

8. Shaft Designs

Although the shafts used for NTN bearing units require no particularly high standards of accuracy, it is desirable that, as far as possible, they be free from bends and flaws.

8.1 Set screw system bearing units

With set screw system bearing units, under normal operating conditions the inner ring is usually fitted onto the shaft by means of a clearance fit to ensure convenience of assembly. In this case the values shown in Fig. 8.1 are appropriate dimensional tolerances for the shaft.

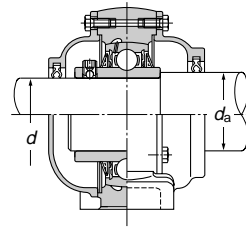


Table 8.1 Bearing units with covers (for use with step shafts) and shaft diameters

A) Metric series

Designation of units		d_a mm
10C-UCP206 to 10C-UCP218	10C-UCT208 to 10C-10UCT217	$d+10$
10C-UCP305 to 10C-UCP311	10C-UCT305 to 10C-UCT311	$d+10$
15C-UCP312 to 15C-UCP324	15C-UCT312 to 15C-UCT324	$d+15$
20C-UCP326 to 20C-UCP328	20C-UCT326 to 20C-UCT328	$d+20$

Remarks: Designation of bearing units with blind cover.

Example: 10CM-UCP206D1

B) Inch series

Designation of units	d_a inch	Designation of units	d_a inch
ZnC-...206-...	1 1/2	ZnC-...305-...	1 3/8
ZnC-...207-...	1 3/4	ZnC-...306-...	1 1/2
ZnC-...208-...	1 7/8	ZnC-...307-...	1 3/4
ZnC-...209-...	2	ZnC-...308-...	1 7/8
ZnC-...210-...	2 3/8	ZnC-...309-...	2 1/8
ZnC-...211-...	2 1/2	ZnC-...310-...	2 3/8
ZnC-...212-...	2 3/4	ZnC-...311-...	2 3/4
ZnC-...213-...	3	ZnC-...312-...	3
ZnC-...214-...	3 1/8	ZnC-...313-...	3 1/8
ZnC-...215-...	3 3/8	ZnC-...314-...	3 1/4
ZnC-...216-...	3 1/2	ZnC-...315-...	3 1/2
ZnC-...217-...	3 3/4	ZnC-...316-...	3 3/4
ZnC-...218-...	4	ZnC-...317-...	4
		ZnC-...318-...	4

Note: Designations for all units differ from the normal numbering system.

Example 1 Pillow type: ZnC-UCP206-101D1

ZnCM-UCP206-101D1

Example 2 Flange type: ZnC-UCF206-101D1

ZnC-UCFL206-101D1

Example 3 Take-up type: ZnC-UCT206-101D1

ZnCM-UCT206-101D1

n indicates serial number in designing from 1 onward.

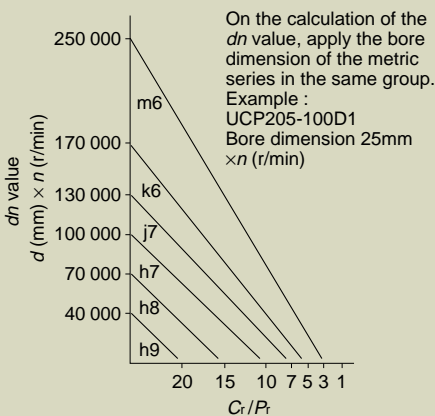


Fig.8.1 Dimensional tolerance for the shaft for set screw system bearing units

Set shafts

Wherever there is a noticeably large axial load, a step shaft, as shown in Fig. 8.2, should, if practical, be used.

For bearing units with cover, it is recommended that the units shown in Table 8.1 be used with shafts of the corresponding diameters, as shown in the same table.

The values of the radii of the rounded corners of these shafts are shown in Table 8.2.

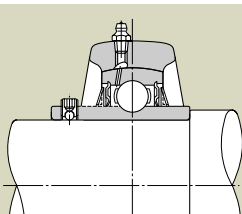


Fig. 8.2

As an expedient, there may be provided a bored hole on the shaft as illustrated in Fig. 8.3. In this case it is necessary to ensure the accuracy of the relationship between the positions of the housing of the bearing and of the bored hole on the shaft.

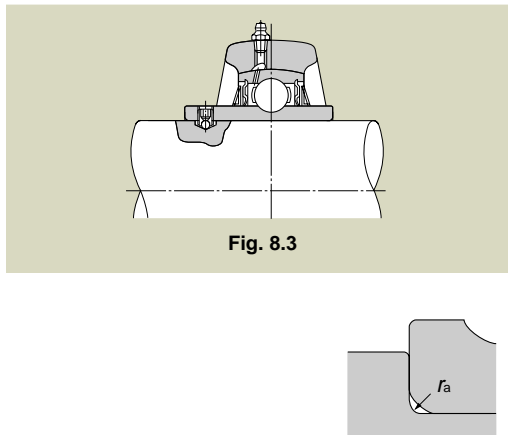


Fig. 8.3

Table 8.2 Radii of the round corners of step shafts

Designation of bearings	$r_{as\ max.}$		Designation of bearings	$r_{as\ max.}$	
	mm	inch		mm	inch
UC201 to UC203	0.6	0.024	UC305 to UC306	1.5	0.059
UC204 to UC206	1	0.039	UC307 to UC309	2	0.079
UC207 to UC210	1.5	0.059	UC310 to UC311	2.5	0.098
UC211 to UC215	2	0.079	UC312 to UC316	2.5	0.098
UC216 to UC218	2.5	0.098	UC317 to UC324	3	0.118
			UC326 to UC328	4	0.157

Relief in the axial direction

Where several bearing units are fitted on the shaft, or where there is a great distance between two bearing units, one of the bearings is secured to the shaft as the “fixed-side bearing” and is subjected to both the axial and radial loads. The other is mounted on the shaft as the “free-side bearing” and is subjected only to radial load, compensating for expansion of the shaft due to a rise in temperature or for any errors in distance between bearings that may have occurred during assembly.

