

UNITS IN MM		TOLERANCES FOR INSIDE DIMENSIONS (HOLES) (Units in 0.001 mm)																			
OVER	TO	A11	B8	B11	C11	D9	D10	D11	E8	E9	F6	F7	F8	G6	G7	H5	H6	H7	H8	H9	H10
0	1	—	—	—	+120	+45	+60	+80	+28	+39	+12	+16	+20	+8	+12	+4	+6	+10	+14	+25	+40
1	3	+330 +270	+154 +140	+200 +140	+60	+20	+20	+20	+14	+14	+6	+6	+6	+2	+2	0	0	0	0	0	0
3	6	+345 +270	+158 +140	+215 +140	+145 +70	+60 +30	+78 +30	+105 +30	+38 +20	+50 +20	+18 +10	+22 +10	+28 +10	+12 +4	+16 +4	+5 0	+8 0	+12 0	+18 0	+30 0	+48 0
6	10	+370 +280	+172 +150	+240 +150	+170 +80	+76 +40	+98 +40	+130 +40	+47 +25	+61 +25	+22 +13	+28 +13	+35 +13	+14 +5	+20 +5	+6 0	+9 0	+15 0	+22 0	+36 0	+58 0
10	14	+400 +290	+177 +150	+260 +150	+205 +95	+93 +50	+120 +50	+160 +50	+59 +32	+75 +32	+27 +16	+34 +16	+43 +16	+17 +6	+24 +6	+8 0	+11 0	+18 0	+27 0	+43 0	+70 0
14	18																				
18	24	+430 +300	+193 +160	+290 +160	+240 +110	+117 +65	+149 +65	+195 +65	+73 +40	+92 +40	+33 +20	+41 +20	+53 +20	+20 +7	+28 +7	+9 0	+13 0	+21 0	+33 0	+52 0	+84 0
24	30																				
30	40	+470 +310	+209 +170	+330 +170	+280 +120	+142	+180	+240	+89	+112	+41	+50	+64	+25	+34	+11	+16	+25	+39	+62	+100
40	50	+480 +320	+219 +180	+340 +180	+290 +130	+80	+80	+80	+50	+50	+25	+25	+25	+9	+9	0	0	0	0	0	0
50	65	+530 +340	+236 +190	+380 +190	+330 +140	+174	+220	+290	+106	+134	+49	+60	+76	+29	+40	+13	+19	+30	+46	+74	+120
65	80	+550 +360	+246 +200	+390 +200	+340 +150	+100	+100	+100	+60	+60	+30	+30	+30	+10	+10	0	0	0	0	0	0
80	100	+600 +380	+274 +220	+440 +220	+390 +170	+207	+260	+340	+126	+159	+58	+71	+90	+34	+47	+15	+22	+35	+54	+87	+140
100	120	+630 +410	+294 +240	+460 +240	+400 +180	+120	+120	+120	+72	+72	+36	+36	+36	+12	+12	0	0	0	0	0	0
120	140	+710 +460	+323 +260	+510 +260	+450 +200																
140	160	+770 +520	+343 +280	+530 +280	+460 +210	+245	+305	+395	+148	+185	+68	+83	+106	+39	+54	+18	+25	+40	+63	+100	+160
160	180	+830 +580	+373 +310	+560 +310	+480 +230	+145	+145	+145	+85	+85	+43	+43	+43	+14	+14	0	0	0	0	0	0
180	200	+950 +660	+412 +340	+630 +340	+530 +240																
200	225	+1030 +740	+452 +380	+670 +380	+550 +260	+285	+355	+460	+172	+215	+79	+96	+122	+44	+61	+20	+29	+46	+72	+115	+185
225	250	+1110 +820	+492 +420	+710 +420	+570 +280	+170	+170	+170	+100	+100	+50	+50	+50	+15	+15	0	0	0	0	0	0
250	280	+1240 +920	+561 +480	+800 +480	+620 +300	+320	+400	+510	+191	+240	+88	+108	+137	+49	+69	+23	+32	+52	+81	+130	+210
