

### Standardization

ISO Tolerance Zones, Allowances, Fit Tolerances  
Inside Dimensions (Holes)

ISO tolerance zones, allowances, fit tolerances; Inside dimensions (holes) acc. to DIN 7157, 1.66 edition; DIN ISO 286 Part 2, 11.90 edition																		
Tolerance zones shown for nominal dimension 60 mm																		
μm																		
+500																		
+400																		
+300																		
+200																		
+100																		
0																		
-100																		
-200																		
-300																		
-400																		
-500																		
ISO abbrev.	Series 1 Series 2	P7	N7	N9	M7	K7	J6	J7	H7	H8	H11	G7	F8	E9	D9	D10	C11	A11
from to	1 3	-6 -16	-4 -14	-4 -29	-2 -12	0 -10	+2 -4	+4 -6	+10 0	+14 0	+60 0	+12 0	+20 0	+39 0	+45 0	+60 0	+120 0	+330 0
above to	3 6	-8 -20	-4 -16	0 -30	+3 -12	+5 -9	+6 -3	+6 -6	+12 0	+18 0	+75 0	+16 4	+28 10	+50 20	+60 30	+78 30	+145 70	+345 270
above to	6 10	-9 -24	-4 -19	0 -36	+5 -15	+5 -10	+8 -4	+8 -7	+15 0	+22 0	+90 0	+20 5	+35 13	+61 25	+76 40	+98 40	+170 80	+370 280
above to	10 14	-11 -29	-5 -23	0 -43	+6 -18	+6 -12	+10 -5	+18 -8	+27 0	+110 0	+24 6	+43 16	+75 32	+93 50	+120 50	+205 95	+400 290	
above to	14 18																	
above to	18 24	-14 -35	-7 -28	0 -52	+6 -21	+8 -15	+12 -5	+21 -9	+33 0	+130 0	+28 7	+53 20	+92 40	+117 65	+149 65	+240 110	+430 300	
above to	24 30																	
above to	30 40	-17 -42	-8 -33	0 -62	+7 -25	+10 -18	+14 -6	+25 -11	+39 0	+160 0	+34 9	+64 25	+112 50	+142 80	+180 80	+280 120	+470 310	
above to	40 50																	
above to	50 65	-21 -51	-9 -39	0 -74	+9 -30	+13 -21	+18 -6	+30 -12	+46 0	+190 0	+40 10	+76 30	+134 60	+174 100	+220 100	+330 140	+530 340	
above to	65 80																	
above to	80 100	-24 -59	-10 -45	0 -87	+10 -35	+16 -25	+22 -6	+35 -13	+54 0	+220 0	+47 12	+90 36	+159 72	+207 120	+260 120	+390 170	+600 380	
above to	100 120																	
above to	120 140																	
above to	140 160	-28 -68	-12 -52	0 -100	+12 -40	+18 -28	+26 -7	+40 -14	+63 0	+250 0	+54 14	+106 43	+185 85	+245 145	+305 145	+460 210	+770 520	
above to	160 180																	
above to	180 200																	
above to	200 225	-33 -79	-14 -60	0 -115	+13 -46	+22 -33	+30 -7	+46 -16	+72 0	+290 0	+61 15	+122 50	+215 100	+285 170	+355 170	+550 260	+1030 740	
above to	225 250																	
above to	250 280	-36 -88	-14 -66	0 -130	+16 -52	+25 -36	+36 -7	+52 -16	+81 0	+320 0	+69 17	+137 56	+240 110	+320 190	+400 190	+620 330	+1240 920	
above to	280 315																	
above to	315 355	-41 -98	-16 -73	0 -140	+17 -57	+29 -40	+39 -7	+57 -18	+89 0	+360 0	+75 18	+151 62	+265 125	+350 210	+440 210	+630 370	+1560 1050	
above to	355 400																	
above to	400 450	-45 -108	-17 -80	0 -155	+18 -63	+33 -45	+43 -7	+63 -20	+97 0	+400 0	+83 20	+165 68	+290 135	+385 230	+480 230	+840 480	+1900 1500	
above to	450 500																	

### Standardization

ISO Tolerance Zones, Allowances, Fit Tolerances  
Outside Dimensions (Shafts)