If there is no free-side bearing, the bearings will be subjected to an abnormal axial load, which could cause premature breakdown.

Although it is desirable to use a cartridge-type bearing unit for the above purpose (Fig. 8.4), the following method is often employed. As illustrated in Fig. 8.5 (a) and (b), a key way is cut in the shaft, to accommodate a special set screw.

When relief is provided in the axial direction by the use of screwed bolts as above, the dimensional relationships applicable are shown in Tables 8.3 (a) and 8.3 (b) on the following pages.

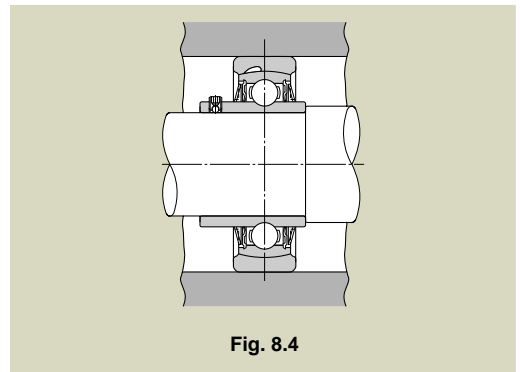


Fig. 8.4

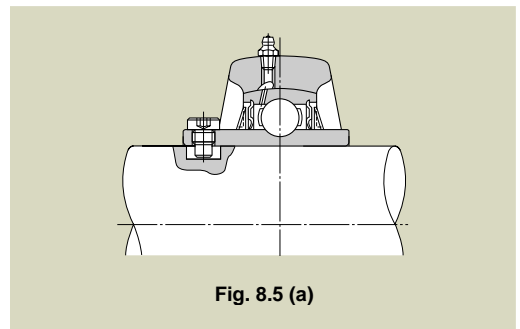


Fig. 8.5 (a)

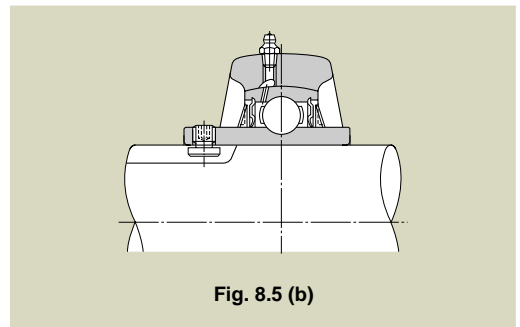


Fig. 8.5 (b)

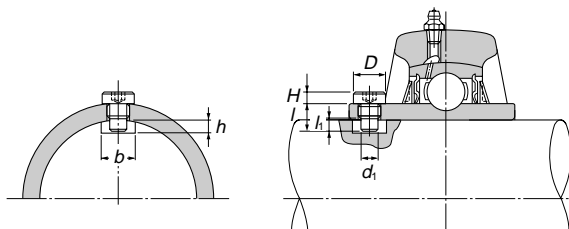
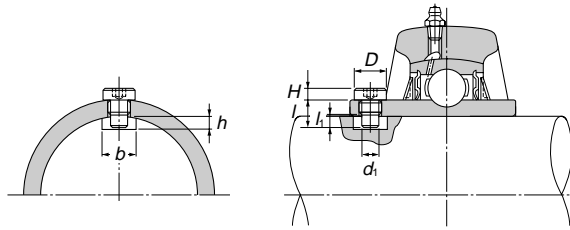


Table 8.3 (a) Screwed bolt system

A) Metric series, applied to metric bore size.

