

# KOYO



# Ball bearing units

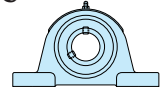
Ball bearing units consist of pre-lubricated sealed ball bearings and a housing which varies in shape.

They are capable of aligning themselves efficiently using the spherical fitting surface between the bearing and housing, effectively preventing overloads due to misalignment.

Koyo ball bearing units are highly accurate and feature excellent load resistance. They are completely sealed, and provided with a relubrication feature.

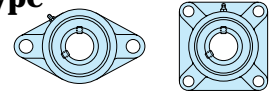
Ball bearing units without a relubrication feature are also available.

## Pillow block type



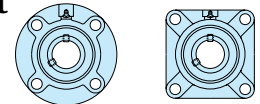
Bore diameter 12 – 140 mm

## Flanged type



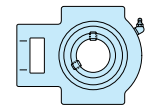
Bore diameter 12 – 140 mm

## Flanged type with spigot joint



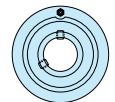
Bore diameter 12 – 140 mm

## Take-up type



Bore diameter 12 – 140 mm

## Cartridge type



Bore diameter 12 – 65 mm

## Light duty units



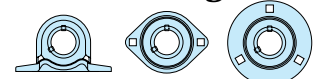
Bore diameter 12 – 40 mm

## "Clean" series (made from light alloy)



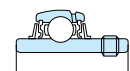
Bore diameter 10 – 30 mm

## Pressed steel housing units



Bore diameter 12 – 35 mm

## Ball bearings for units










Bore diameter 10 – 140 mm

# Ball bearing units

## Major ball bearing unit types

### (1) Cast iron units

	<p>Pillow block type</p> <ul style="list-style-type: none"> <li>● UCP 2-X-3</li> <li>▲ UKP 2-X-3</li> </ul>
	<p>Rhombic-flanged type</p> <ul style="list-style-type: none"> <li>● UCFL 2-X-3</li> <li>▲ UKFL 2-X-3</li> </ul>
	<p>Square-flanged type</p> <ul style="list-style-type: none"> <li>● UCF 2-X-3</li> <li>▲ UKF 2-X-3</li> </ul>
	<p>Round-flanged type with spigot joint</p> <ul style="list-style-type: none"> <li>● UCFC 2-X</li> <li>▲ UKFC 2-X</li> </ul>
	<p>Square-flanged type with spigot joint</p> <ul style="list-style-type: none"> <li>● UCFS 3</li> <li>▲ UKFS 3</li> </ul>
	<p>Take-up type</p> <ul style="list-style-type: none"> <li>● UCT 2-X-3</li> <li>▲ UKT 2-X-3</li> </ul>
	<p>Cartridge type</p> <ul style="list-style-type: none"> <li>● UCC 2</li> <li>▲ UKC 2</li> </ul>

#### Special pillow block type



#### Thick section pillow block type





#### Flanged type variations





#### Hanger type






### (2) Light duty units (cast iron)

Pillow block type	Rhombic-flanged type
	
● BLP 2	● BLF 2



### (3) "Clean" series units (special light alloy)

Pillow block type	Rhombic-flanged type
	
● UP 0	● UFL 0



### (4) Pressed steel housing units

		
● SBPP 2	● SBPFL 2	● SBPF 2

### (5) Take-up units with frame

	
● UCTH 2	● UCL 2 ● UCTU 2-3

### (6) Ball bearings for units

	<p>Cylindrical bore type (set screw locking)</p> <ul style="list-style-type: none"> <li>● UC 2-X-3</li> <li>● SU 0</li> <li>● SB 2</li> </ul>
	<p>Tapered bore type (adapter locking)</p> <ul style="list-style-type: none"> <li>● UK 2-X-3</li> </ul>

Notes) This catalogue includes the specifications of major units and bearings which are boxed in the table.

Marks ● : set screw locking, ▲ : adapter locking

Tolerances	<ul style="list-style-type: none"> <li>• Ball bearings ..... as specified in JIS B 1558 (Tables 1 and 2).</li> <li>• Housings ..... as specified in JIS B 1559.  <div style="text-align: center;"> <span style="font-size: 2em;">[</span> the internal spherical diameter <span style="font-size: 2em;">]</span>  tolerance is given in Table 3. </div> </li> </ul>
Bearing radial internal clearance	<p>As specified in JIS B 1520 (Table 2-1 on p. A 11).</p> <p>Koyo provides cylindrical bore bearings with normal radial internal clearance. Tapered bore bearings are provided with a C3 radial internal clearance in consideration of possible inner ring expansion caused by tightening of an adapter.</p>
Recommended fits of inner ring and shaft (indicated by the tolerance class)	<ul style="list-style-type: none"> <li>• Cylindrical bore bearings ..... h6, h7, h8, j6 (k6, k7 and m6 when heavy or impact load is to be supported.)</li> <li>• Tapered bore bearings ..... h8, h9</li> <li>• High-speed blower bearings (S5) ..... h5, j5</li> </ul>
Rotation speed limits	See Table 4.
Allowable aligning angle	• 0.052 rad (3°)

# Ball bearing units

**Table 1 Ball bearings for units : inner ring tolerance**

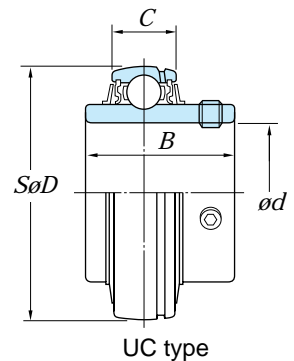
Unit  $\mu\text{m}$

Nominal bore diameter $d$ (mm)		Bore diameter						Single inner (outer) ring width deviation $\Delta B_s (\Delta C_s)$		Radial runout of assembled bearing inner ring $K_{ia}$
		UC, SU and SB types			Bearings for blower (S5)					
		Single plane mean bore diameter deviation $\Delta d_{mp}$		Single radial plane bore diameter variation $Vd_p$	Single plane mean bore diameter deviation $\Delta d_{mp}$		Single radial plane bore diameter variation $Vd_p$			
over	up to	upper	lower	max.	upper	lower	max.	upper	lower	max.
10 more	18	+15	0	10	+13	0	6	0	-120	15
18	31.75	+18	0	12	+13	0	6	0	-120	18
31.75	50.8	+21	0	14	+13	0	10	0	-120	20
50.8	80	+24	0	16	+15	0	10	0	-150	25
80	120	+28	0	19	+18	0	14	0	-200	30
120	180	+33	0	22	+23	0	14	0	-250	35

**Table 2 Ball bearings for units : outer ring tolerance**

Unit  $\mu\text{m}$

Nominal outside diameter $D$ (mm)		Mean outside diameter deviation $\Delta D_m$		Radial runout of assembled bearing outer ring $K_{ea}$
over	up to	upper	lower	max.
18	30	0	-9	15
30	50	0	-11	20
50	80	0	-13	25
80	120	0	-15	35
120	150	0	-18	40
150	180	0	-25	45
180	250	0	-30	50
250	315	0	-35	60

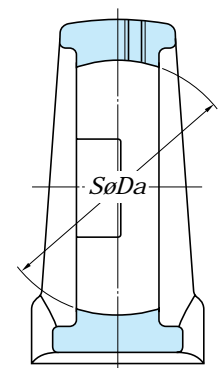


Note) The lower value of mean outside diameter deviation does not apply to the sides of outer rings up to the extent of a quarter of the outer ring width from the side faces.