280	315	+1370 +1050	+621 +540	+860 +540	+650 +330	+190	+190	+190	+110	+110	+56	+56	+56	+17	+17	0	0	0	0	0	0
315	355	+1560 +1200	+689 +600	+960 +600	+720 +360	+350	+440	+570	+214	+265	+98	+119	+151	+54	+75	+25	+36	+57	+89	+140	+230
355	400	+1710 +1350	+769 +680	+1040 +680	+760 +400	+210	+210	+210	+125	+125	+62	+62	+62	+18	+18	0	0	0	0	0	0
400	450	+1900 +1500	+857 +760	+1160 +760	+840 +440	+385	+480	+630	+232	+290	+108	+131	+165	+60	+83	+27	+40	+63	+97	+155	+250
450	500	+2050 +1650	+937 +840	+1240 +840	+880 +480	+230	+230	+230	+135	+135	+68	+68	+68	+20	+20	0	0	0	0	0	0

NOMINAL SIZE RANGE

UNITS IN MM		TOLERANCES FOR INSIDE DIMENSIONS (HOLES) (Units in 0.001 mm)																			
OVER	TO	H11	H12	H13	J6	J7	J8	K6	K7	K8	M6	M7	M8	N6	N7	N8	R7	JS6	JS7	JS8	JS9
0	1	+60	+100	+140	+2	+4	+6	0	0	0	-2	-2	-2	-4	-4	-4	-10	+3	+5	+7	+12.5
	3	0	0	0	-4	-6	-8	-6	-10	-14	-8	-12	-16	-10	-14	-18	-20	-3	-5	-7	-12.5
3	6	+75	+120	+180	+5	+6	+10	+2	+3	+5	-1	0	+2	-5	-4	-2	-11	+4	+6	+9	+15
	10	0	0	0	-3	-6	-8	-6	-9	-13	-9	-12	-16	-13	-16	-20	-23	-4	-6	-9	-15
6	10	+90	+150	+220	+5	+8	+12	+2	+5	+6	-3	0	+1	-7	-4	-3	-13	+4.5	+7.5	+11	+18
	14	0	0	0	-4	-7	-10	-7	-10	-16	-12	-15	-21	-16	-19	-25	-28	-4.5	-7.5	-11	-18
10	14	+110	+180	+270	+6	+10	+15	+2	+6	+8	-4	0	+2	-9	-5	-3	-16	+5.5	+9	+13.5	+21.5
	18	0	0	0	-5	-8	-12	-9	-12	-19	-15	-18	-25	-20	-23	-30	-34	-5.5	-9	-13.5	-21.5
18	24	+130	+210	+330	+8	+12	+20	+2	+6	+10	-4	0	+4	-11	-7	-3	-20	+6.5	+10.5	+16.5	+26
	30	0	0	0	-5	-9	-13	-11	-15	-23	-17	-21	-29	-24	-28	-36	-41	-6.5	-10.5	-16.5	-26
30	40	+160	+250	+390	+10	+14	+24	+3	+7	+12	-4	0	+5	-12	-8	-3	-25	+8	+12.5	+19.5	+31
	50	0	0	0	-6	-11	-15	-13	-18	-27	-20	-25	-34	-28	-33	-42	-50	-8	-12.5	-19.5	-31
50	65	+190	+300	+460	+13	+18	+28	+4	+9	+14	-5	0	+5	-14	-9	-4	-30	+9.5	+15	+23	+37
	80	0	0	0	-6	-12	-18	-15	-21	-32	-24	-30	-41	-33	-39	-50	-62	-9.5	-15	-23	-37
80	100	+220	+350	+540	+16	+22	+34	+4	+10	+16	-6	0	+6	-16	-10	-4	-38	+11	+17.5	+27	+43.5
	120	0	0	0	-6	-13	-20	-18	-25	-38	-28	-35	-48	-38	-45	-58	-76	-41	-11	-17.5	-27
120	140																-48				
	140	+250	+400	+630	+18	+26	+41	+4	+12	+20	-8	0	+8	-20	-12	-4	-88	+12.5	+20	+31.5	+50
140	160	0	0	0	-7	-14	-22	-21	-28	-43	-33	-40	-55	-45	-52	-67	-90	-12.5	-20	-31.5	-50
	160																-53				
160	180																-93				
	180																-60				
180	200																-106				
	200	+290	+460	+720	+22	+30	+47	+5	+13	+22	-8	0	+9	-22	-14	-5	-63	+14.5	+23	+36	+57.5