Designation of bearings	Key way		Designation of bearings	d_1 mm	l mm	l_1 mm	D mm	H mm
	Width b mm	Depth h mm						
UC201D1W5	3.5	3	S5W5×0.8×11	3.5	11	5	6	3
UC202D1W5	3.5	4.5	S5W5×0.8×11	3.5	11	5	6	3
UC203D1W5	3.5	5.5	S5W5×0.8×11	3.5	11	5	6	3
UC204D1W5	3.5	4.5	S5W5×0.8×8.5	3.5	8.5	5	6	3
UC205D1W5	3.5	5	S5W5×0.8×8.5	3.5	8.5	5	6	3
UC206D1W5	4	5.5	S5W6×0.75×10	4	10	5.9	8	3
UC207D1W5	4	5	S5W6×0.75×10	4	10	5.9	8	3
UC208D1W5	6	5.5	S5W8×1×11.5	6	11.5	5.5	10	3
UC209D1W5	6	6	SEW8×1×11.5	6	11.5	5.5	10	3
UC210D1W5	6	6	S5W8×1×11.5	6	11.5	5.5	10	3
UC211D1W5	6	5.5	S5W8×1×11.5	6	11.5	5.5	10	3
UC212D1W5	7	5.5	S5W10×1.25×13.5	7	13.5	6.5	12	3
UC213D1W5	7	5.5	S5W10×1.25×13.5	7	13.5	6.5	12	3
UC214D1W5	7	5.5	S5W10×1.25×13.5	7	13.5	6.5	12	3
UC215D1W5	7	5	S5W10×1.25×13.5	7	13.5	6.5	12	3
UC216D1W5	7	6.5	S5W10×1.25×15	7	15	7	12	3
UC217D1W5	9	6.5	S5W12×1.5×16.5	9	16.5	7	14	4
UC218D1W5	9	6.5	S5W12×1.5×16.5	9	16.5	7	14	4
UC305D1W5	4	6.5	S5W6×0.75×11.5	4	11.5	6	8	3
UC306D1W5	4	5	S5W6×0.75×11.5	4	11.5	6	8	3
UC307D1W5	6	5	S5W8×1×11.5	6	11.5	5.5	10	3
UC308D1W5	7	6	S5W10×1.25×13.5	7	13.5	6.5	12	3
UC309D1W5	7	6.5	S5W10×1.25×15	7	15	7	12	3
UC310D1W5	9	7	S5W12×1.5×16.5	9	16.5	7	14	4
UC311D1W5	9	6.5	S5W12×1.5×16.5	9	16.5	7	14	4
UC312D1W5	9	6	S5W12×1.5×16.5	9	16.5	7	14	4
UC313D1W5	9	7	S5W12×1.5×18	9	18	7.5	14	4
UC314D1W5	9	6.5	S5W12×1.5×18	9	18	7.5	14	4
UC315D1W5	10	7.5	S5W14×1.5×20	10	20	8.5	17	5
UC316D1W5	10	7	S5W14×1.5×20	10	20	8.5	17	5
UC317D1W5	12	9	S5W16×1.5×23	12	23	9	19	6
UC318D1W5	12	8.5	S5W16×1.5×23	12	23	9	19	6
UC319D1W5	12	7.5	S5W16×1.5×23	12	23	9	19	6
UC320D1W5	14	8	S5W18×1.5×25	14	25	9.5	22	7
UC321D1W5	14	7	S5W18×1.5×25	14	25	9.5	22	7
UC322D1W5	14	9	S5W18×1.5×29	14	29	10	22	7
UC324D1W5	14	7	S5W18×1.5×29	14	29	10	22	7
UC326D1W5	16	9.5	S5W20×1.5×33	16	33	11	24	7
UC328D1W5	16	8.5	S5W20×1.5×33	16	33	11	24	7

Remarks: The tolerance for the width (b) of the key way should preferably be set at the range of 0 to +0.2 mm.

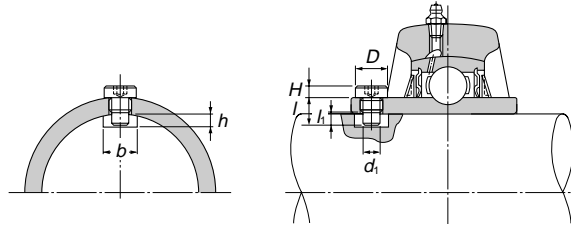


B) Inch series, applied to inch bore size.