**Table 3 Housing spherical bore diameter tolerance**

Unit  $\mu\text{m}$

Nominal spherical bore diameter $D_a$ (mm)		Tolerance class H7		Tolerance class J7		Tolerance class K7		All tolerance classes
		Single plane mean spherical bore diameter deviation $\Delta D_{amp}$		Single plane mean spherical bore diameter deviation $\Delta D_{amp}$		Single plane mean spherical bore diameter deviation $\Delta D_{amp}$		Single radial plane spherical bore diameter variation $Vd_p$
		upper	lower	upper	lower	upper	lower	max.
over	up to	upper	lower	upper	lower	upper	lower	max.
18	30	+21	0	+12	-9	+6	-15	8
30	50	+25	0	+14	-11	+7	-18	10
50	80	+30	0	+18	-12	+9	-21	12
80	120	+35	0	+22	-13	+10	-25	14
120	180	+40	0	+26	-14	+12	-28	16
180	250	+46	0	+30	-16	+13	-33	18
250	315	+52	0	+36	-16	+16	-36	20



Remark) Koyo generally applies class J to housing designs.

Class H and class K and also be applied depending on the application.

**Table 4 Rotation speed limits of ball bearing units**

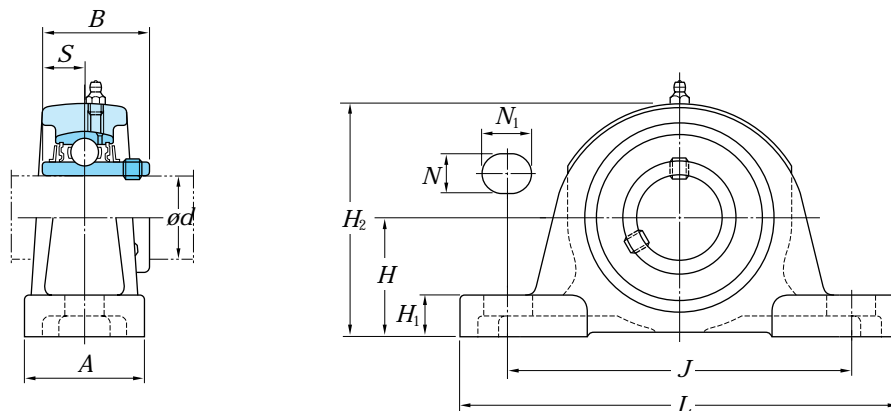
 Unit  $\mu\text{m}$ 

Bore diameter No.	Standard			Triple lip sealed (L3)			For high speed rotation (K3 and S5)			Heat resistant type B (D1K2)
	Diameter series			Diameter series			Diameter series			Diameter series
	2	X	3	2	X	3	2	X	3	2, X, 3
01	5 800			2 300			8 700			3 800
02	5 800			2 300			8 700			3 800
03	5 800			2 300			8 700			3 800
04	5 800			2 300			8 700			3 800
05	5 100	4 300	4 600	2 100	960		7 700	6 400	6 700	3 000
06	4 300	3 700	3 900	960	830		6 400	5 500	5 800	2 500
07	3 700	3 300	3 400	830	750	770	5 500	5 000	5 100	2 100
08	3 300	3 100	3 100	750	690	690	5 000	4 600	4 600	1 900
09	3 100	2 800	2 700	690	640	620	4 600	4 300	4 100	1 700
10	2 800	2 500	2 400	640	570	550	4 300	3 800	3 700	1 500
11	2 500	2 300	2 300	570	520	510	3 800	3 500	3 400	1 400
12	2 300	2 200	2 100	520	490	470	3 500	3 200	3 100	1 300
13	2 200	2 100	1 900	490	460	440	3 200	3 100	2 900	1 200
14	2 100	2 000	1 800	460	440	410	3 100	2 900	2 700	1 100
15	2 000	1 800	1 700	440	410	380	2 900	2 700	2 600	1 000
16	1 800	1 700	1 600	410	380	360	2 700	2 600	2 400	940
17	1 700	1 600	1 500	380	360	340	2 600	2 400	2 300	880
18	1 600	1 500	1 400	360	340	320	2 400	2 300	2 100	830
19		–	1 400		–	310		–	2 000	790
20		1 300	1 300		300	280		2 000	1 900	750
21			1 200			–			1 800	710
22			1 100			250			1 700	680
24			1 100			240			1 600	630
26			1 000			220			1 500	580
28			910			200			1 400	540

- Remarks) 1. Cold-resistant types (D2K2) and heat-resistant types A (D3K2) feature the same level of rotation speed limits as the standard type.  
 2. Refer to a separate catalog for details of triple lip sealed bearings, high-speed bearings (K3 and S5) and heat-resistant bearings (D1K2 and D3K2).  
 3. When bearings are fit loosely, rotation speed limits should be compensated for by the fitting coefficient given below.

Bearing type	Fitting coefficient					
	Shaft tolerance class					
	h 5, js 5	h 6	h 7	h 8	h 9	j 6
Standard	–	1	0.8	0.5	0.2	1
Triple lip sealed (L3)	–	–	1	1	0.9	–
For high speed rotation (K3)	–	0.8	0.6	–	–	1
For blower (S5)	1	0.8	0.6	–	–	–
Heat-resistant type B (D1K2)	–	–	1	1	0.7	–

# Ball bearing units pillow block type UCP (set screw locking) $d$ 12 – 55 mm



Shaft dia. (mm) $d$	Dimensions (mm)										Bolt size	Unit No.	Housing No.	Applicable bearing Basic load ratings (kN)		(Refer.) Unit Mass (kg)	
	$H$	$J$	$L$	$A$	$H_1$	$H_2$	$N$	$N_1$	$B$	$S$				No.	$C_r$		$C_{0r}$
12	30.2	95	127	38	12	60	13	18	31	12.7	M10	<b>UCP201</b>	P203	UC201	12.8	6.65	0.63
15	30.2	95	127	38	12	60	13	18	31	12.7	M10	<b>UCP202</b>	P203	UC202	12.8	6.65	0.61
17	30.2	95	127	38	12	60	13	18	31	12.7	M10	<b>UCP203</b>	P203	UC203	12.8	6.65	0.60
20	33.3	95	127	38	13	64	13	18	31	12.7	M10	<b>UCP204</b>	P204	UC204	12.8	6.65	0.66
25	36.5	105	140	38	13	71	13	18	34.1	14.3	M10	<b>UCP205</b>	P205	UC205	14.0	7.85	0.80
	44.4	119	159	51	16	86	17	25	38.1	15.9	M14	<b>UCPX05</b>	PX05	UCX05	19.5	11.3	1.5
	45	132	175	45	16	85	17	20	38	15	M14	<b>UCP305</b>	P305	UC305	20.6	11.3	1.7
30	42.9	121	165	48	15	84	17	21	38.1	15.9	M14	<b>UCP206</b>	P206	UC206	19.5	11.3	1.3
	47.6	127	175	57	17	93	17	25	42.9	17.5	M14	<b>UCPX06</b>	PX06	UCX06	25.7	15.4	2.1
	50	140	180	50	17	95	17	20	43	17	M14	<b>UCP306</b>	P306	UC306	26.7	15.0	2.2
35	47.6	127	167	48	16	93	17	21	42.9	17.5	M14	<b>UCP207</b>	P207	UC207	25.7	15.4	1.6
	54	144	203	57	19	105	17	30	49.2	19	M14	<b>UCPX07</b>	PX07	UCX07	29.1	17.8	2.7
	56	160	210	56	19	107	17	25	48	19	M14	<b>UCP307</b>	P307	UC307	33.4	19.3	3.0
40	49.2	137	184	54	17	98	17	21	49.2	19	M14	<b>UCP208</b>	P208	UC208	29.1	17.8	2.0
	58.7	156	222	67	21	114	20	32	49.2	19	M16	<b>UCPX08</b>	PX08	UCX08	32.7	20.3	3.5
	60	170	220	60	19	118	17	27	52	19	M14	<b>UCP308</b>	P308	UC308	40.7	24.0	3.8
45	54	146	190	54	17	106	17	21	49.2	19	M14	<b>UCP209</b>	P209	UC209	32.7	20.3	2.2
	58.7	156	222	67	21	116	20	33	51.6	19	M16	<b>UCPX09</b>	PX09	UCX09	35.1	23.3	3.7
	67	190	245	67	21	132	20	30	57	22	M16	<b>UCP309</b>	P309	UC309	48.9	29.5	4.9
50	57.2	159	206	60	19	113	20	22	51.6	19	M16	<b>UCP210</b>	P210	UC210	35.1	23.3	2.9
	63.5	171	241	73	22	126	20	36	55.6	22.2	M16	<b>UCPX10</b>	PX10	UCX10	43.4	29.4	4.6
	75	212	275	75	24	148	20	35	61	22	M16	<b>UCP310</b>	P310	UC310	62.0	38.3	6.6
55	63.5	171	219	60	19	125	20	22	55.6	22.2	M16	<b>UCP211</b>	P211	UC211	43.4	29.4	3.6
	69.8	184	260	79	28	139	25	36	65.1	25.4	M20	<b>UCPX11</b>	PX11	UCX11	52.4	36.2	6.5
	80	236	310	80	27	158	20	38	66	25	M16	<b>UCP311</b>	P311	UC311	71.6	45.0	7.9

Remarks 1) Applicable sizes of grease nipples are shown below.

