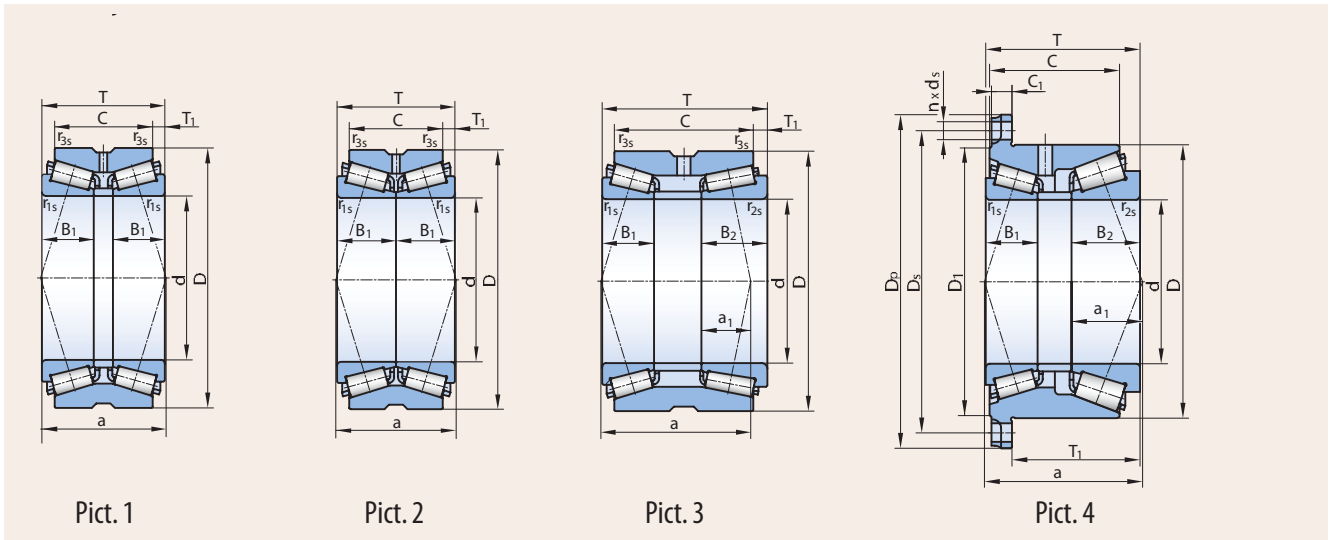


# TAPERED ROLLER BEARINGS

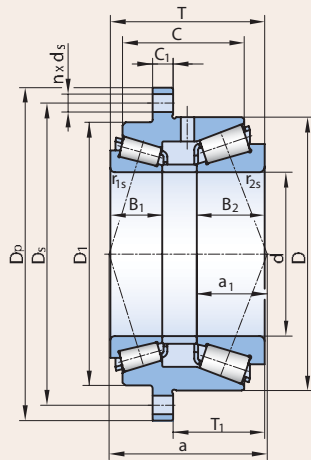
## double row



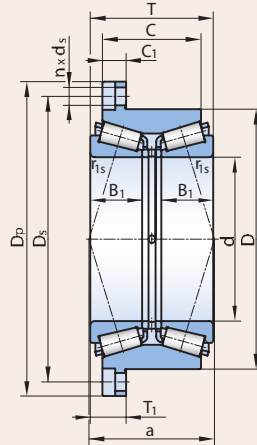
Dimensions													Basic Load Ratings		Limited Speed for Lubrication		Bearing Designation	Weight	Factors				
d	D	D <sub>1</sub>	D <sub>p</sub>	T	T <sub>1</sub>	B <sub>1</sub>	B <sub>2</sub>	C	C <sub>1</sub>	r <sub>1s</sub> min	r <sub>2s</sub> min	r <sub>3s</sub> min	a (a <sub>1</sub> )	C <sub>r</sub> dyn.	C <sub>or</sub> stat.	with grease			with oil	e	Y <sub>1</sub>	Y <sub>2</sub>	Y <sub>0</sub>
[mm]													[kN]		[min <sup>-1</sup> ]			[kg]					
120	185		230	90	26	38	72	102	17	2.5		0.6	92	430	850	1500			2200	PSL 69-201 <sup>1)</sup>	11.1	0.46	1.5
120	190			121	10	38	48	102		2.5	2.5	0.6	110 (36)	254 (310)	430 (560)	500	2200	PSL 69-200 <sup>1)</sup>	12	0.3 (0.46)	2.2 (1.5)	3.3 (2.2)	2.2 (1.5)
120	200	196	244	113	93.8	38	50	95.2	15	2.5	3		115.5 (52)	254 (315)	430 (510)	1500	2200	PSL 510-16 <sup>1)</sup>	15	0.46 (0.57)	1.5 (1.2)	2.2 (1.7)	1.5 (1.2)
120	200	192.5	244	113	67.2	38	50	89	15	2.5	3		115.5 (52)	254 (315)	430 (510)	1500	2200	PSL 69-17 <sup>1)</sup>	14.5	0.46 (0.57)	1.5 (1.2)	2.2 (1.7)	1.5 (1.2)
120	215			136	12	58	112	112		3		1	117	829	1453	1250	1650	PSL 610-23	20.5	0.43	1.5	2.3	1.5
127	206.4			108	12.75	54	82.5	112		3.5		1	100	829	1016	1100	1600	PSL 610-2	12.9	0.43	1.5	2.3	1.5
127	234.975			143.6	14.65	71.8	114.3	112		3.5		1.5	116	829	1494	1000	1500	PSL 610-7	25	0.35	1.9	2.8	1.9
130	200			124	11	45	102	102		2.5		0.6	120	559	1100	1300	1800	PSL 69-202	18	0.43	1.5	2.3	1.5
130	230			150	15	64	120	120		4		1.5	126	781	1487	1000	1500	PSL 610-22	25.1	0.43	1.5	2.3	1.5
160	270			150	15	66	120	120		3.5		1.5	120	1007	1920	900	1250	PSL 610-21	32.2	0.32	2.1	3.2	2.1
177.8	282.575			107.95	14.29	53.975	79.375	102		3.6		1.5	107.95	794	1408	860	1230	PSL 611-309	23	0.42	1.62	2.42	1.59
180	300			164	15	72	134	134		4		1.5	121	1225	2398	800	1100	PSL 611-16	43.6	0.26	2.6	3.9	2.6
196.85	255		330	79		24	69	16	2				145	328	789	850	1150	PSL 610-203	12.9	0.74	0.91	1.36	0.89