Designation of bearings	Key way		Designation of bearings	d_1 inch	l inch	l_1 inch	D inch	H inch
	Width b inch	Depth h inch						
UC201-008D1W5	0.138	0.118	S7W4.826×32×10.5	0.138	0.413	0.197	0.236	0.118
UC202-009D1W5	0.138	0.177	S7W4.826×32×10.5	0.138	0.413	0.197	0.236	0.118
UC202-010D1W5	0.138	0.177	S7W4.826×32×10.5	0.138	0.413	0.197	0.236	0.118
UC203-011D1W5	0.138	0.217	S7W4.826×32×10.5	0.138	0.413	0.197	0.236	0.118
UC204-012D1W5	0.138	0.177	S7W4.826×32×8	0.138	0.315	0.197	0.236	0.118
UC205-013D1W5	0.138	0.197	S7W4.826×32×8	0.138	0.315	0.197	0.236	0.118
UC205-014D1W5	0.138	0.197	S7W4.826×32×8	0.138	0.315	0.197	0.236	0.118
UC205-015D1W5	0.138	0.197	S7W4.826×32×8	0.138	0.315	0.197	0.236	0.118
UC205-100D1W5	0.138	0.197	S7W4.826×32×8	0.138	0.315	0.197	0.236	0.118
UC206-101D1W5	0.157	0.217	S7W1/4×28×9.5	0.157	0.374	0.217	0.315	0.118
UC206-102D1W5	0.157	0.217	S7W1/4×28×9.5	0.157	0.374	0.217	0.315	0.118
UC206-103D1W5	0.157	0.217	S7W1/4×28×9.5	0.157	0.374	0.217	0.315	0.118
UC206-104D1W5	0.157	0.217	S7W1/4×28×9.5	0.157	0.374	0.217	0.315	0.118
UC207-104D1W5	0.157	0.197	S7W1/4×28×9.5	0.157	0.374	0.217	0.315	0.118
UC207-105D1W5	0.157	0.197	S7W1/4×28×9.5	0.157	0.374	0.217	0.315	0.118
UC207-106D1W5	0.157	0.197	S7W1/4×28×9.5	0.157	0.374	0.217	0.315	0.118
UC207-107D1W5	0.157	0.197	S7W1/4×28×9.5	0.157	0.374	0.217	0.315	0.118
UC208-108D1W5	0.236	0.197	S7W5/16×24×10.5	0.236	0.413	0.205	0.394	0.118
UC208-109D1W5	0.236	0.197	S7W5/16×24×10.5	0.236	0.413	0.205	0.394	0.118
UC209-110D1W5	0.236	0.197	S7W5/16×24×10.5	0.236	0.413	0.205	0.394	0.118
UC209-111D1W5	0.236	0.197	S7W5/16×24×10.5	0.236	0.413	0.205	0.394	0.118
UC209-112D1W5	0.236	0.197	S7W5/16×24×10.5	0.236	0.413	0.205	0.394	0.118
UC210-113D1W5	0.236	0.217	S7W5/16×24×10.5	0.236	0.413	0.205	0.394	0.118
UC210-114D1W5	0.236	0.217	S7W5/16×24×10.5	0.236	0.413	0.205	0.394	0.118
UC210-115D1W5	0.236	0.217	S7W5/16×24×10.5	0.236	0.413	0.205	0.394	0.118
UC210-200D1W5	0.236	0.217	S7W5/16×24×10.5	0.236	0.413	0.205	0.394	0.118
UC211-200D1W5	0.236	0.197	S7W5/16×24×10.5	0.236	0.413	0.205	0.394	0.118
UC211-201D1W5	0.236	0.197	S7W5/16×24×10.5	0.236	0.413	0.205	0.394	0.118
UC211-202D1W5	0.236	0.197	S7W5/16×24×10.5	0.236	0.413	0.205	0.394	0.118
UC211-203D1W5	0.236	0.197	S7W5/16×24×10.5	0.236	0.413	0.205	0.394	0.118
UC212-204D1W5	0.276	0.217	S7W3/8×24×12.5	0.276	0.472	0.224	0.472	0.118
UC212-205D1W5	0.276	0.217	S7W3/8×24×12.5	0.276	0.472	0.224	0.472	0.118
UC212-206D1W5	0.276	0.217	S7W3/8×24×12.5	0.276	0.472	0.224	0.472	0.118
UC212-207D1W5	0.276	0.217	S7W3/8×24×12.5	0.276	0.472	0.224	0.472	0.118
UC213-208D1W5	0.276	0.217	S7W3/8×24×12.5	0.276	0.472	0.224	0.472	0.118
UC213-209D1W5	0.276	0.217	S7W3/8×24×12.5	0.276	0.472	0.224	0.472	0.118
UC214-210D1W5	0.276	0.217	S7W3/8×24×12.5	0.276	0.472	0.224	0.472	0.118
UC214-211D1W5	0.276	0.217	S7W3/8×24×12.5	0.276	0.472	0.224	0.472	0.118
UC214-212D1W5	0.276	0.217	S7W3/8×24×12.5	0.276	0.472	0.224	0.472	0.118
UC215-213D1W5	0.276	0.217	S7W3/8×24×12.5	0.276	0.472	0.224	0.472	0.118
UC215-214D1W5	0.276	0.217	S7W3/8×24×12.5	0.276	0.472	0.224	0.472	0.118
UC215-215D1W5	0.276	0.217	S7W3/8×24×12.5	0.276	0.472	0.224	0.472	0.118
UC215-300D1W5	0.276	0.217	S7W3/8×24×12.5	0.276	0.472	0.224	0.472	0.118
UC216-301D1W5	0.276	0.256	S7W3/8×24×14.5	0.276	0.571	0.264	0.472	0.118
UC216-302D1W5	0.276	0.256	S7W3/8×24×14.5	0.276	0.571	0.264	0.472	0.118
UC216-303D1W5	0.276	0.256	S7W3/8×24×14.5	0.276	0.571	0.264	0.472	0.118
UC217-304D1W5	0.354	0.197	S7W1/2×20×15	0.354	0.591	0.244	0.472	0.157
UC217-305D1W5	0.354	0.197	S7W1/2×20×15	0.354	0.591	0.244	0.472	0.157
UC217-307D1W5	0.354	0.197	S7W1/2×20×15	0.354	0.591	0.244	0.472	0.157
UC218-308D1W5	0.354	0.197	S7W1/2×20×15	0.354	0.591	0.244	0.472	0.157

Note: The tolerance for the width (b) of the key way should preferably be set at the range of 0 to +0.008 inch.

Technical Data



B) Inch series, applied to inch bore size.

