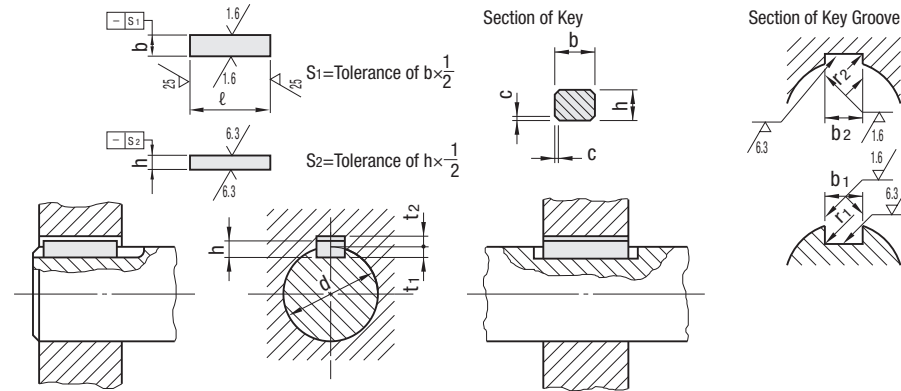


**1. Parallel Keys and Key Grooves**



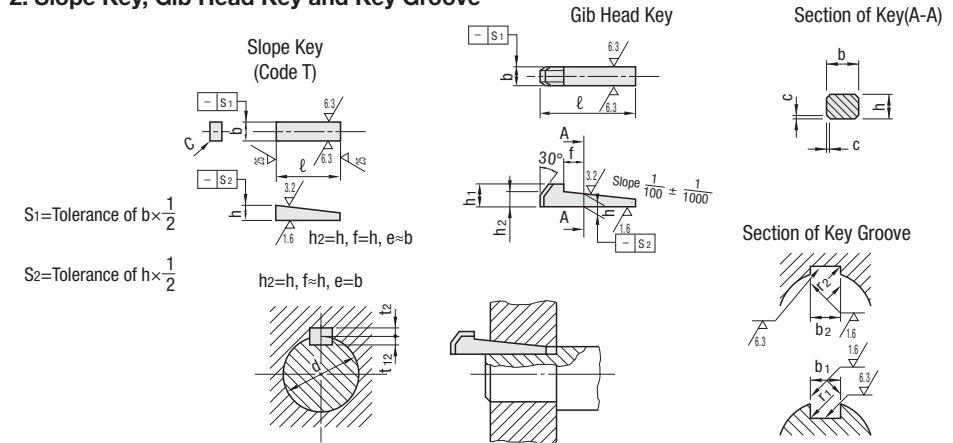
Unit:mm

Key Nominal Dimension b x h	Dimension of Key Groove						r1 and r2	Reference			Applicable Shaft Dia.( <sup>1</sup> ) d
	(Sliding Type)		Standard		Precision Class	Reference Dimension of t <sub>1</sub>		Reference Dimension of t <sub>2</sub>	Reference Dimension of t <sub>2</sub> , t <sub>1</sub>		
	Tolerance (H9)	Tolerance (D10)	Tolerance (N9)	Tolerance (Js9)	Tolerance (P9)						
2x2	2	+0.025	+0.060	-0.004	±0.0125	-0.006	1.2	1.0	+0.1	6~8	
3x3	3	0	+0.020	-0.029	±0.0125	-0.031	1.8	1.4	0	8~10	
4x4	4	0	0	0	±0.0150	-0.012	2.5	1.8	0	10~12	
5x5	5	+0.030	+0.078	0	±0.0150	-0.042	3.0	2.3	0	12~17	
6x6	6	0	+0.030	-0.030	±0.0180	-0.051	3.5	2.8	0	17~22	
(7x7)	7	0	0	0	±0.0180	-0.051	4.0	3.0	0	20~25	
8x7	8	+0.036	+0.098	0	±0.0180	-0.051	4.0	3.3	0	22~30	
10x8	10	0	+0.040	-0.036	±0.0215	-0.061	5.0	3.3	0	30~38	
12x8	12	0	0	0	±0.0215	-0.061	5.0	3.3	0	38~44	
14x9	14	+0.043	+0.120	0	±0.0215	-0.061	5.5	3.8	0	44~50	
(15x10)	15	0	+0.050	-0.043	±0.0260	-0.074	5.0	5.0	0	50~55	
16x10	16	0	0	0	±0.0260	-0.074	6.0	4.3	0	50~58	
18x11	18	0	0	0	±0.0310	-0.088	7.0	4.4	0	58~65	
20x12	20	+0.052	+0.149	0	±0.0310	-0.088	7.5	4.9	0	65~75	
22x14	22	0	+0.065	-0.052	±0.0370	-0.106	9.0	5.4	0	75~85	
(24x16)	24	0	0	0	±0.0370	-0.106	8.0	8.0	0	80~90	
25x14	25	0	0	0	±0.0435	-0.124	9.0	5.4	0	85~95	
28x16	28	0	0	0	±0.0435	-0.124	10.0	6.4	0	95~110	