[ 1/4-28UNF ..... 201 – 210, X05 – X09, 305 – 308 ]  
 [ PT 1/8 ..... 211 – 218, X10 – X20, 309 – 328 ]

2) For bearings with double- or triple-lip seals, unit and bearing number are suffixed by L2 or L3.  
 (For more detailed information, refer to ball bearing for unit specification tables.)

## d 60 – 140 mm

Shaft dia. (mm) <i>d</i>	Dimensions (mm)										Bolt size	Unit No.	Housing No.	Applicable bearing		(Refer.) Unit Mass (kg)	
	<i>H</i>	<i>J</i>	<i>L</i>	<i>A</i>	<i>H</i> <sub>1</sub>	<i>H</i> <sub>2</sub>	<i>N</i>	<i>N</i> <sub>1</sub>	<i>B</i>	<i>S</i>				No.	Basic load ratings (kN) <i>C</i> <sub>r</sub>		<i>C</i> <sub>0r</sub>
60	69.8	184	241	70	22	138	20	25	65.1	25.4	M16	UCP212	P212	UC212	52.4	36.2	4.9
	76.2	203	286	83	28	152	25	40	65.1	25.4	M20	UCPX12	PX12	UCX12	57.2	40.1	7.7
	85	250	330	85	29	167	25	38	71	26	M20	UCP312	P312	UC312	81.9	52.2	9.5
65	76.2	203	265	70	25	150	25	30	65.1	25.4	M20	UCP213	P213	UC213	57.2	40.1	5.9
	76.2	203	286	83	28	155	25	40	74.6	30.2	M20	UCPX13	PX13	UCX13	62.2	44.1	8.1
	90	260	340	90	32	176	25	38	75	30	M20	UCP313	P313	UC313	92.7	59.9	10.7
70	79.4	210	266	72	28	156	25	30	74.6	30.2	M20	UCP214	P214	UC214	62.2	44.1	6.8
	88.9	229	330	89	32	171	27	50	77.8	33.3	M22	UCPX14	PX14	UCX14	67.4	48.3	10.2
	95	280	360	90	35	186	27	40	78	33	M22	UCP314	P314	UC314	104	68.2	12.4
75	82.6	217	275	74	28	162	25	30	77.8	33.3	M20	UCP215	P215	UC215	67.4	48.3	7.4
	88.9	229	330	89	32	175	27	50	82.6	33.3	M22	UCPX15	PX15	UCX15	72.7	53.0	10.8
	100	290	380	100	35	198	27	40	82	32	M22	UCP315	P315	UC315	113	77.2	14.8
80	88.9	232	292	78	32	174	25	35	82.6	33.3	M20	UCP216	P216	UC216	72.7	53.0	9.0
	101.6	283	381	102	34	195	27	58	85.7	34.1	M22	UCPX16	PX16	UCX16	84.0	61.9	15.3
	106	300	400	110	35	209	27	40	86	34	M22	UCP316	P316	UC316	123	86.7	18.5
85	95.2	247	310	83	32	185	25	40	85.7	34.1	M20	UCP217	P217	UC217	84.0	61.9	10.8
	101.6	283	381	102	34	200	27	60	96	39.7	M22	UCPX17	PX17	UCX17	96.1	71.5	16.1
	112	320	420	110	40	220	33	45	96	40	M27	UCP317	P317	UC317	133	96.8	20.3
90	101.6	262	327	88	34	198	27	45	96	39.7	M22	UCP218	P218	UC218	96.1	71.5	13.9
	101.6	283	381	111	38	204	27	60	104	42.9	M22	UCPX18	PX18	UCX18	109	81.9	19.1
	118	330	430	110	40	234	33	45	96	40	M27	UCP318	P318	UC318	143	107	22.8
95	125	360	470	120	46	248	36	50	103	41	M30	UCP319	P319	UC319	153	119	29.0
100	127	337	432	121	45	245	33	65	117.5	49.2	M27	UCPX20	PX20	UCX20	133	105	30.4
	140	380	490	120	46	273	36	50	108	42	M30	UCP320	P320	UC320	173	141	35.1
105	140	380	490	120	46	278	36	50	112	44	M30	UCP321	P321	UC321	184	153	37.6
110	150	400	520	140	50	296	40	55	117	46	M33	UCP322	P322	UC322	205	180	44.0
120	160	450	570	140	50	316	40	55	126	51	M33	UCP324	P324	UC324	207	185	55.4
130	180	480	600	140	50	355	40	55	135	54	M33	UCP326	P326	UC326	229	214	72.1
140	200	500	620	140	60	393	40	55	145	59	M33	UCP328	P328	UC328	253	246	92.5

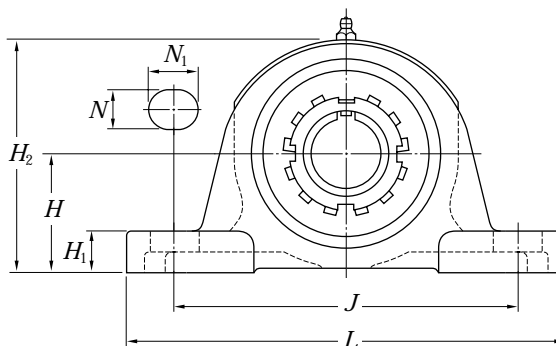
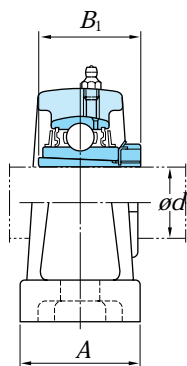
Remarks 1) Applicable sizes of grease nipples are shown below.

1/4-28UNF	.....	201 – 210, X05 – X09, 305 – 308
PT 1/8	.....	211 – 218, X10 – X20, 309 – 328

2) For bearings with double- or triple-lip seals, unit and bearing number are suffixed by L2 or L3.  
(For more detailed information, refer to ball bearing for unit specification tables.)