Designation of bearings	Key way		Designation of bearings	d_1 inch	l inch	l_1 inch	D inch	H inch
	Width b inch	Depth h inch						
UC201-008D1W5	0.138	0.118	S7W4.826×32×10.5	0.138	0.413	0.197	0.236	0.118
UC305-013D1W5	0.157	0.226	S7W1/4×28×11	0.157	0.433	0.228	0.315	0.118
UC305-014D1W5	0.157	0.226	S7W1/4×28×11	0.157	0.433	0.228	0.315	0.118
UC305-015D1W5	0.157	0.226	S7W1/4×28×11	0.157	0.433	0.228	0.315	0.118
UC305-100D1W5	0.157	0.226	S7W1/4×28×11	0.157	0.433	0.228	0.315	0.118
UC306-101D1W5	0.157	0.197	S7W1/4×28×11	0.157	0.433	0.228	0.315	0.118
UC306-102D1W5	0.157	0.197	S7W1/4×28×11	0.157	0.433	0.228	0.315	0.118
UC306-103D1W5	0.157	0.197	S7W1/4×28×11	0.157	0.433	0.228	0.315	0.118
UC307-104D1W5	0.236	0.197	S7W5/16×24×10.5	0.236	0.413	0.205	0.394	0.118
UC307-105D1W5	0.236	0.197	S7W5/16×24×10.5	0.236	0.413	0.205	0.394	0.118
UC307-106D1W5	0.236	0.197	S7W5/16×24×10.5	0.236	0.413	0.205	0.394	0.118
UC307-107D1W5	0.236	0.197	S7W5/16×24×10.5	0.236	0.413	0.205	0.394	0.118
UC308-108D1W5	0.276	0.157	S7W3/8×24×12	0.276	0.472	0.224	0.472	0.118
UC308-109D1W5	0.276	0.157	S7W3/8×24×12	0.276	0.472	0.224	0.472	0.118
UC309-110D1W5	0.276	0.236	S7W3/8×24×14.5	0.276	0.571	0.264	0.472	0.118
UC309-111D1W5	0.276	0.236	S7W3/8×24×14.5	0.276	0.571	0.264	0.472	0.118
UC309-112D1W5	0.276	0.236	S7W3/8×24×14.5	0.276	0.571	0.264	0.472	0.118
UC310-113D1W5	0.354	0.256	S7W1/2×20×15	0.354	0.591	0.244	0.551	0.157
UC310-114D1W5	0.354	0.256	S7W1/2×20×15	0.354	0.591	0.244	0.551	0.157
UC310-115D1W5	0.354	0.256	S7W1/2×20×15	0.354	0.591	0.244	0.551	0.157
UC311-200D1W5	0.354	0.236	S7W1/2×20×15	0.354	0.591	0.244	0.551	0.157
UC311-201D1W5	0.354	0.236	S7W1/2×20×15	0.354	0.591	0.244	0.551	0.157
UC311-202D1W5	0.354	0.236	S7W1/2×20×15	0.354	0.591	0.244	0.551	0.157
UC311-203D1W5	0.354	0.236	S7W1/2×20×15	0.354	0.591	0.244	0.551	0.157
UC312-204D1W5	0.354	0.236	S7W1/2×20×15	0.354	0.591	0.244	0.551	0.157
UC312-205D1W5	0.354	0.236	S7W1/2×20×15	0.354	0.591	0.244	0.551	0.157
UC312-206D1W5	0.354	0.236	S7W1/2×20×15	0.354	0.591	0.244	0.551	0.157
UC312-207D1W5	0.354	0.236	S7W1/2×20×15	0.354	0.591	0.244	0.551	0.157
UC313-208D1W5	0.354	0.276	S7W1/2×20×17.5	0.354	0.689	0.276	0.551	0.157
UC313-209D1W5	0.354	0.276	S7W1/2×20×17.5	0.354	0.689	0.276	0.551	0.157
UC314-210D1W5	0.354	0.256	S7W1/2×20×17.5	0.354	0.689	0.276	0.551	0.157
UC314-211D1W5	0.354	0.256	S7W1/2×20×17.5	0.354	0.689	0.276	0.551	0.157
UC314-212D1W5	0.354	0.256	S7W1/2×20×17.5	0.354	0.689	0.276	0.551	0.157
UC315-213D1W5	0.394	0.295	S7W9/16×18×19	0.394	0.748	0.335	0.669	0.197
UC315-214D1W5	0.394	0.295	S7W9/16×18×19	0.394	0.748	0.335	0.669	0.197
UC315-215D1W5	0.394	0.295	S7W9/16×18×19	0.394	0.748	0.335	0.669	0.197
UC315-300D1W5	0.394	0.295	S7W9/16×18×19	0.394	0.748	0.335	0.669	0.197
UC316-301D1W5	0.394	0.276	S7W9/16×18×19	0.394	0.748	0.335	0.669	0.197
UC316-302D1W5	0.394	0.276	S7W9/16×18×19	0.394	0.748	0.335	0.669	0.197
UC316-303D1W5	0.394	0.276	S7W9/16×18×19	0.394	0.748	0.335	0.669	0.197
UC317-304D1W5	0.472	0.276	S7W5/8×18×21.5	0.472	0.846	0.354	0.748	0.236
UC317-305D1W5	0.472	0.276	S7W5/8×18×21.5	0.472	0.846	0.354	0.748	0.236
UC317-307D1W5	0.472	0.276	S7W5/8×18×21.5	0.472	0.846	0.354	0.748	0.236
UC318-307D1W5	0.472	0.276	S7W5/8×18×21.5	0.472	0.846	0.354	0.748	0.236
UC318-308D1W5	0.472	0.276	S7W5/8×18×21.5	0.472	0.846	0.354	0.748	0.236
UC319-310D1W5	0.472	0.276	S7W5/8×18×21.5	0.472	0.846	0.354	0.748	0.236
UC319-311D1W5	0.472	0.276	S7W5/8×18×21.5	0.472	0.846	0.354	0.748	0.236
UC319-312D1W5	0.472	0.276	S7W5/8×18×21.5	0.472	0.846	0.354	0.748	0.236
UC320-314D1W5	0.551	0.315	S7W5/8×18×24	0.551	0.945	0.354	0.866	0.276
UC320-315D1W5	0.551	0.315	S7W5/8×18×24	0.551	0.945	0.354	0.866	0.276
UC320-400D1W5	0.551	0.315	S7W5/8×18×24	0.551	0.945	0.354	0.866	0.276

Note: The tolerance for the width (b) of the key way should preferably be set at the range of 0 to +0.008 inch.