32x18	32	0	0	0	±0.0500	-0.150	11.0	7.4	0	110~130	
(35x22)	35	0	0	0	±0.0500	-0.150	11.0	11.0	0	125~140	
36x20	36	+0.062	+0.180	0	±0.0500	-0.150	12.0	8.4	0	130~150	
(38x24)	38	0	+0.080	-0.062	±0.0570	-0.166	12.0	12.0	0	140~160	
40x22	40	0	0	0	±0.0570	-0.166	13.0	9.4	0	150~170	
(42x26)	42	0	0	0	±0.0620	-0.180	13.0	13.0	0	160~180	
45x25	45	0	0	0	±0.0620	-0.180	15.0	10.4	0	170~200	
50x28	50	0	0	0	±0.0700	-0.200	17.0	11.4	0	200~230	
56x32	56	0	0	0	±0.0700	-0.200	20.0	12.4	0	230~260	
63x32	63	+0.074	+0.220	0	±0.0700	-0.200	20.0	12.4	0	260~290	
70x36	70	0	+0.100	-0.074	±0.0770	-0.216	22.0	14.4	0	290~330	
80x40	80	0	0	0	±0.0870	-0.230	25.0	15.4	0	330~380	
90x45	90	+0.087	+0.260	0	±0.0870	-0.230	28.0	17.4	0	380~440	
100x50	100	0	+0.120	-0.087	±0.0950	-0.240	31.0	19.5	0	440~500	

Note(<sup>1</sup>) The applicable shaft diameter is calculated from the torque corresponding to the strength of the key, for presentation as referential data for general-purpose use. When the key is of an appropriate size relative to the torque to be transmitted, a shaft thicker than the applicable shaft diameter may be used. In some cases, t<sub>1</sub> and t<sub>2</sub> should be adjusted so that a side of the key will come into uniform contact with the shaft and the hub. A shaft narrower than the applicable shaft diameter should not be used.

Reference The nominal sizes given in ( ) do not conform to the relevant international standard and must not be used in new design.

