 has certain tolerances more closely controlled than class 4 and thus may be required for specific applications. Classes 3, 0, 00 and 000 are “precision” classes.

INCH BEARING TOLERANCES (µm AND 0.0001 INCH)														
CONE BORE		Bearing Class												
		Standard				Precision				000				
		4		2		3		0		00		000		
Bearing types	Bore, mm (in.) over incl.		Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
	0	76.200	+13	0	+13	0	+13	0	+13	0	+8	0	+8	0
	0	3.0000	+5	0	+5	0	+5	0	+5	0	+3	0	+3	0
TS	76.200	304.800	+25	0	+25	0	+13	0	+13	0	+8	0	+8	0
TSF	3.0000	12.0000	+10	0	+10	0	+5	0	+5	0	+3	0	+3	0
TSL ⁽¹⁾	304.800	609.600	-	-	+51	0	+25	0	-	-	-	-	-	-
	12.0000	24.0000	-	-	+20	0	+10	0	-	-	-	-	-	-
SS	609.600	914.400	+76	0	-	-	+38	0	-	-	-	-	-	-
TDI	24.0000	36.0000	+30	0	-	-	+15	0	-	-	-	-	-	-
TDIT	914.400	1219.200	+102	0	-	-	+51	0	-	-	-	-	-	-
TDO	36.0000	48.0000	+40	0	-	-	+20	0	-	-	-	-	-	-
TNA	1219.200	48.0000	+127	0	-	-	+76	0	-	-	-	-	-	-
			+50	0	-	-	+30	0	-	-	-	-	-	-



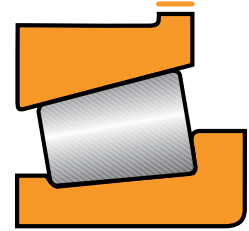
⁽¹⁾ For TSL bearings these are the normal tolerances of cone bore. However, bore size can be slightly reduced at large end due to tight fit assembly of the seal on the rib. This should not have any effect on the performance of the bearing.

INCH BEARING TOLERANCES (µm AND 0.0001 INCH)														
CUP O.D.		Bearing Class												
		Standard				Precision				000				
		4		2		3		0		00		000		
Bearing types	Bore, mm (in.) over incl.		Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
TS	0	304.800	+25	0	+25	0	+13	0	+13	0	+8	0	+8	0
TSF	0	12.0000	+10	0	+10	0	+5	0	+5	0	+3	0	+3	0
TSL	304.800	609.600	+51	0	+51	0	+25	0	-	-	-	-	-	-
SS	12.0000	24.0000	+20	0	+20	0	+10	0	-	-	-	-	-	-
TDI	609.600	914.400	+76	0	+76	0	+38	0	-	-	-	-	-	-
TDIT	24.0000	36.0000	+30	0	+30	0	+15	0	-	-	-	-	-	-
TDO	914.400	1219.200	+102	0	-	-	+51	0	-	-	-	-	-	-
TNA	36.0000	48.0000	+40	0	-	-	+20	0	-	-	-	-	-	-
TNASW	1219.200		+127	0	-	-	+76	0	-	-	-	-	-	-
TNASWE	48.0000		+50	0	-	-	+30	0	-	-	-	-	-	-



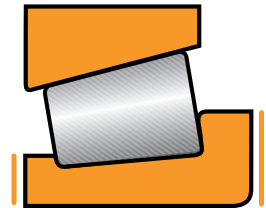
INCH BEARING TOLERANCES (µm AND 0.0001 INCH)

OUTER RACE FLANGE O.D.		Bearing Class												
		Standard				Precision								
		4		2		3		0		00		000		
Bearing types	O.D., mm (in.) over incl.		Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
	TSF	304.800 12.0000	609.600 24.0000	+51	0	+52	0	+51	0	+51	0	+51	0	+51
+20				0	+20	0	+20	0	+20	0	+20	0	+20	0
609.600 24.0000		914.400 36.0000	+76	0	+76	0	+76	0	-	-	-	-	-	-
			+30	0	+30	0	+30	0	-	-	-	-	-	-
914.400 36.0000			+102	0	+102	0	+102	0	-	-	-	-	-	-
			+40	0	+40	0	+40	0	-	-	-	-	-	-
		+127	0	-	-	+127	0	-	-	-	-	-	-	
		+40	0	-	-	+50	0	-	-	-	-	-	-	