# Ball bearing units pillow block type UKP (adapter locking) $d$ 20 – 60 mm



Shaft dia. (mm) $d$	Dimensions (mm)									Bolt size	Unit No.	Housing No.	Applicable bearing Basic load ratings (kN)		(Refer.) Unit Mass (kg)	
	$H$	$J$	$L$	$A$	$H_1$	$H_2$	$N$	$N_1$	$B_1$				No.	$C_r$		$C_{0r}$
20	36.5	105	140	38	13	71	13	18	29	M10	<b>UKP205</b>	P205	UK205	14.0	7.85	0.84
	44.4	119	159	51	16	86	17	25	35	M14	<b>UKPX05</b>	PX05	UKX05	19.5	11.3	1.5
	45	132	175	45	16	85	17	20	35	M14	<b>UKP305</b>	P305	UK305	20.6	11.3	1.7
25	42.9	121	165	48	15	84	17	21	31	M14	<b>UKP206</b>	P206	UK206	19.5	11.3	1.4
	47.6	127	175	57	17	93	17	25	38	M14	<b>UKPX06</b>	PX06	UKX06	25.7	15.4	2.1
	50	140	180	50	17	95	17	20	38	M14	<b>UKP306</b>	P306	UK306	26.7	15.0	2.3
30	47.6	127	167	48	16	93	17	21	35	M14	<b>UKP207</b>	P207	UK207	25.7	15.4	1.7
	54	144	203	57	19	105	17	30	43	M14	<b>UKPX07</b>	PX07	UKX07	29.1	17.8	2.7
	56	160	210	56	19	107	17	25	43	M14	<b>UKP307</b>	P307	UK307	33.4	19.3	3.0
35	49.2	137	184	54	17	98	17	21	36	M14	<b>UKP208</b>	P208	UK208	29.1	17.8	2.0
	58.7	156	222	67	21	114	20	32	46	M16	<b>UKPX08</b>	PX08	UKX08	32.7	20.3	3.5
	60	170	220	60	19	118	17	27	46	M14	<b>UKP308</b>	P308	UK308	40.7	24.0	3.8
40	54	146	190	54	17	106	17	21	39	M14	<b>UKP209</b>	P209	UK209	32.7	20.3	2.3
	58.7	156	222	67	21	116	20	33	50	M16	<b>UKPX09</b>	PX09	UKX09	35.1	23.3	3.7
	67	190	245	67	21	132	20	30	50	M16	<b>UKP309</b>	P309	UK309	48.9	29.5	5.0
45	57.2	159	206	60	19	113	20	22	42	M16	<b>UKP210</b>	P210	UK210	35.1	23.3	3.0
	63.5	171	241	73	22	126	20	36	55	M16	<b>UKPX10</b>	PX10	UKX10	43.4	29.4	4.6
	75	212	275	75	24	148	20	35	55	M16	<b>UKP310</b>	P310	UK310	62.0	38.3	6.7
50	63.5	171	219	60	19	125	20	22	45	M16	<b>UKP211</b>	P211	UK211	43.4	29.4	3.7
	69.8	184	260	79	28	139	25	36	59	M20	<b>UKPX11</b>	PX11	UKX11	52.4	36.2	6.2
	80	236	310	80	27	158	20	38	59	M16	<b>UKP311</b>	P311	UK311	71.6	45.0	8.1
55	69.8	184	241	70	22	138	20	25	47	M16	<b>UKP212</b>	P212	UK212	52.4	36.2	4.8
	76.2	203	286	83	28	152	25	40	62	M20	<b>UKPX12</b>	PX12	UKX12	57.2	40.1	7.5
	85	250	330	85	29	167	25	38	62	M20	<b>UKP312</b>	P312	UK312	81.9	52.2	9.4
60	76.2	203	265	70	25	150	25	30	50	M20	<b>UKP213</b>	P213	UK213	57.2	40.1	5.8
	76.2	203	286	83	28	155	25	40	65	M20	<b>UKPX13</b>	PX13	UKX13	62.2	44.1	7.8
	90	260	340	90	32	176	25	38	65	M20	<b>UKP313</b>	P313	UK313	92.7	59.9	10.8

Remark ) Applicable sizes of grease nipples are shown below.

1/4-28UNF	.....	205 – 210, X05 – X09, 305 – 308
PT 1/8	.....	211 – 218, X10 – X20, 309 – 328

## *d* 65 – 125 mm

Shaft dia. (mm) <i>d</i>	Dimensions (mm)									Bolt size	Unit No.	Housing No.	Applicable bearing		(Refer.) Unit Mass (kg)	
	<i>H</i>	<i>J</i>	<i>L</i>	<i>A</i>	<i>H</i> <sub>1</sub>	<i>H</i> <sub>2</sub>	<i>N</i>	<i>N</i> <sub>1</sub>	<i>B</i> <sub>1</sub>				No.	Basic load ratings (kN) <i>C</i> <sub>r</sub> <i>C</i> <sub>0r</sub>		
<b>65</b>	82.6	217	275	74	28	162	25	30	55	M20	<b>UKP215</b>	P215	UK215	67.4	48.3	7.5
	88.9	229	330	89	32	175	27	50	73	M22	<b>UKPX15</b>	PX15	UKX15	72.7	53.0	10.5
	100	290	380	100	35	198	27	40	73	M22	<b>UKP315</b>	P315	UK315	113	77.2	14.9
<b>70</b>	88.9	232	292	78	32	174	25	35	59	M20	<b>UKP216</b>	P216	UK216	72.7	53.0	9.2
	101.6	283	381	102	34	195	27	58	78	M22	<b>UKPX16</b>	PX16	UKX16	84.0	61.9	15.4
	106	300	400	110	35	209	27	40	78	M22	<b>UKP316</b>	P316	UK316	123	86.7	18.6
<b>75</b>	95.2	247	310	83	32	185	25	40	63	M20	<b>UKP217</b>	P217	UK217	84.0	61.9	11.0
	101.6	283	381	102	34	200	27	60	82	M22	<b>UKPX17</b>	PX17	UKX17	96.1	71.5	15.8
	112	320	420	110	40	220	33	45	82	M27	<b>UKP317</b>	P317	UK317	133	96.8	20.2
<b>80</b>	101.6	262	327	88	34	198	27	45	65	M22	<b>UKP218</b>	P218	UK218	96.1	71.5	13.8
	101.6	283	381	111	38	204	27	60	86	M22	<b>UKPX18</b>	PX18	UKX18	109	81.9	18.6
	118	330	430	110	40	234	33	45	86	M27	<b>UKP318</b>	P318	UK318	143	107	22.8
<b>85</b>	125	360	470	120	46	248	36	50	90	M30	<b>UKP319</b>	P319	UK319	153	119	29.3
<b>90</b>	127	337	432	121	45	245	33	65	97	M27	<b>UKPX20</b>	PX20	UKX20	133	105	29.3
	140	380	490	120	46	273	36	50	97	M30	<b>UKP320</b>	P320	UK320	173	141	34.8
<b>100</b>	150	400	520	140	50	296	40	55	105	M33	<b>UKP322</b>	P322	UK322	205	180	43.9
<b>110</b>	160	450	570	140	50	316	40	55	112	M33	<b>UKP324</b>	P324	UK324	207	185	55.7
<b>115</b>	180	480	600	140	50	355	40	55	121	M33	<b>UKP326</b>	P326	UK326	229	214	71.9
<b>125</b>	200	500	620	140	60	393	40	55	131	M33	<b>UKP328</b>	P328	UK328	253	246	92.5

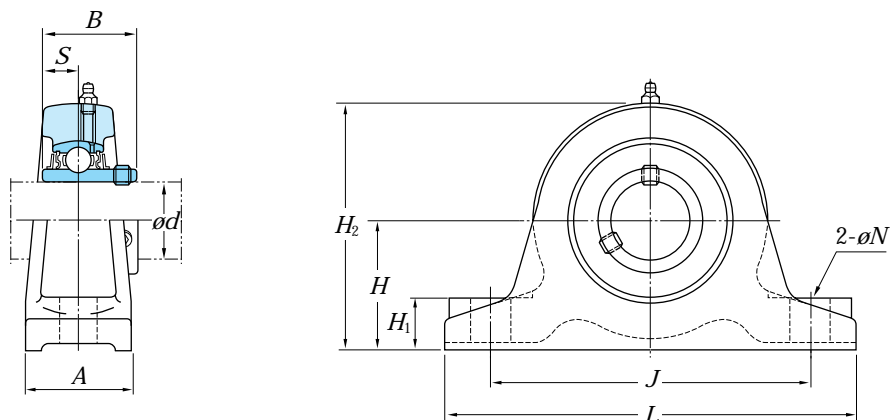
Remark ) Applicable sizes of grease nipples are shown below.  
 [ 1/4-28UNF ..... 205 – 210, X05 – X09, 305 – 308 ]  
 [ PT 1/8 ..... 211 – 218, X10 – X20, 309 – 328 ]