200	225	0	0	0	-7	-16	-25	-24	-33	-50	-37	-46	-63	-51	-60	-77	-109	-14.5	-23	-36	-57.5
	225																-67				
225	250																-113				
	250																-74				
250	280	+320	+520	+810	+25	+36	+55	+5	+16	+25	-9	0	+9	-25	-14	-5	-126	+16	+26	+40.5	+65
	280	0	0	0	-7	-16	-26	-27	-36	-56	-41	-52	-72	-57	-66	-86	-130	-16	-26	-40.5	-65
315	355																-87				
	355	+360	+570	+890	+29	+39	+60	+7	+17	+28	-10	0	+11	-26	-16	-5	-144	+18	+28.5	+44.5	+70
355	400	0	0	0	-7	-18	-29	-29	-40	-61	-46	-57	-78	-62	-73	-94	-93	-18	-28.5	-44.5	-70
	400																-150				
400	450																-103				
	450	+400	+630	+970	+33	+43	+66	+8	+18	+29	-10	0	+11	-27	-17	-6	-166	+20	+31.5	+48.5	+77.5
450	500	0	0	0	-7	-20	-31	-32	-45	-68	-50	-63	-86	-67	-80	-103	-109	-20	-31.5	-48.5	-77.5
																	-172				

NOMINAL SIZE RANGE

UNITS IN MM		TOLERANCES FOR INSIDE DIMENSIONS (HOLES) (Units in 0.001 mm)									
OVER	TO	JS10	JS11	JS12	JS13	JS14	JS15	JS16	JS17	JS18	
NOMINAL SIZE RANGE	0	1	+20	+30	+50	+70	+125	+200	+300	—	—
	1	3	-20	-30	-50	-70	-125	-200	-300	—	—
	3	6	+24	+37.5	+60	+90	+150	+240	+375	—	—
			-24	-37.5	-60	-90	-150	-240	-375	—	—
	6	10	+29	+45	+75	+110	+180	+290	+450	+750	—
			-29	-45	-75	-110	-180	-290	-450	-750	—
	10	14	+35	+55	+90	+135	+215	+350	+550	+900	+1350
	14	18	-35	-55	-90	-135	-215	-350	-550	-900	-1350
	18	24	+42	+65	+105	+165	+260	+420	+650	+1050	+1650
	24	30	-42	-65	-105	-165	-260	-420	-650	-1050	-1650
	30	40	+50	+80	+125	+195	+310	+500	+800	+1250	+1950
	40	50	-50	-80	-125	-195	-310	-500	-800	-1250	-1950
	50	65	+60	+95	+150	+230	+370	+600	+950	+1500	+2300
	65	80	-60	-95	-150	-230	-370	-600	-950	-1500	-2300
	80	100	+70	+110	+175	+270	+435	+700	+1100	+1750	+2700
	100	120	-70	-110	-175	-270	-435	-700	-1100	-1750	-2700
	120	140	+80	+125	+200	+315	+500	+800	+1250	+2000	+3150
	140	160	-80	-125	-200	-315	-500	-800	-1250	-2000	-3150
	160	180									
	180	200	+92.5	+145	+230	+360	+575	+925	+1450	+2300	+3600
	200	225	-92.5	-145	-230	-360	-575	-925	-1450	-2300	-3600
	225	250									
	250	280	+105	+160	+260	+405	+650	+1050	+1600	+2600	+4050
	280	315	-105	-160	-260	-405	-650	-1050	-1600	-2600	-4050
315	355	+115	+180	+285	+445	+700	+1150	+1800	+2850	+4450	
355	400	-115	-180	-285	-445	-700	-1150	-1800	-2850	-4450	
400	450	+125	+200	+315	+485	+775	+1250	+2000	+3150	+4850	
450	500	-125	-200	-315	-485	-775	-1250	-2000	-3150	-4850	