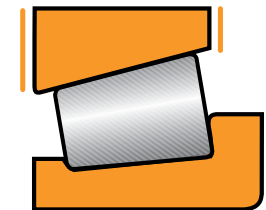
INCH BEARING TOLERANCES (µm AND 0.0001 INCH)

INNER RACE WIDTH		Bearing Class												
		Standard				Precision								
		4		2		3		0		00		000		
Bearing types	O.D., mm (in.) over incl.		Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
	TS TSF TSL SS TDI TDIT TDO	All Sizes		+76	-254	+76	-254	+76	-254	+76	-254	+76	-254	+76
			+30	-100	+30	-100	+30	-100	+30	-100	+30	-100	+30	-100

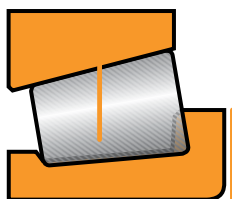


INCH BEARING TOLERANCES (µm AND 0.0001 INCH)

OUTER RACE WIDTH		Bearing Class												
		Standard				Precision								
		4		2		3		0		00		000		
Bearing types	O.D., mm (in.) over incl.		Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
	All Types	All Sizes		+51	-254	+51	-254	+51	-254	+51	-254	+51	-254	+51
			+20	-100	+20	-100	+20	-100	+20	-100	+20	-100	+20	-100



BEARING TOLERANCES, INCH & METRIC - *continued*

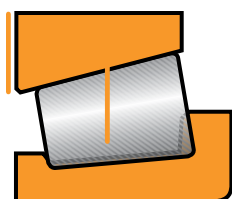


Cone Stand. Cone stand is a measure of the variation in cone raceway size and taper and roller diameter and taper which is checked by measuring the axial location of the reference surface of a master cup or other type gage with respect to the reference face of the cone.

INCH BEARING TOLERANCES (µm AND 0.0001 INCH)														
CONE STAND		Bearing Class												
		Standard						Precision						
		4		2		3		0		00		000		
Bearing types	O.D., mm (in.) over incl.		Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
	0	101.600	+102	0	+102	0	+102	-102	*	*	*	*	*	*
	0	4.0000	+40	0	+40	0	+40	-40	*	*	*	*	*	*
TS	101.600	266.700	+152	-152	+102	0	+102	-102	*	*	*	*	*	*
TSL	4.0000	10.5000	+60	-60	+40	0	+40	-40	*	*	*	*	*	*
SS	266.700	304.800	+152	-152	+102	0	+102	-102	*	*	-	-	-	-
TDI ⁽¹⁾	10.5000	12.0000	+60	-60	+40	0	+40	-40	*	*	-	-	-	-
TDIT ⁽¹⁾	304.800	406.400	-	-	+178	-178	+102	-102	-	-	-	-	-	-
TDO	12.0000	16.0000	-	-	+70	-70	+40	-40	-	-	-	-	-	-
	406.400	16.0000	*	*	*	*	*	*	-	-	-	-	-	-
			*	*	*	*	*	*	-	-	-	-	-	-

* These sizes manufactured as matched assemblies only.

⁽¹⁾ For class 2, TDI and TDIT bearings with cone bore of 101.600 to 304.800 mm (4 in. to 12 in.), the cone stand is ±102 (±40).



Cup Stand. Cup stand is a measure of the variation in cup I.D. size and taper which is checked by measuring the axial location of the reference surface of a master plug or other type gage with respect to the reference face of the cup.

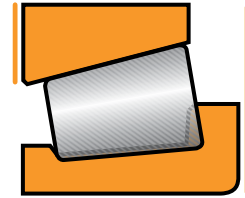
INCH BEARING TOLERANCES (µm AND 0.0001 INCH)														
CUP STAND		Bearing Class												
		Standard						Precision						
		4		2		3		0		00		000		
Bearing types	Bore, mm (in.) over incl.		Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
	0	101.600	+102	0	+102	0	+102	-102	*	*	*	*	*	*
	0	4.0000	+40	0	+40	0	+40	-40	*	*	*	*	*	*
TS	101.600	266.700	+203	-102	+102	0	+102	-102	*	*	*	*	*	*
TSF ⁽¹⁾	4.0000	10.5000	+80	-40	+40	0	+40	-40	*	*	*	*	*	*
TSL	266.700	304.800	+203	-102	+102	0	+102	-102	*	*	-	-	-	-
SS	10.5000	12.0000	+80	-40	+40	0	+40	-40	*	*	-	-	-	-
TDI	304.800	406.400	-	-	+203	-203	+102	-102	-	-	-	-	-	-
TDIT	12.0000	16.0000	-	-	+80	-80	+40	-40	-	-	-	-	-	-
	406.400	16.0000	*	*	*	*	*	*	-	-	-	-	-	-
			*	*	*	*	*	*	-	-	-	-	-	-

* These sizes manufactured as matched assemblies only.