# Ball bearing units

## thick section pillow block type

### UCIP (set screw locking)

**d 40 – 140 mm**



Shaft dia. (mm) <i>d</i>	Dimensions (mm)									Bolt size	Unit No.	Housing No.	Applicable bearing No.	Basic load ratings (kN)		(Refer.) Unit Mass (kg)
	<i>H</i>	<i>J</i>	<i>L</i>	<i>A</i>	<i>H</i> <sub>1</sub>	<i>H</i> <sub>2</sub>	<i>N</i>	<i>B</i>	<i>S</i>					<i>C</i> <sub>r</sub>	<i>C</i> <sub>0r</sub>	
40	60	150	200	60	25	115	19	49.2	19	M16	UCIP208	IP208	UC208	29.1	17.8	3.4
45	70	160	210	60	25	128	19	49.2	19	M16	UCIP209	IP209	UC209	32.7	20.3	3.9
50	70	170	220	60	28	132	19	51.6	19	M16	UCIP210	IP210	UC210	35.1	23.3	4.8
55	80	180	230	60	28	148	19	55.6	22.2	M16	UCIP211	IP211	UC211	43.4	29.4	5.3
60	80	200	260	70	30	155	22	65.1	25.4	M20	UCIP212	IP212	UC212	52.4	36.2	7.2
65	90	220	280	70	30	172	22	65.1	25.4	M20	UCIP213	IP213	UC213	57.2	40.1	8.8
	110	250	310	70	30	208	22	75	30	M20	UCIP313	IP313	UC313	92.7	59.9	13.4
70	110	270	330	75	35	215	25	78	33	M22	UCIP314	IP314	UC314	104	68.2	15.3
75	120	280	340	75	35	230	25	82	32	M22	UCIP315	IP315	UC315	113	77.2	17.6
80	120	290	350	85	40	235	25	86	34	M22	UCIP316	IP316	UC316	123	86.7	20.3
85	130	310	370	85	40	255	25	96	40	M22	UCIP317	IP317	UC317	133	96.8	25.9
90	130	330	400	85	45	260	29	96	40	M27	UCIP318	IP318	UC318	143	107	28.6
95	150	340	410	85	45	285	29	103	41	M27	UCIP319	IP319	UC319	153	119	31.7
100	150	360	430	85	45	295	29	108	42	M27	UCIP320	IP320	UC320	173	141	36.9
110	170	410	490	100	50	335	32	117	46	M30	UCIP322	IP322	UC322	205	180	52.4
120	170	430	510	100	50	345	32	126	51	M30	UCIP324	IP324	UC324	207	185	58.7
130	200	470	550	110	50	390	32	135	54	M30	UCIP326	IP326	UC326	229	214	76.2
140	200	500	590	110	55	400	35	145	59	M33	UCIP328	IP328	UC328	253	246	87.0

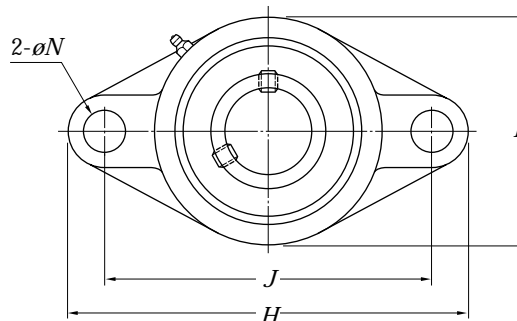
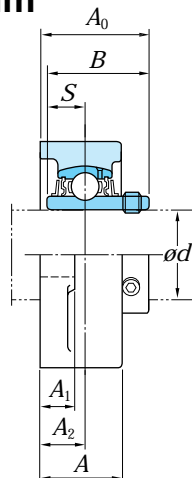
Remarks 1) Applicable sizes of grease nipples are shown below.

1/4-28UNF	.....	208 – 210
PT 1/8	.....	211 – 213, 313 – 328

2) Bearings with triple-lip seals are indicated by L3 after the bearing and unit number.  
(For more detailed information, refer to ball bearing for unit specification tables.)



# Ball bearing units rhombic-flanged type UCFL (set screw locking) $d$ 12 – 60 mm



Shaft dia. (mm) $d$	Dimensions (mm)											Bolt size	Unit No.	Housing No.	Applicable bearing No.	Applicable bearing Basic load ratings (kN)		(Refer.) Unit Mass (kg)
	$H$	$J$	$L$	$A$	$A_1$	$A_2$	$A_0$	$N$	$B$	$S$	$C_r$					$C_{0r}$		
12	113	90	60	25.5	11	15	33.3	12	31	12.7	M10	UCFL201	FL204	UC201	12.8	6.65	0.50	
15	113	90	60	25.5	11	15	33.3	12	31	12.7	M10	UCFL202	FL204	UC202	12.8	6.65	0.48	
17	113	90	60	25.5	11	15	33.3	12	31	12.7	M10	UCFL203	FL204	UC203	12.8	6.65	0.47	
20	113	90	60	25.5	11	15	33.3	12	31	12.7	M10	UCFL204	FL204	UC204	12.8	6.65	0.45	
25	130	99	68	27	13	16	35.8	16	34.1	14.3	M14	UCFL205	FL205	UC205	14.0	7.85	0.64	
	141	117	83	30	13	18	40.2	12	38.1	15.9	M10	UCFLX05	FLX05	UCX05	19.5	11.3	1.1	
	150	113	80	29	13	16	39	19	38	15	M16	UCFL305	FL305	UC305	20.6	11.3	1.1	
30	148	117	80	31	13	18	40.2	16	38.1	15.9	M14	UCFL206	FL206	UC206	19.5	11.3	0.93	
	156	130	95	34	14	19	44.4	16	42.9	17.5	M14	UCFLX06	FLX06	UCX06	25.7	15.4	1.5	
	180	134	90	32	15	18	44	23	43	17	M20	UCFL306	FL306	UC306	26.7	15.0	1.5	
35	161	130	90	34	14	19	44.4	16	42.9	17.5	M14	UCFL207	FL207	UC207	25.7	15.4	1.2	
	171	144	105	38	14	21	51.2	16	49.2	19	M14	UCFLX07	FLX07	UCX07	29.1	17.8	1.9	
	185	141	100	36	16	20	49	23	48	19	M20	UCFL307	FL307	UC307	33.4	19.3	1.8	
40	175	144	100	36	14	21	51.2	16	49.2	19	M14	UCFL208	FL208	UC208	29.1	17.8	1.6	
	179	148	111	40	14	22	52.2	16	49.2	19	M14	UCFLX08	FLX08	UCX08	32.7	20.3	2.1	
	200	158	112	40	17	23	56	23	52	19	M20	UCFL308	FL308	UC308	40.7	24.0	2.5	
45	188	148	108	38	15	22	52.2	19	49.2	19	M16	UCFL209	FL209	UC209	32.7	20.3	1.9	
	189	157	116	40	14	23	55.6	16	51.6	19	M14	UCFLX09	FLX09	UCX09	35.1	23.3	2.4	
	230	177	125	44	18	25	60	25	57	22	M22	UCFL309	FL309	UC309	48.9	29.5	3.5	
50	197	157	115	40	15	22	54.6	19	51.6	19	M16	UCFL210	FL210	UC210	35.1	23.3	2.2	
	216	184	133	44	20	26	59.4	19	55.6	22.2	M16	UCFLX10	FLX10	UCX10	43.4	29.4	3.8	
	240	187	140	48	19	28	67	25	61	22	M22	UCFL310	FL310	UC310	62.0	38.3	4.4	
55	224	184	130	43	18	25	58.4	19	55.6	22.2	M16	UCFL211	FL211	UC211	43.4	29.4	3.3	
	250	198	150	52	20	30	71	25	66	25	M22	UCFL311	FL311	UC311	71.6	45.0	5.3	
60	250	202	140	48	18	29	68.7	23	65.1	25.4	M20	UCFL212	FL212	UC212	52.4	36.2	4.2	
	270	212	160	56	22	33	78	31	71	26	M27	UCFL312	FL312	UC312	81.9	52.2	6.5	

Remarks 1) Applicable sizes of grease nipples are shown below.