ISO tolerance zones, allowances, fit tolerances; Outside dimensions (shafts) acc. to DIN 7157, 1.66 edition; DIN ISO 286 Part 2, 11.90 edition																							
Tolerance zones shown for nominal dimension 60 mm																							
μm																							
+500																							
+400																							
+300																							
+200																							
+100																							
0																							
-100																							
-200																							
-300																							
-400																							
-500																							
ISO abbrev.	Series 1 Series 2	x8/u8 (1)	s6	r5	r6	n6	m5	m6	k5	k6	j6	js6	h6	h7	h8	h9	h11	g6	f7	e8	d9	c11	a11
from to	1 3	+34 +20	+20 +14	+16 +10	+10 +6	+8 +4	+6 +2	+4 +2	+3 +0	+3 +0	+3 +0	+3 +0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	-6 -14	-20 -60	-270 -60	
above to	3 6	+46 +28	+27 +19	+23 +16	+16 +9	+12 +8	+9 +6	+6 +4	+4 +2	+3 +1	+3 +1	+3 +1	0 0	0 0	0 0	0 0	0 0	0 0	0 0	-10 -20	-30 -60	-70 -270	
above to	6 10	+56 +34	+32 +23	+25 +19	+19 +10	+12 +6	+8 +4	+7 +4	+6 +4	+5 +3	+4 +3	+4 +3	0 0	0 0	0 0	0 0	0 0	0 0	0 0	-13 -25	-40 -80	-280 -80	
above to	10 14	+67 +40	+39 +28	+31 +23	+23 +15	+18 +12	+12 +7	+9 +7	+8 +6	+7 +5	+6 +5	+6 +5	0 0	0 0	0 0	0 0	0 0	0 0	0 0	-16 -32	-50 -95	-290 -95	
above to	14 18																						
above to	18 24	+87 +54	+48 +35	+37 +28	+28 +15	+21 +8	+17 +8	+15 +8	+11 +2	+9 +2	+9 +2	+9 +2	0 0	0 0	0 0	0 0	0 0	0 0	0 0	-20 -40	-65 -110	-300 -430	
above to	24 30																						
above to	30 40	+99 +60	+59 +43	+45 +34	+33 +17	+25 +9	+25 +9	+23 +9	+22 +9	+22 +9	+22 +9	+22 +9	0 0	0 0	0 0	0 0	0 0	0 0	0 0	-25 -50	-80 -142	-310 -470	
above to	40 50																						
above to	50 65	+133 +87	+72 +53	+54 +41	+40 +34	+30 +24	+24 +11	+21 +11	+21 +11	+21 +11	+21 +11	+21 +11	0 0	0 0	0 0	0 0	0 0	0 0	0 0	-30 -60	-100 -174	-340 -530	
above to	65 80																						
above to	80 100	+178 +124	+93 +71	+66 +51	+45 +33	+28 +13	+25 +13	+25 +13	+25 +13	+25 +13	+25 +13	+25 +13	0 0	0 0	0 0	0 0	0 0	0 0	0 0	-36 -72	-120 -207	-380 -600	
above to	100 120																						
above to	120 140	+233 +170	+117 +92	+81 +63	+63 +43	+45 +23	+33 +13	+33 +13	+33 +13	+33 +13	+33 +13	+33 +13	0 0	0 0	0 0	0 0	0 0	0 0	0 0	-43 -85	-145 -245	-460 -710	
above to	140 160																						
above to	160 180	+273 +210	+133 +108	+86 +68	+63 +43	+45 +23	+33 +13	+33 +13	+33 +13	+33 +13	+33 +13	+33 +13	0 0	0 0	0 0	0 0	0 0	0 0	0 0	-48 -96	-180 -285	-580 -830	
above to	180 200																						
above to	200 225	+330 +225	+159 +130	+100 +80	+60 +31	+37 +17	+37 +17	+37 +17	+37 +17	+37 +17	+37 +17	+37 +17	0 0	0 0	0 0	0 0	0 0	0 0	0 0	-50 -100	-170 -285	-740 -1030	
above to	225 250																						
above to	250 280	+356 +280	+169 +128	+104 +82	+60 +43	+37 +23	+37 +23	+37 +23	+37 +23	+37 +23	+37 +23	+37 +23	0 0	0 0	0 0	0 0	0 0	0 0	0 0	-50 -100	-170 -285	-820 -1100	
above to	280 315																						
above to	315 355	+479 +315	+226 +170	+133 +98	+83 +66	+45 +34	+33 +20	+33 +20	+33 +20	+33 +20	+33 +20	+33 +20	0 0	0 0	0 0	0 0	0 0	0 0	0 0	-56 -110	-190 -320	-1200 -1370	
above to	355 400																						
above to	400 450	+524 +390	+244 +190	+139 +108	+73 +57	+46 +37	+37 +21	+37 +21	+37 +21	+37 +21	+37 +21	+37 +21	0 0	0 0	0 0	0 0	0 0	0 0	0 0	-62 -125	-210 -350	-1560 -1710	
above to	450 500																						
above to	500 550	+587 +450	+272 +232	+153 +126	+80 +66	+46 +37	+37 +21	+37 +21	+37 +21	+37 +21	+37 +21	+37 +21	0 0	0 0	0 0	0 0	0 0	0 0	0 0	-68 -135	-230 -385	-1500 -1900	
above to	550 600																						

1) Up to nominal dimension 24 mm: x8; above nominal dimension 24 mm: u8