⁽¹⁾ Stand for flanged cup is measured from flange backface (seating face).

INCH BEARING TOLERANCES (µm AND 0.0001 INCH)

OVERALL BEARING WIDTH		Bearing Class												
		Standard				Precision								
		4		2		3		0		00		000		
Bearing types	Bore, mm (in.) over incl.		O.D., mm (in.) over incl.		Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
	0	101.600	-	-	+203	0	+203	0	+203	-203	+203	-203	+203	-203
	0	4.0000	-	-	+80	0	+80	0	+80	-80	+80	-80	+80	-80
	101.600	304.800	-	-	+356	-254	+203	0	+203	-203	+203	-203	+203	-203
	4.0000	12.0000	-	-	+140	-100	+80	0	+80	-80	+80	-80	+80	-80
TS	304.800	609.600	0	508.000	-	-	+381	-381	+203	-203	-	-	-	-
TSF ⁽¹⁾	12.0000	24.0000	0	20.0000	-	-	+150	-150	+80	-80	-	-	-	-
TSL	304.800	609.600	508.000	20.0000	-	-	+381	-381	+381	-381	-	-	-	-
	12.0000	24.0000	20.0000		-	-	+150	-150	+150	-150	-	-	-	-
	609.600	24.0000	-	-	+381	-381	-	-	+381	-381	-	-	-	-
	24.0000		-	-	+150	-150	-	-	+150	-150	-	-	-	-
TNA	0	127.000	-	-	-	-	+254	0	+254	0	-	-	-	-
TNASW	0	5.0000	-	-	-	-	+100	0	+100	0	-	-	-	-
TNASWE	127.000	5.0000	-	-	-	-	+762	0	+762	0	-	-	-	-
	5.0000		-	-	-	-	+300	0	+300	0	-	-	-	-
	0	101.600	-	-	+406	0	+406	0	+406	-406	+406	-406	+406	-406
	0	4.0000	-	-	+160	0	+160	0	+160	-160	+160	-160	+160	-160
	101.600	304.800	-	-	+711	-508	+406	-203	+406	-406	+406	-406	+406	-406
	4.0000	12.0000	-	-	+280	-200	+160	-80	+160	-160	+160	-160	+160	-160
TDI	304.800	609.600	0	508.000	-	-	+762	-762	+406	-406	-	-	-	-
TDIT	12.0000	24.0000	0	20.0000	-	-	+300	-300	+160	-160	-	-	-	-
TDO	304.800	609.600	508.000	20.0000	-	-	+762	-762	+762	-762	-	-	-	-
	12.0000	24.0000	20.0000		-	-	+300	-300	+300	-300	-	-	-	-
	609.600	24.0000	-	-	+762	-762	-	-	+762	-762	-	-	-	-
	24.0000		-	-	+300	-300	-	-	+300	-300	-	-	-	-
SS	0	101.600	-	-	+457	-51	+457	-51	-	-	-	-	-	-
	0	4.0000	-	-	+180	-20	+180	-20	-	-	-	-	-	-



(1) For bearing type TSF the tolerance applies to the dimension T₁.

INCH BEARING TOLERANCES (µm AND 0.0001 INCH)

ASSEMBLED BEARING MAXIMUM RADIAL RUNOUT		Bearing Class											
		Standard				Precision							
		4		2		3		0		00		000	
Bearing types	O.D., mm (in.) over incl.		Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	
TS	0		51		38		8		4		2		1
TSF	0		20		15		3		1.5		0.75		0.40
TSL	266.700	304.800	51		38		8		4		2		1
SS	10.5000	12.0000	20		15		3		1.5		0.75		0.40
TDI	304.800	609.600	51		38		18		-		-		-
TDIT	12.0000	24.0000	20		15		7		-		-		-
TDO	609.600	914.400	76		51		51		-		-		-
TNA	24.0000	36.0000	30		20		20		-		-		-
TNASW	914.400		76		-		76		-		-		-
TNASWE	36.0000		30		-		30		-		-		-