196.85	255	259	300	79		24	80	18	2				145	328	789	850	1150	PSL 610-301	11.6	0.74	0.91	1.36	0.89
220	340			100	12.5	45	75	75		3	2	103.8	103.8	788	1440	680	970	PSL 611-308	29.5	0.3	2.26	3.36	2.21
228.6	355.65			146.8	17.85	73.4	111.1	111.1		6		1.5	128	1131	2372	650	900	PSL 611-4	48.4	0.32	2.1	3.2	2.1
253.975	347.662			101.6	15.88	50.8	69.85	69.85		2.5		1	101.6	852	1810	620	890	PSL 611-311	24.6	0.33	2.03	3.02	1.98
254	431.774			173.8	22.65	86.9	128.5	128.5		6		1.5	157	1607	3125	550	750	PSL 612-4	94.3	0.35	1.9	2.9	1.9
260	360			134	22.65	86.9	109	109		3		1	141	1158	2712	600	800	PSL 611-23-1	37.1	0.37	1.8	2.7	1.8
266.7	325.438			68.075		33.775	60.8	60.8		1.5		0.8	107	390	1100	600	800	PSL 611-200-1	11.3	0.36	1.84	2.74	1.8
276.225	352.425			85.024		34.925	59.624	59.624		3.6		1	150.4	577	1413	500	700	PSL 611-204	18.1	0.52	1.3	1.93	1.27
304.8	393.7			107.95	12.7	53.975	82.55	82.55		3.6		1.5	107.95	982	2542	520	740	PSL 611-310	30.9	0.36	1.88	2.8	1.84
305.07	500			200		200	73	73		6.4		5	154	2415	5030	440	630	PSL 612-315	151	0.78	0.86	1.29	0.85
333.375	469.9			190.5		90.488	152.4	152.4		6.4		2	180.3	2686	5655	440	620	PSL 612-332	98	0.33	2.03	3.02	1.98
340	460			160	16	72	128	128		4		1.5	160	1595	4118	450	600	PSL 612-38	72.5	0.3	2.1	3.1	2.1
340	520			190	22.5	87.5	145	145		6		2.5	212.7	2055	4265	360	460	PSL 612-207	109	0.44	1.5	2.3	1.5
355.6	444.5			136.525	12.7	68.263	111.125	111.125		2.5		1	148.8	1249	3730	440	630	PSL 612-316	43	0.31	2.2	3.27	2.15
460	655			184		212	92	92		2.5		6		2700	6915	280	400	PSL 612-319	207	0.87	0.78	1.16	0.76
510	655			185		212	77.8	77.8		1.5		6.4		3365	9690			PSL 612-305-1	161	0.34	1.99	2.96	1.94
630	850			242	30	106	182	182		6		6	360	4446	10977	160	250	PSL 612-37-1	342	0.5	1.3	2	1.3
682.625	1080			660		195	142	142		12		1.5	211	11950	25530	140	200	PSL 612-331	1466	0.43	1.57	2.34	1.54
940	1310			410		390	125	125		5		7.5		10210	28590	90	130	PSL 612-333	1486	0.78	0.86	1.29	0.85
950	1250			300		300	220	220		7.5		7.5	379.97	6915	19640			PSL 612-300	810	0.35	1.95	2.9	1.91
1440	1918			360		180	210	210		6				8650	25520	30	50	PSL 612-335	2410	1.5	0.45	0.67	0.44