[ 1/4-28UNF ..... 201 – 210, X05 – X09, 305 – 308 ]  
[ PT 1/8 ..... 211 – 218, X10, 309 – 318 ]

2) For bearings with double- or triple-lip seals, unit and bearing number are suffixed by L2 or L3.  
(For more detailed information, refer to ball bearing for unit specification tables.)

## *d* 65 – 90 mm

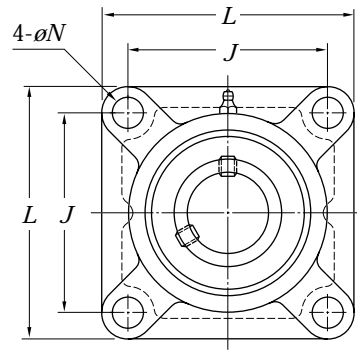
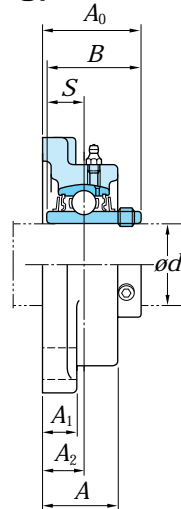
Shaft dia. (mm) <i>d</i>	Dimensions (mm)										Bolt size	Unit No.	Housing No.	Applicable bearing		(Refer.) Unit Mass (kg)	
	<i>H</i>	<i>J</i>	<i>L</i>	<i>A</i>	<i>A</i> <sub>1</sub>	<i>A</i> <sub>2</sub>	<i>A</i> <sub>0</sub>	<i>N</i>	<i>B</i>	<i>S</i>				No.	Basic load ratings (kN) <i>C</i> <sub>r</sub>		<i>C</i> <sub>0r</sub>
65	258	210	155	50	20	30	69.7	23	65.1	25.4	M20	UCFL213 UCFL313	FL213	UC213	57.2	40.1	5.1
	295	240	175	58	25	33	78	31	75	30	M27		FL313	UC313	92.7	59.9	8.5
70	265	216	160	54	20	31	75.4	23	74.6	30.2	M20	UCFL214 UCFL314	FL214	UC214	62.2	44.1	5.7
	315	250	185	61	28	36	81	35	78	33	M30		FL314	UC314	104	68.2	9.7
75	275	225	165	56	20	34	78.5	23	77.8	33.3	M20	UCFL215 UCFL315	FL215	UC215	67.4	48.3	6.4
	320	260	195	66	30	39	89	35	82	32	M30		FL315	UC315	113	77.2	11.3
80	290	233	180	58	20	34	83.3	25	82.6	33.3	M22	UCFL216 UCFL316	FL216	UC216	72.7	53.0	7.8
	355	285	210	68	32	38	90	38	86	34	M33		FL316	UC316	123	86.7	14.4
85	305	248	190	63	22	36	87.6	25	85.7	34.1	M22	UCFL217 UCFL317	FL217	UC217	84.0	61.9	9.8
	370	300	220	74	32	44	100	38	96	40	M33		FL317	UC317	133	96.8	16.0
90	320	265	205	68	23	40	96.3	25	96	39.7	M22	UCFL218 UCFL318	FL218	UC218	96.1	71.5	12.3
	385	315	235	76	36	44	100	38	96	40	M33		FL318	UC318	143	107	19.0

Remarks 1) Applicable sizes of grease nipples are shown below.

1/4-28UNF ..... 201 – 210, X05 – X09, 305 – 308  
PT 1/8 ..... 211 – 218, X10, 309 – 318

- 2) For bearings with double- or triple-lip seals, unit and bearing number are suffixed by L2 or L3.  
(For more detailed information, refer to ball bearing for unit specification tables.)

**Ball bearing units**  
**square-flanged type**  
**UCF (set screw locking)**  
 **$d$  12 – 55 mm**



Shaft dia. (mm) $d$	Dimensions (mm)									Bolt size	Unit No.	Housing No.	Applicable bearing Basic load ratings (kN)		(Refer.) Unit Mass (kg)	
	$J$	$L$	$A$	$A_1$	$A_2$	$A_0$	$N$	$B$	$S$				No.	$C_r$		$C_{0r}$
12	64	86	25.5	11	15	33.3	12	31	12.7	M10	<b>UCF201</b>	F204	UC201	12.8	6.65	0.64
15	64	86	25.5	11	15	33.3	12	31	12.7	M10	<b>UCF202</b>	F204	UC202	12.8	6.65	0.62
17	64	86	25.5	11	15	33.3	12	31	12.7	M10	<b>UCF203</b>	F204	UC203	12.8	6.65	0.61
20	64	86	25.5	11	15	33.3	12	31	12.7	M10	<b>UCF204</b>	F204	UC204	12.8	6.65	0.59
25	70	95	27	13	16	35.8	12	34.1	14.3	M10	<b>UCF205</b>	F205	UC205	14.0	7.85	0.83
	83	108	30	13	18	40.2	12	38.1	15.9	M10	<b>UCFX05</b>	FX05	UCX05	19.5	11.3	1.2
	80	110	29	13	16	39	16	38	15	M14	<b>UCF305</b>	F305	UC305	20.6	11.3	1.3
30	83	108	31	13	18	40.2	12	38.1	15.9	M10	<b>UCF206</b>	F206	UC206	19.5	11.3	1.1
	92	117	34	14	19	44.4	16	42.9	17.5	M14	<b>UCFX06</b>	FX06	UCX06	25.7	15.4	1.6
	95	125	32	15	18	44	16	43	17	M14	<b>UCF306</b>	F306	UC306	26.7	15.0	1.9
35	92	117	34	15	19	44.4	14	42.9	17.5	M12	<b>UCF207</b>	F207	UC207	25.7	15.4	1.5
	102	130	38	14	21	51.2	16	49.2	19	M14	<b>UCFX07</b>	FX07	UCX07	29.1	17.8	2.0
	100	135	36	16	20	49	19	48	19	M16	<b>UCF307</b>	F307	UC307	33.4	19.3	2.3
40	102	130	36	15	21	51.2	16	49.2	19	M14	<b>UCF208</b>	F208	UC208	29.1	17.8	1.9
	105	137	40	14	22	52.2	19	49.2	19	M16	<b>UCFX08</b>	FX08	UCX08	32.7	20.3	2.4
	112	150	40	17	23	56	19	52	19	M16	<b>UCF308</b>	F308	UC308	40.7	24.0	3.1
45	105	137	38	16	22	52.2	16	49.2	19	M14	<b>UCF209</b>	F209	UC209	32.7	20.3	2.2
	111	143	40	14	23	55.6	19	51.6	19	M16	<b>UCFX09</b>	FX09	UCX09	35.1	23.3	2.7
	125	160	44	18	25	60	19	57	22	M16	<b>UCF309</b>	F309	UC309	48.9	29.5	4.0
50	111	143	40	16	22	54.6	16	51.6	19	M14	<b>UCF210</b>	F210	UC210	35.1	23.3	2.5
	130	162	44	20	26	59.4	19	55.6	22.2	M16	<b>UCFX10</b>	FX10	UCX10	43.4	29.4	3.7
	132	175	48	19	28	67	23	61	22	M20	<b>UCF310</b>	F310	UC310	62.0	38.3	5.1
55	130	162	43	18	25	58.4	19	55.6	22.2	M16	<b>UCF211</b>	F211	UC211	43.4	29.4	3.4
	143	175	49	20	29	68.7	19	65.1	25.4	M16	<b>UCFX11</b>	FX11	UCX11	52.4	36.2	4.9
	140	185	52	20	30	71	23	66	25	M20	<b>UCF311</b>	F311	UC311	71.6	45.0	5.6

Remarks 1) Applicable sizes of grease nipples are shown below.