UNITS IN MM		TOLERANCES FOR OUTSIDE DIMENSIONS (SHAFTS) (Units in 0.001 mm)																					
OVER	TO	a11	b8	b11	c11	d9	d10	d11	e7	e8	e9	f6	f7	f8	f9	g5	g6	g7	h4	h5	h6	h7	
0	1	—	—	—	—	-60	-20	-20	-20	-14	-14	-14	-6	-6	-6	-6	-2	-2	-2	0	0	0	0
1	3	-270 -330	-140 -154	-140 -200	-120	-45	-60	-80	-24	-28	-39	-12	-16	-20	-31	-6	-8	-12	-3	-4	-6	-10	
3	6	-270 -345	-140 -158	-140 -215	-70 -145	-30 -60	-30 -78	-30 -105	-20 -32	-20 -38	-20 -50	-10 -18	-10 -22	-10 -28	-10 -40	-4 -9	-4 -12	-4 -16	0 -4	0 -5	0 -8	0 -12	
6	10	-280 -370	-150 -172	-150 -240	-80 -170	-40 -76	-40 -98	-40 -130	-25 -40	-25 -47	-25 -61	-13 -22	-13 -28	-13 -35	-13 -49	-5 -11	-5 -14	-5 -20	0 -4	0 -6	0 -9	0 -15	
10	14	-290 -400	-150 -177	-150 -260	-95 -205	-50 -93	-50 -120	-50 -160	-32 -50	-32 -59	-32 -75	-16 -27	-16 -34	-16 -43	-16 -59	-6 -14	-6 -17	-6 -24	0 -5	0 -8	0 -11	0 -18	
18	24	-300 -430	-160 -193	-160 -290	-110 -240	-65 -117	-65 -149	-65 -195	-40 -61	-40 -73	-40 -92	-20 -33	-20 -41	-20 -53	-20 -72	-7 -16	-7 -20	-7 -28	0 -6	0 -9	0 -13	0 -21	
30	40	-310 -470	-170 -209	-170 -330	-120 -280	-80	-80	-80	-50	-50	-50	-25	-25	-25	-25	-9	-9	-9	0	0	0	0	
40	50	-320 -480	-180 -219	-180 -340	-130 -290	-142	-180	-240	-75	-89	-112	-41	-50	-64	-87	-20	-25	-34	-7	-11	-16	-25	
50	65	-340 -530	-190 -236	-190 -380	-140 -330	-100	-100	-100	-60	-60	-60	-30	-30	-30	-30	-10	-10	-10	0	0	0	0	
65	80	-360 -550	-200 -246	-200 -390	-150 -340	-174	-220	-290	-90	-106	-134	-49	-60	-76	-104	-23	-29	-40	-8	-13	-19	-30	
80	100	-380 -600	-220 -274	-220 -440	-170 -390	-120	-120	-120	-72	-72	-72	-36	-36	-36	-36	-12	-12	-12	0	0	0	0	
100	120	-410 -630	-240 -294	-240 -460	-180 -400	-207	-260	-340	-107	-126	-159	-58	-71	-90	-123	-27	-34	-47	-10	-15	-22	-35	
120	140	-460 -710	-260 -323	-260 -510	-200 -450																		
140	160	-520 -770	-280 -343	-280 -530	-210 -460	-145	-145	-145	-85	-85	-85	-43	-43	-43	-43	-14	-14	-14	0	0	0	0	
160	180	-580 -830	-310 -373	-310 -560	-230 -480	-245	-305	-395	-125	-148	-185	-68	-83	-106	-143	-32	-39	-54	-12	-18	-25	-40	
180	200	-660 -950	-340 -412	-340 -630	-240 -530																		
200	225	-740 -1030	-380 -452	-380 -670	-260 -550	-170	-170	-170	-100	-100	-100	-50	-50	-50	-50	-15	-15	-15	0	0	0	0	
225	250	-820 -1110	-420 -492	-420 -710	-280 -570	-285	-355	-460	-146	-172	-215	-79	-96	-122	-165	-35	-44	-61	-14	-20	-29	-46	
250	280	-920 -1240	-480 -561	-480 -800	-300 -620	-190	-190	-190	-110	-110	-110	-56	-56	-56	-56	-17	-17	-17	0	0	0	0	