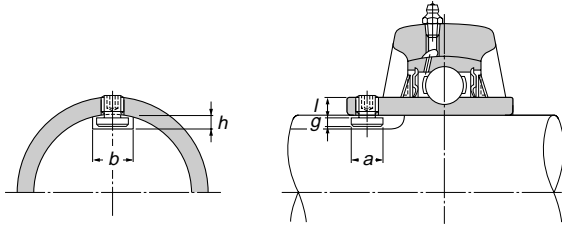


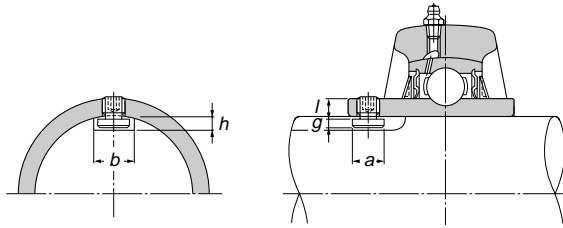
Table 8.3 (b) Key bolt system

A) Metric series, applied to metric bore size.

Designation of bearings	Key way		Designation and size of bolts	a mm	g mm	l mm
	Width b mm	Depth h mm				
UC206D1W6	6	4	S6W5×0.8×5-1	5.9	3	6
UC204D1W6	7	4.5	S6W5×0.8×5	6.9	3.2	6
UC205D1W6	7	4.5	S6W5×0.8×5	6.9	3.2	6
UC206D1W6	8	4.5	S6W6×0.75×6	7.9	3.2	7
UC207D1W6	8	4.5	S6W6×0.75×6	7.9	3.2	7
UC208D1W6	10	5	S6W8×1×7	9.9	3.6	8
UC209D1W6	10	5	S6W8×1×7	9.9	3.6	8
UC210D1W6	10	5	S6W8×1×7	9.9	3.6	8
UC211D1W6	10	5	S6W8×1×7	9.9	3.6	8
UC212D1W6	12	5.5	S6W10×1.25×9	11.9	4	10
UC213D1W6	12	5.5	S6W10×1.25×9	11.9	4	10
UC214D1W6	12	5.5	S6W10×1.25×9	11.9	4	10
UC215D1W6	12	5.5	S6W10×1.25×9	11.9	4	10
UC216D1W6	12	5.5	S6W10×1.25×9	11.9	4	10
UC217D1W6	14	6	S6W12×1.5×11	13.9	4.8	12
UC218D1W6	14	6	S6W12×1.5×11	13.9	4.8	12
UC305D1W6	8	4.5	S6W6×0.75×6	7.9	3.2	7
UC306D1W6	8	4.5	S6W6×0.75×6	7.9	3.2	7
UC307D1W6	10	5	S6W8×1×7	9.9	3.6	8
UC308D1W6	12	5.5	S6W10×1.25×9	11.9	4	10
UC309D1W6	12	5.5	S6W10×1.25×9	11.9	4	10
UC310D1W6	14	6.5	S6W12×1.5×11	13.9	4.8	12
UC311D1W6	14	6.5	S6W12×1.5×11	13.9	4.8	12
UC312D1W6	14	6.5	S6W12×1.5×11	13.9	4.8	12
UC313D1W6	14	6.5	S6W12×1.5×11	13.9	4.8	12
UC314D1W6	14	6.5	S6W12×1.5×11	13.9	4.8	12
UC315D1W6	16	7.5	S6W14×1.5×13	15.9	5.8	14
UC316D1W6	16	7.5	S6W14×1.5×13	15.9	5.8	14
UC317D1W6	18	8.5	S6W16×1.5×16	17.9	6.5	17
UC318D1W6	18	8.5	S6W16×1.5×16	17.9	6.5	17
UC319D1W6	18	8.5	S6W16×1.5×16	17.9	6.5	17
UC320D1W6	20	10.5	S6W18×1.5×18	19.9	8.5	19
UC321D1W6	20	10.5	S6W18×1.5×18	19.9	8.5	19
UC322D1W6	20	10.5	S6W18×1.5×18	19.9	8.5	19
UC324D1W6	20	10.5	S6W18×1.5×18	19.9	8.5	19
UC326D1W6	22	11	S6W20×1.5×25	21.9	9.5	26
UC328D1W6	22	11	S6W20×1.5×25	21.9	9.5	26

Note: The tolerance for the width (b) of the key way should be set at the range of 0 to +0.2 mm.

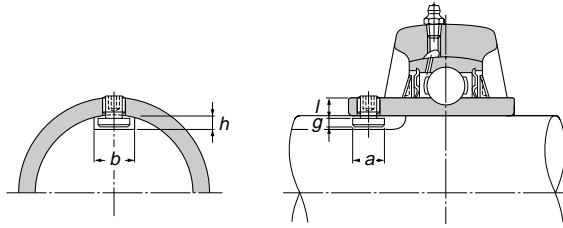
Technical Data



B) Inch series, applied to inch bore size.