**2. Slope Key, Gib Head Key and Key Groove**



Unit:mm

Key Nominal Dimension b x h	Dimension of Key Groove						Dimension of Key Groove						Reference	
	b		h		h <sub>1</sub>	c	b <sub>1</sub> and b <sub>2</sub>		r <sub>1</sub> and r <sub>2</sub>	Reference Dimension of t <sub>1</sub>	Reference Dimension of t <sub>2</sub>	Reference Dimension of t <sub>2</sub> , t <sub>1</sub>		Applicable Shaft Dia.( <sup>1</sup> ) d
	Reference Dimension	Tolerance (h9)	Reference Dimension	Tolerance			Reference Dimension	Tolerance (D10)						
2x2	2	0	2	0	-	0.16	6~30	2	+0.060	1.2	0.5	+0.05	6~8	
3x3	3	-0.025	3	-0.025	-	-0.25	6~36	3	+0.020	1.8	0.9	0	8~10	
4x4	4	0	4	0	h9	7	8~45	4	+0.078	2.5	1.2	0	10~12	
5x5	5	-0.030	5	-0.030	h9	8	10~56	5	+0.030	3.0	1.7	+0.1	12~17	
6x6	6	0	6	0	h9	10	14~70	6	+0.030	3.5	2.2	0	17~22	
(7x7)	7	0	7.2	-0.036	h9	10	16~80	7	+0.030	4.0	3.0	0	20~25	
8x7	8	0	7	0	h11	11	18~90	8	+0.098	4.0	2.4	0	22~30	
10x8	10	-0.036	8	0	h11	12	22~110	10	+0.040	5.0	2.4	+0.2	30~38	
12x8	12	0	8	-0.090	h11	12	28~140	12	+0.040	5.0	2.4	0	38~44	
14x9	14	0	9	0	h11	14	36~160	14	+0.120	5.5	2.9	0	44~50	
(15x10)	15	-0.043	10.2	-0.070	h10	15	40~180	15	+0.050	5.0	5.0	+0.1	50~55	
16x10	16	0	10	-0.090	h10	16	45~180	16	+0.050	6.0	3.4	0	50~58	
18x11	18	0	11	0	h11	18	50~200	18	+0.050	7.0	3.4	+0.2	58~65	
20x12	20	-0.052	12	-0.110	h11	20	56~220	20	+0.065	7.5	3.9	0	65~75	
22x14	22	0	14	0	h11	22	63~250	22	+0.065	9.0	4.4	0	75~85	
(24x16)	24	0	16.2	-0.070	h10	24	70~280	24	+0.149	8.0	8.0	+0.1	80~90	
25x14	25	-0.052	14	0	h10	22	70~280	25	+0.065	9.0	4.4	0	85~95	
28x16	28	0	16	-0.110	h11	25	80~320	28	+0.065	10.0	5.4	+0.2	95~110	
32x18	32	0	18	0	h11	28	90~360	32	+0.065	11.0	6.4	0	110~130	
(35x22)	35	0	22.3	-0.084	h10	32	100~400	35	+0.180	11.0	11.0	+0.15	125~140	
36x20	36	0	20	-0.130	h11	36	-	36	+0.080	12.0	7.1	+0.3	130~150	
(38x24)	38	-0.062	24.3	-0.084	h10	36	-	38	+0.080	12.0	12.0	+0.15	140~160	
40x22	40	0	22	-0.130	h11	36	-	40	+0.080	13.0	8.1	+0.3	150~170	
(42x26)	42	-0.062	26.3	-0.084	h10	40	-	42	+0.080	13.0	13.0	+0.15	160~180	
45x25	45	0	25	0	h11	40	-	45	+0.080	15.0	9.1	0	170~200	
50x28	50	0	28	-0.130	h11	45	-	50	+0.080	17.0	10.1	0	200~230	
56x32	56	0	32	0	h11	50	-	56	+0.080	20.0	11.1	0	230~260	
63x32	63	0	32	0	h11	50	1.60	63	+0.220	20.0	11.1	+0.3	260~290	
70x36	70	-0.074	36	0	h11	56	-2.00	70	+0.100	22.0	13.1	0	290~330	
80x40	80	0	40	-0.160	h11	63	-	80	+0.100	25.0	14.1	0	330~380	
90x45	90	0	45	0	h11	70	2.50	90	+0.260	28.0	16.1	0	380~440	
100x50	100	-0.087	50	0	h11	80	-3.00	100	+0.120	31.0	18.1	0	440~500	

Note(<sup>1</sup>) From the values for ℓ given below, which are in the appropriate range in the table, one should be selected.

The tolerance for ℓ should be h12 under JIS B0401(dimension tolerance and fitting), in principle.

6, 8, 10, 12, 14, 16, 18, 20, 22, 25, 28, 32, 36, 40, 45, 50, 56, 63, 70, 80, 90, 100, 110, 125, 140, 160, 180, 200, 220, 250, 280, 320, 360, 400

Note(<sup>2</sup>) The appropriate shaft diameter should be matched with the torque corresponding to the strength of the key.

Reference The nominal sizes given in ( ) should not be used unless they are absolutely necessary.

The groove for the boss should be slanted to 1/100, in principle.