280	315	-1050 -1370	-540 -621	-540 -860	-330 -650	-320	-400	-510	-162	-191	-240	-88	-108	-137	-186	-40	-49	-69	-16	-23	-32	-52	
315	355	-1200 -1560	-600 -689	-600 -960	-360 -720	-210	-210	-210	-125	-125	-125	-62	-62	-62	-62	-18	-18	-18	0	0	0	0	
355	400	-1350 -1710	-680 -769	-680 -1040	-400 -760	-350	-440	-570	-182	-214	-265	-98	-119	-151	-202	-43	-54	-75	-18	-25	-36	-57	
400	450	-1500 -1900	-760 -857	-760 -1160	-440 -840	-230	-230	-230	-135	-135	-135	-68	-68	-68	-68	-20	-20	-20	0	0	0	0	
450	500	-1650 -2050	-840 -937	-840 -1240	-480 -880	-385	-480	-630	-198	-232	-290	-108	-131	-165	-223	-47	-60	-83	-20	-27	-40	-63	

NOMINAL SIZE RANGE

UNITS IN MM		TOLERANCES FOR OUTSIDE DIMENSIONS (SHAFTS) (Units in 0.001 mm)																			
OVER	TO	h8	h9	h10	h11	j5	j6	j7	k5	k6	k7	k8	m5	m6	m7	n5	n6	n7	r6	js6	js7
0	1	0	0	0	0	+2	+4	+6	+4	+6	+10	+14	+6	+8	+12	+8	+10	+14	+16	+3	+5
		-14	-25	-40	-60	-2	-2	-4	0	0	0	0	0	+2	+2	+2	+4	+4	+4	+10	-3
1	3	0	0	0	0	+3	+6	+8	+6	+9	+13	+18	+9	+12	+16	+13	+16	+20	+23	+4	+6
		-18	-30	-48	-75	-2	-2	-4	+1	+1	+1	0	+4	+4	+4	+8	+8	+8	+15	-4	-6
3	6	0	0	0	0	+4	+7	+10	+7	+10	+16	+22	+12	+15	+21	+16	+19	+25	+28	+4.5	+7.5
		-22	-36	-58	-90	-2	-2	-5	+1	+1	+1	0	+6	+6	+6	+10	+10	+10	+19	-4.5	-7.5
6	10	0	0	0	0	+5	+8	+12	+9	+12	+19	+27	+15	+18	+25	+20	+23	+30	+34	+5.5	+9
		-27	-43	-70	-110	-3	-3	-6	+1	+1	+1	0	+7	+7	+7	+12	+12	+12	+23	-5.5	-9
10	14	0	0	0	0	+5	+9	+13	+11	+15	+23	+33	+17	+21	+29	+24	+28	+36	+41	+6.5	+10.5
		-33	-52	-84	-130	-4	-4	-8	+2	+2	+2	0	+8	+8	+8	+15	+15	+15	+28	-6.5	-10.5
14	18	0	0	0	0	+6	+11	+15	+13	+18	+27	+39	+20	+25	+34	+28	+33	+42	+50	+8	+12.5
		-39	-62	-100	-160	-5	-5	-10	+2	+2	+2	0	+9	+9	+9	+17	+17	+17	+34	-8	-12.5
18	24	0	0	0	0	+6	+12	+18	+15	+21	+32	+46	+24	+30	+41	+33	+39	+50	+60	+9.5	+15
		-46	-74	-120	-190	-7	-7	-12	+2	+2	+2	0	+11	+11	+11	+20	+20	+20	+62	-9.5	-15
24	30	0	0	0	0	+6	+13	+20	+18	+25	+38	+54	+28	+35	+48	+38	+45	+58	+73	+11	+17.5
		-54	-87	-140	-220	-9	-9	-15	+3	+3	+3	0	+13	+13	+13	+23	+23	+23	+51	-11	-17.5
30	40	0	0	0	0	+7	+14	+22	+21	+28	+43	+63	+33	+40	+55	+45	+52	+67	+88	+12.5	+20
		-63	-100	-160	-250	-11	-11	-18	+3	+3	+3	0	+15	+15	+15	+27	+27	+27	+90	-12.5	-20
35	45	0	0	0	0	+7	+16	+25	+24	+33	+50	+72	+37	+46	+63	+51	+60	+77	+106	+14.5	+23
		-72	-115	-185	-290	-13	-13	-21	+4	+4	+4	0	+17	+17	+17	+31	+31	+31	+77	-14.5	-23
40	50	0	0	0	0	+7	+16	+26	+27	+36	+56	+81	+43	+52	+72	+57	+66	+86	+109	+16	+26