Designation of bearings	Key way		Designation and size of bolts	a inch	g inch	l inch
	Width <i>b</i> inch	Depth <i>h</i> inch				
UC203-011D1W6	0.236	0.157	S7W4.826×32×5-1	0.232	0.118	0.236
UC204-012D1W6	0.276	0.177	S7W4.826×32×5	0.272	0.126	0.236
UC205-013D1W6	0.276	0.177	S7W1/4×28×6	0.272	0.126	0.236
UC205-014D1W6	0.276	0.177	S7W1/4×28×6	0.272	0.126	0.236
UC205-015D1W6	0.276	0.177	S7W1/4×28×6	0.272	0.126	0.236
UC205-100D1W6	0.276	0.177	S7W1/4×28×6	0.272	0.126	0.236
UC206-101D1W6	0.315	0.177	S7W1/4×28×6	0.311	0.126	0.276
UC206-102D1W6	0.315	0.177	S7W1/4×28×6	0.311	0.126	0.276
UC206-103D1W6	0.315	0.177	S7W1/4×28×6	0.311	0.126	0.276
UC206-104D1W6	0.315	0.177	S7W1/4×28×6	0.311	0.126	0.276
UC207-104D1W6	0.315	0.177	S7W1/4×28×6	0.311	0.126	0.276
UC207-105D1W6	0.315	0.177	S7W1/4×28×6	0.311	0.126	0.276
UC207-106D1W6	0.315	0.177	S7W1/4×28×6	0.311	0.126	0.276
UC207-107D1W6	0.315	0.177	S7W1/4×28×6	0.311	0.126	0.276
UC208-108D1W6	0.394	0.197	S7W5/16×24×7	0.390	0.142	0.315
UC208-109D1W6	0.394	0.197	S7W5/16×24×7	0.390	0.142	0.315
UC209-110D1W6	0.394	0.197	S7W5/16×24×7	0.390	0.142	0.315
UC209-111D1W6	0.394	0.197	S7W5/16×24×7	0.390	0.142	0.315
UC209-112D1W6	0.394	0.197	S7W5/16×24×7	0.390	0.142	0.315
UC210-113D1W6	0.394	0.197	S7W5/16×24×7	0.390	0.142	0.315
UC210-114D1W6	0.394	0.197	S7W5/16×24×7	0.390	0.142	0.315
UC210-115D1W6	0.394	0.197	S7W5/16×24×7	0.390	0.142	0.315
UC210-200D1W6	0.394	0.197	S7W5/16×24×7	0.390	0.142	0.315
UC211-200D1W6	0.394	0.197	S7W5/16×24×7	0.390	0.142	0.315
UC211-201D1W6	0.394	0.197	S7W5/16×24×7	0.390	0.142	0.315
UC211-202D1W6	0.394	0.197	S7W5/16×24×7	0.390	0.142	0.315
UC211-203D1W6	0.394	0.197	S7W5/16×24×7	0.390	0.142	0.315
UC212-204D1W6	0.472	0.217	S7W3/8×24×9	0.469	0.157	0.394
UC212-205D1W6	0.472	0.217	S7W3/8×24×9	0.469	0.157	0.394
UC212-206D1W6	0.472	0.217	S7W3/8×24×9	0.469	0.157	0.394
UC212-207D1W6	0.472	0.217	S7W3/8×24×9	0.469	0.157	0.394
UC213-208D1W6	0.472	0.217	S7W3/8×24×9	0.469	0.157	0.394
UC213-209D1W6	0.472	0.217	S7W3/8×24×9	0.469	0.157	0.394
UC214-210D1W6	0.472	0.217	S7W3/8×24×9	0.469	0.157	0.394
UC214-211D1W6	0.472	0.217	S7W3/8×24×9	0.469	0.157	0.394
UC214-212D1W6	0.472	0.217	S7W3/8×24×9	0.469	0.157	0.394
UC215-213D1W6	0.472	0.217	S7W3/8×24×9	0.469	0.157	0.394
UC215-214D1W6	0.472	0.217	S7W3/8×24×9	0.469	0.157	0.394
UC215-215D1W6	0.472	0.217	S7W3/8×24×9	0.469	0.157	0.394
UC215-300D1W6	0.472	0.217	S7W3/8×24×9	0.469	0.157	0.394
UC216-301D1W6	0.472	0.217	S7W3/8×24×9	0.469	0.157	0.394
UC216-302D1W6	0.472	0.217	S7W3/8×24×9	0.469	0.157	0.394
UC216-303D1W6	0.472	0.217	S7W3/8×24×9	0.469	0.157	0.394
UC217-304D1W6	0.551	0.236	S7W1/2×20×11	0.547	0.189	0.472
UC217-305D1W6	0.551	0.236	S7W1/2×20×11	0.547	0.189	0.472
UC217-307D1W6	0.551	0.236	S7W1/2×20×11	0.547	0.189	0.472
UC218-308D1W6	0.551	0.236	S7W1/2×20×11	0.547	0.189	0.472

Note: The tolerance for the width (*b*) of the key way should preferably be set at the range of 0 to +0.008 inch



B) Inch series, applied to inch bore size.