- [ 1/4-28UNF ..... 201 – 210, X05 – X09, 305 – 308 ]
- [ PT 1/8 ..... 211 – 218, X10 – X20, 309 – 328 ]

2) For bearings with double- or triple-lip seals, unit and bearing number are suffixed by L2 or L3.  
 (For more detailed information, refer to ball bearing for unit specification tables.)

## *d* 60 – 140 mm

Shaft dia. (mm) <i>d</i>	Dimensions (mm)									Bolt size	Unit No.	Housing No.	Applicable bearing		(Refer.) Unit Mass (kg)	
	<i>J</i>	<i>L</i>	<i>A</i>	<i>A</i> <sub>1</sub>	<i>A</i> <sub>2</sub>	<i>A</i> <sub>0</sub>	<i>N</i>	<i>B</i>	<i>S</i>				No.	Basic load ratings (kN) <i>C</i> <sub>r</sub> <i>C</i> <sub>0r</sub>		
60	143	175	48	18	29	68.7	19	65.1	25.4	M16	UCF212	F212	UC212	52.4	36.2	4.2
	149	187	59	21	34	73.7	19	65.1	25.4	M16	UCFX12	FX12	UCX12	57.2	40.1	5.7
	150	195	56	22	33	78	23	71	26	M20	UCF312	F312	UC312	81.9	52.2	6.9
65	149	187	50	22	30	69.7	19	65.1	25.4	M16	UCF213	F213	UC213	57.2	40.1	5.2
	149	187	59	21	34	78.4	19	74.6	30.2	M16	UCFX13	FX13	UCX13	62.2	44.1	6.3
	166	208	58	22	33	78	23	75	30	M20	UCF313	F313	UC313	92.7	59.9	7.8
70	152	193	54	22	31	75.4	19	74.6	30.2	M16	UCF214	F214	UC214	62.2	44.1	5.9
	152	197	60	22	37	81.5	23	77.8	33.3	M20	UCFX14	FX14	UCX14	67.4	48.3	7.0
	178	226	61	25	36	81	25	78	33	M22	UCF314	F314	UC314	104	68.2	10.1
75	159	200	56	22	34	78.5	19	77.8	33.3	M16	UCF215	F215	UC215	67.4	48.3	6.4
	152	197	68	24	40	89.3	23	82.6	33.3	M20	UCFX15	FX15	UCX15	72.7	53.0	8.4
	184	236	66	25	39	89	25	82	32	M22	UCF315	F315	UC315	113	77.2	11.6
80	165	208	58	22	34	83.3	23	82.6	33.3	M20	UCF216	F216	UC216	72.7	53.0	7.3
	171	214	70	24	40	91.6	23	85.7	34.1	M20	UCFX16	FX16	UCX16	84.0	61.9	9.4
	196	250	68	27	38	90	31	86	34	M27	UCF316	F316	UC316	123	86.7	12.8
85	175	220	63	24	36	87.6	23	85.7	34.1	M20	UCF217	F217	UC217	84.0	61.9	8.9
	171	214	70	24	40	96.3	23	96	39.7	M20	UCFX17	FX17	UCX17	96.1	71.5	10.8
	204	260	74	27	44	100	31	96	40	M27	UCF317	F317	UC317	133	96.8	15.3
90	187	235	68	25	40	96.3	23	96	39.7	M20	UCF218	F218	UC218	96.1	71.5	11.4
	171	214	76	24	45	106.1	23	104	42.9	M20	UCFX18	FX18	UCX18	109	81.9	11.9
	216	280	76	30	44	100	35	96	40	M30	UCF318	F318	UC318	143	107	18.9
95	228	290	94	30	59	121	35	103	41	M30	UCF319	F319	UC319	153	119	21.6
100	211	268	97	28	59	127.3	31	117.5	49.2	M27	UCFX20	FX20	UCX20	133	105	19.4
	242	310	94	32	59	125	38	108	42	M33	UCF320	F320	UC320	173	141	25.8
105	242	310	94	32	59	127	38	112	44	M33	UCF321	F321	UC321	184	153	30.2
110	266	340	96	35	60	131	41	117	46	M36	UCF322	F322	UC322	205	180	35.3
120	290	370	110	40	65	140	41	126	51	M36	UCF324	F324	UC324	207	185	47.3
130	320	410	115	45	65	146	41	135	54	M36	UCF326	F326	UC326	229	214	65.5
140	350	450	125	55	75	161	41	145	59	M36	UCF328	F328	UC328	253	246	93.4

Remarks 1) Applicable sizes of grease nipples are shown below.

1/4-28UNF .....	201 – 210, X05 – X09, 305 – 308
PT 1/8 .....	211 – 218, X10 – X20, 309 – 328

2) For bearings with double- or triple-lip seals, unit and bearing number are suffixed by L2 or L3.  
(For more detailed information, refer to ball bearing for unit specification tables.)

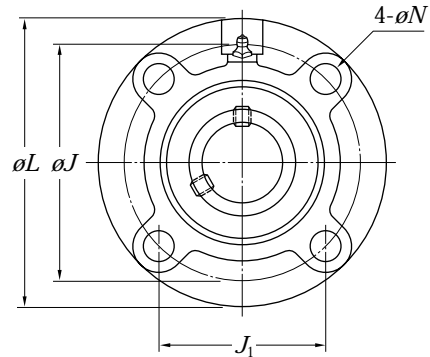
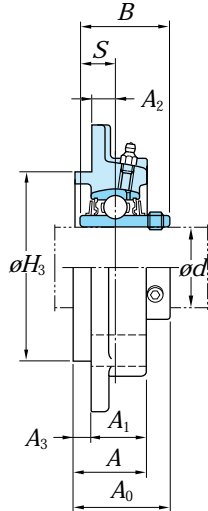