		-81	-130	-210	-320	-16	-16	-26	+4	+4	+4	0	+20	+20	+20	+34	+34	+34	+86	-16	-26
45	55	0	0	0	0	+7	+18	+29	+29	+40	+61	+89	+46	+57	+78	+62	+73	+94	+126	+18	+28.5
		-89	-140	-230	-360	-18	-18	-28	+4	+4	+4	0	+21	+21	+21	+37	+37	+37	+94	-18	-28.5
50	60	0	0	0	0	+7	+20	+31	+32	+45	+68	+97	+50	+63	+86	+67	+80	+103	+130	+20	+31.5
		-97	-155	-250	-400	-20	-20	-32	+5	+5	+5	0	+23	+23	+23	+40	+40	+40	+103	-20	-31.5
55	65	0	0	0	0	+7	+20	+31	+32	+45	+68	+97	+50	+63	+86	+67	+80	+103	+130	+20	+31.5
		-97	-155	-250	-400	-20	-20	-32	+5	+5	+5	0	+23	+23	+23	+40	+40	+40	+103	-20	-31.5

UNITS IN MM		TOLERANCES FOR OUTSIDE DIMENSIONS (SHAFTS) (Units in 0.001 mm)											
OVER	TO	js8	js9	js10	js11	js12	js13	js14	js15	js16	js17	js18	
NOMINAL SIZE RANGE	0	1	+7	+12.5	+20	+30	+50	+70	+125	+200	+300	—	—
	1	3	-7	-12.5	-20	-30	-50	-70	-125	-200	-300	—	—
	3	6	+9	+15	+24	+37.5	+60	+90	+150	+240	+375	—	—
			-9	-15	-24	-37.5	-60	-90	-150	-240	-375	—	—
	6	10	+11	+18	+29	+45	+75	+110	+180	+290	+450	+750	—
			-11	-18	-29	-45	-75	-110	-180	-290	-450	-750	—
	10	14	+13.5	+21.5	+35	+55	+90	+135	+215	+350	+550	+900	+1350
	14	18	-13.5	-21.5	-35	-55	-90	-135	-215	-350	-550	-900	-1350
	18	24	+16.5	+26	+42	+65	+105	+165	+260	+420	+650	+1050	+1650
	24	30	-16.5	-26	-42	-65	-105	-165	-260	-420	-650	-1050	-1650
	30	40	+19.5	+31	+50	+80	+125	+195	+310	+500	+800	+1250	+1950
	40	50	-19.5	-31	-50	-80	-125	-195	-310	-500	-800	-1250	-1950
	50	65	+23	+37	+60	+95	+150	+230	+370	+600	+950	+1500	+2300
	65	80	-23	-37	-60	-95	-150	-230	-370	-600	-950	-1500	-2300
	80	100	+27	+43.5	+70	+110	+175	+270	+435	+700	+1100	+1750	+2700
	100	120	-27	-43.5	-70	-110	-175	-270	-435	-700	-1100	-1750	-2700
	120	140	+31.5	+50	+80	+125	+200	+315	+500	+800	+1250	+2000	+3150
	140	160	-31.5	-50	-80	-125	-200	-315	-500	-800	-1250	-2000	-3150
	160	180											
	180	200	+36	+57.5	+92.5	+145	+230	+360	+575	+925	+1450	+2300	+3600
	200	225	-36	-57.5	-92.5	-145	-230	-360	-575	-925	-1450	-2300	-3600
	225	250											
	250	280	+40.5	+65	+105	+160	+260	+405	+650	+1050	+1600	+2600	+4050
	280	315	-40.5	-65	-105	-160	-260	-405	-650	-1050	-1600	-2600	-4050
	315	355	+44.5	+70	+115	+180	+285	+445	+700	+1150	+1800	+2850	+4450
	355	400	-44.5	-70	-115	-180	-285	-445	-700	-1150	-1800	-2850	-4450
400	450	+48.5	+77.5	+125	+200	+315	+485	+775	+1250	+2000	+3150	+4850	
450	500	-48.5	-77.5	-125	-200	-315	-485	-775	-1250	-2000	-3150	-4850	