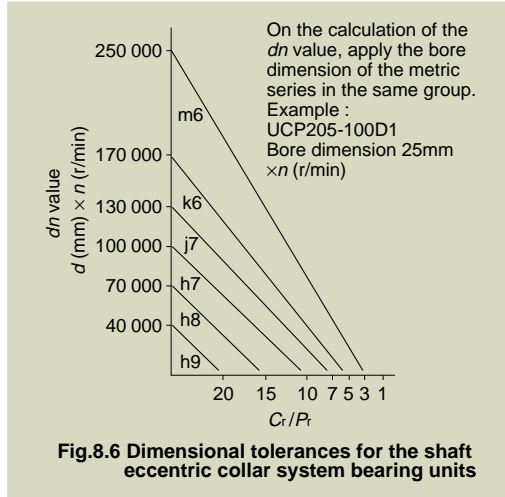
Designation of bearings	Key way		Designation and size of bolts	a inch	g inch	l inch
	Width b inch	Depth h inch				
UC203-011D1W6	0.236	0.157	S7W4.826×32×5-1	0.232	0.118	0.236
UC305-013D1W6	0.315	0.177	S7W1/4×28×6	0.311	0.126	0.276
UC305-014D1W6	0.315	0.177	S7W1/4×28×6	0.311	0.126	0.276
UC305-015D1W6	0.315	0.177	S7W1/4×28×6	0.311	0.126	0.276
UC305-100D1W6	0.315	0.177	S7W1/4×28×6	0.311	0.126	0.276
UC306-101D1W6	0.315	0.177	S7W1/4×28×6	0.311	0.126	0.276
UC306-102D1W6	0.315	0.177	S7W1/4×28×6	0.311	0.126	0.276
UC306-103D1W6	0.315	0.177	S7W1/4×28×6	0.311	0.126	0.276
UC307-104D1W6	0.394	0.197	S7W5/16×24×7	0.390	0.142	0.315
UC307-105D1W6	0.394	0.197	S7W5/16×24×7	0.390	0.142	0.315
UC307-106D1W6	0.394	0.197	S7W5/16×24×7	0.390	0.142	0.315
UC307-107D1W6	0.394	0.197	S7W5/16×24×7	0.390	0.142	0.315
UC308-108D1W6	0.472	0.217	S7W3/8×24×9	0.469	0.157	0.394
UC308-109D1W6	0.472	0.217	S7W3/8×24×9	0.469	0.157	0.394
UC309-110D1W6	0.472	0.217	S7W3/8×24×9	0.469	0.157	0.394
UC309-111D1W6	0.472	0.217	S7W3/8×24×9	0.469	0.157	0.394
UC309-112D1W6	0.472	0.217	S7W3/8×24×9	0.469	0.157	0.394
UC310-113D1W6	0.551	0.256	S7W1/2×20×11	0.547	0.189	0.472
UC310-114D1W6	0.551	0.256	S7W1/2×20×11	0.547	0.189	0.472
UC310-115D1W6	0.551	0.256	S7W1/2×20×11	0.547	0.189	0.472
UC311-200D1W6	0.551	0.256	S7W1/2×20×11	0.547	0.189	0.472
UC311-201D1W6	0.551	0.256	S7W1/2×20×11	0.547	0.189	0.472
UC311-202D1W6	0.551	0.256	S7W1/2×20×11	0.547	0.189	0.472
UC311-203D1W6	0.551	0.256	S7W1/2×20×11	0.547	0.189	0.472
UC312-204D1W6	0.551	0.256	S7W1/2×20×11	0.547	0.189	0.472
UC312-205D1W6	0.551	0.256	S7W1/2×20×11	0.547	0.189	0.472
UC312-206D1W6	0.551	0.256	S7W1/2×20×11	0.547	0.189	0.472
UC312-207D1W6	0.551	0.256	S7W1/2×20×11	0.547	0.189	0.472
UC313-208D1W6	0.551	0.256	S7W1/2×20×11	0.547	0.189	0.472
UC313-209D1W6	0.551	0.256	S7W1/2×20×11	0.547	0.189	0.472
UC314-210D1W6	0.551	0.256	S7W1/2×20×11	0.547	0.189	0.472
UC314-211D1W6	0.551	0.256	S7W1/2×20×11	0.547	0.189	0.472
UC314-212D1W6	0.551	0.256	S7W1/2×20×11	0.547	0.189	0.472
UC315-213D1W6	0.630	0.295	S7W9/16×18×13	0.626	0.228	0.551
UC315-214D1W6	0.630	0.295	S7W9/16×18×13	0.626	0.228	0.551
UC315-215D1W6	0.630	0.295	S7W9/16×18×13	0.626	0.228	0.551
UC315-300D1W6	0.630	0.295	S7W9/16×18×13	0.626	0.228	0.551
UC316-301D1W6	0.630	0.295	S7W9/16×18×13	0.626	0.228	0.551
UC316-302D1W6	0.630	0.295	S7W9/16×18×13	0.626	0.228	0.551
UC316-303D1W6	0.630	0.295	S7W9/16×18×13	0.626	0.228	0.551
UC317-304D1W6	0.709	0.335	S7W5/8×18×16	0.705	0.256	0.669
UC317-305D1W6	0.709	0.335	S7W5/8×18×16	0.705	0.256	0.669
UC318-307D1W6	0.709	0.335	S7W5/8×18×16	0.705	0.256	0.669
UC318-308D1W6	0.709	0.335	S7W5/8×18×16	0.705	0.256	0.669
UC319-310D1W6	0.709	0.335	S7W5/8×18×16	0.705	0.256	0.669
UC319-311D1W6	0.709	0.335	S7W5/8×18×16	0.705	0.256	0.669
UC319-312D1W6	0.709	0.335	S7W5/8×18×16	0.705	0.256	0.669
UC320-314D1W6	0.787	0.413	S7W5/8×18×18	0.783	0.335	0.748
UC320-315D1W6	0.787	0.413	S7W5/8×18×18	0.783	0.335	0.748
UC320-400D1W6	0.787	0.413	S7W5/8×18×18	0.783	0.335	0.748

Note: The tolerance for the width (b) of the key way should be set at the range of 0 to +0.008 inch.

8.2 Eccentric collar system

As in the case of the set screw system, it is usual under normal operating conditions to fit the inner ring onto the shaft by means of a clearance fit, for ease of assembly.

Fit. 8.6 shows the appropriate values of dimensional tolerances for the shaft.



8.3 Adapter system bearing units

Since in the case of the adapter system, the bearing unit is fastened onto the shaft by means of a sleeve, for dimensional tolerances for the shaft, h9 is applicable under all operating conditions.