1) Use of these bearings should be checked with PSL in advance  
2) Fixing holes are not spaced uniformly

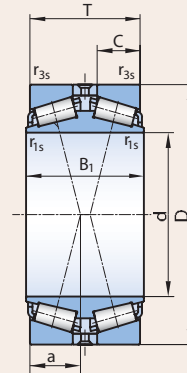
3) Contact PSL for information on bearing design



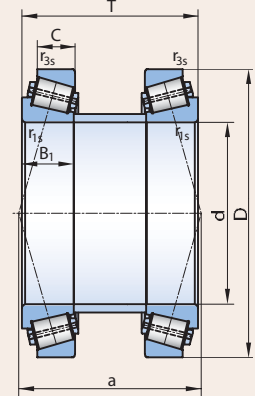
Pict. 5



Pict. 6

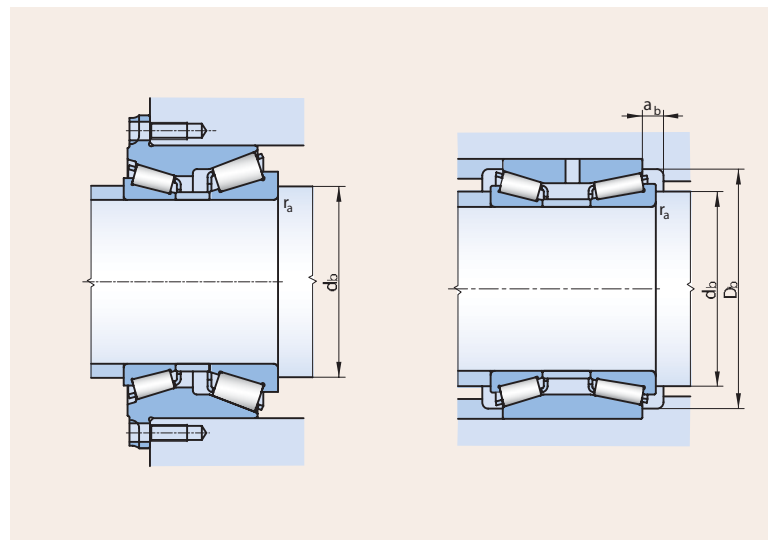


Pict. 7



Pict. 8

Pict.	Abutment and Fillet Dimensions							
	d	D <sub>s</sub>	n	d <sub>s</sub>	d <sub>b</sub> min	D <sub>b</sub> min	a <sub>b</sub> min	r <sub>a</sub> max
	[mm]							
6	120	209	6 <sup>2)</sup>	13	130			2
3	120				130	173	10	2
4	120	221	8	13	130			2
5	120	221	8	13	130			2
1	120				135	205	11	2
2	127				152	197	15	3
2	127				156	218	15	3
1	130				140	192	11	2
1	130				156	218	15	3
1	160				190	255	15	3
2	177.8				187.8	271	10.3	
1	180				210	283	18	3
<sup>3)</sup>	196.85	305	20	M16-8H	207	252	11	1.5
<sup>3)</sup>	196.85	280	8	M13,5-8H	207	252	11	1.5
1	220				234	318	15.2	2
2	228.6				265	332	20	5
2	253.975				264	335	13.1	
2	254				300	397	24	5
1	260				287	348	15	2
<sup>3)</sup>	266.7							1.5
<sup>3)</sup>	276.225				305			3.5
2	304.8				314.8	384	13.3	
7	305.07					408		
1	333.375				346	452	18	
1	340				376	445	18	3
1	340				376	492	18	5
2	355.6				369.6	430	11.5	
<sup>3)</sup>								
<sup>3)</sup>	510							
1	630				692	830	20	5
8	682.625				727	1026	45	
<sup>3)</sup>								
<sup>3)</sup>	950							7.5
<sup>3)</sup>								



Double row tapered roller bearings are used in heavy industrial engineering applications and in the automobile industry. They are manufactured with an axial clearance selected to suit operating conditions.

**Radial equivalent load:**

- dynamic:  $P_r = F_r + Y_1 F_a$  if  $F_a / F_r \leq e$  [kN]  
 $P_r = 0,67 F_r + Y_2 F_a$  if  $F_a / F_r > e$  [kN]  
 - static:  $P_{or} = F_r + Y_o F_a$  [kN]

**Cages**

The tapered roller bearings have pressed steel cages.