# Ball bearing units

## round-falnged type with spigot joint

### UCFC (set screw locking)

$d$  12 – 70 mm



Shaft dia. (mm) $d$	Dimensions (mm)												Bolt size	Unit No.	Housing No.	Applicable bearing		(Refer.) Unit Mass (kg)	
	$L$	$J$	$J_1$	$H_3$	$A$	$A_1$	$A_2$	$A_3$	$A_0$	$N$	$B$	$S$				No.	Basic load ratings (kN) $C_r$ $C_{0r}$		
12	100	78	55.1	62	25.5	20.5	10	5	33.3	12	31	12.7	M10	UCFC201	FC204	UC201	12.8	6.65	0.78
15	100	78	55.1	62	25.5	20.5	10	5	33.3	12	31	12.7	M10	UCFC202	FC204	UC202	12.8	6.65	0.76
17	100	78	55.1	62	25.5	20.5	10	5	33.3	12	31	12.7	M10	UCFC203	FC204	UC203	12.8	6.65	0.75
20	100	78	55.1	62	25.5	20.5	10	5	33.3	12	31	12.7	M10	UCFC204	FC204	UC204	12.8	6.65	0.73
25	115	90	63.6	70	27	21	10	6	35.8	12	34.1	14.3	M10	UCFC205	FC205	UC205	14.0	7.85	0.95
	111	92	65	76	30	24	10	6	38.2	9.5	38.1	15.9	M8	UCFCX05	FCX05	UCX05	19.5	11.3	1.2
30	125	100	70.7	80	31	23	10	8	40.2	12	38.1	15.9	M10	UCFC206	FC206	UC206	19.5	11.3	1.3
	127	105	74.2	85	32	22.5	8	9.5	42.9	12	42.9	17.5	M10	UCFCX06	FCX06	UCX06	25.7	15.4	1.5
35	135	110	77.8	90	34	26	11	8	44.4	14	42.9	17.5	M12	UCFC207	FC207	UC207	25.7	15.4	1.7
	133	111	78.5	92	37	26	9	11	50.2	12	49.2	19	M10	UCFCX07	FCX07	UCX07	29.1	17.8	1.9
40	145	120	84.8	100	36	26	11	10	51.2	14	49.2	19	M12	UCFC208	FC208	UC208	29.1	17.8	2.0
	133	111	78.5	92	37	26	9	11	50.2	12	49.2	19	M10	UCFCX08	FCX08	UCX08	32.7	20.3	2.0
45	160	132	93.3	105	38	26	10	12	52.2	16	49.2	19	M14	UCFC209	FC209	UC209	32.7	20.3	2.6
	155	130	91.9	108	37	25	8	12	52.6	14	51.6	19	M12	UCFCX09	FCX09	UCX09	35.1	23.3	2.6
50	165	138	97.6	110	40	28	10	12	54.6	16	51.6	19	M14	UCFC210	FC210	UC210	35.1	23.3	2.9
	162	136	96.2	118	41	25	7	16	56.4	14	55.6	22.2	M12	UCFCX10	FCX10	UCX10	43.4	29.4	3.2
55	185	150	106.1	125	43	31	13	12	58.4	19	55.6	22.2	M16	UCFC211	FC211	UC211	43.4	29.4	4.2
	180	152	107.5	127	48	26	4	22	65.7	16	65.1	25.4	M14	UCFCX11	FCX11	UCX11	52.4	36.2	4.3
60	195	160	113.1	135	48	36	17	12	68.7	19	65.1	25.4	M16	UCFC212	FC212	UC212	52.4	36.2	5.0
	194	165	116.7	140	53	33	11	20	70.7	16	65.1	25.4	M14	UCFCX12	FCX12	UCX12	57.2	40.1	5.3
65	205	170	120.2	145	50	36	16	14	69.7	19	65.1	25.4	M16	UCFC213	FC213	UC213	57.2	40.1	5.6
	194	165	116.7	140	53	33	11	20	75.4	16	74.6	30.2	M14	UCFCX13	FCX13	UCX13	62.2	44.1	5.7
70	215	177	125.1	150	54	40	17	14	75.4	19	74.6	30.2	M16	UCFC214	FC214	UC214	62.2	44.1	6.8
	222	190	134.3	164	56	36	14	20	78.5	19	77.8	33.3	M16	UCFCX14	FCX14	UCX14	67.4	48.3	7.3

Remarks 1) Applicable sizes of grease nipples are shown below.

$\left[ \begin{array}{l} 1/4-28UNF \dots\dots 201 - 210, X05 - X09 \\ PT 1/8 \dots\dots\dots 211 - 218, X10 - X20 \end{array} \right]$

2) For bearings with double- or triple-lip seals, unit and bearing number are suffixed by L2 or L3.  
(For more detailed information, refer to ball bearing for unit specification tables.)

## *d* 75 – 100 mm

Shaft dia. (mm) <i>d</i>	Dimensions (mm)													Bolt size	Unit No.	Housing No.	Applicable bearing			(Refer.) Unit Mass (kg)
	<i>L</i>	<i>J</i>	<i>J</i> <sub>1</sub>	<i>H</i> <sub>3</sub>	<i>A</i>	<i>A</i> <sub>1</sub>	<i>A</i> <sub>2</sub>	<i>A</i> <sub>3</sub>	<i>A</i> <sub>0</sub>	<i>N</i>	<i>B</i>	<i>S</i>	No.				Basic load ratings (kN) <i>C</i> <sub>r</sub> <i>C</i> <sub>0r</sub>			
<b>75</b>	220	184	130.1	160	56	40	18	16	78.5	19	77.8	33.3	M16	<b>UCFC215</b> <b>UCFCX15</b>	FC215 FCX15	UC215 UCX15	67.4 72.7	48.3 53.0	7.2 8.0	
	222	190	134.3	164	57	35	12	22	83.3	19	82.6	33.3								
<b>80</b>	240	200	141.4	170	58	42	18	16	83.3	23	82.6	33.3	M20	<b>UCFC216</b> <b>UCFCX16</b>	FC216 FCX16	UC216 UCX16	72.7 84.0	53.0 61.9	8.7 11.3	
	260	219	154.8	186	61	36	10	25	86.6	23	85.7	34.1	M20							
<b>85</b>	250	208	147.1	180	63	45	18	18	87.6	23	85.7	34.1	M20	<b>UCFC217</b> <b>UCFCX17</b>	FC217 FCX17	UC217 UCX17	84.0 96.1	61.9 71.5	10.3 12.9	
	260	219	154.8	186	61	36	10	25	91.3	23	96	39.7	M20							
<b>90</b>	265	220	155.5	190	68	50	22	18	96.3	23	96	39.7	M20	<b>UCFC218</b> <b>UCFCX18</b>	FC218 FCX18	UC218 UCX18	96.1 109	71.5 81.9	13.3 13.5	
	260	219	154.8	186	71	43	12	28	101.1	23	104	42.9	M20							
<b>100</b>	276	238	168.3	206	94	66	22	28	118.3	23	117.5	49.2	M20	<b>UCFCX20</b>	FCX20	UCX20	133	105	18.2	

Remarks 1) Applicable sizes of grease nipples are shown below.

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}
  
 1/4-28UNF ..... 201 – 210, X05 – X09

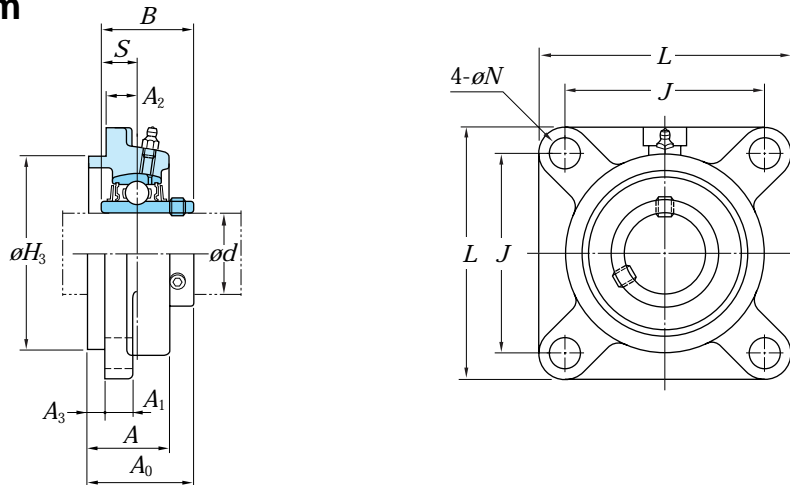
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 PT 1/8 ..... 211 – 218, X10 – X20

2) For bearings with double- or triple-lip seals, unit and bearing number are suffixed by L2 or L3.

(For more detailed information, refer to ball bearing for unit specification tables.)

# Ball bearing units square-flanged type with spigot joint UCFS (set screw locking)

$d$  25 – 140 mm



Shaft dia. (mm) $d$	Dimensions (mm)											Bolt size	Unit No.	Housing No.	Applicable bearing Basic load ratings (kN)		(Refer.) Unit Mass (kg)	
	$J$	$L$	$H_3$	$A$	$A_1$	$A_2$	$A_3$	$A_0$	$N$	$B$	$S$				No.	$C_r$		$C_{0r}$
25	80	110	80	29	13	9	7	39	16	38	15	M14	UCFS305	FS305	UC305	20.6	11.3	1.4
30	95	125	90	32	15	10	8	44	16	43	17	M14	UCFS306	FS306	UC306	26.7	15.0	1.9
35	100	135	100	36	16	11	9	49	19	48	19	M16	UCFS307	FS307	UC307	33.4	19.3	2.3
40	112	150	115	40	17	13	10	56	19	52	19	M16	UCFS308	FS308	UC308	40.7	24.0	3.4
45	125	160	125	44	18	14	11	60	19	57	22	M16	UCFS309	FS309	UC309	48.9	29.5	4.4
50	132	175	140	48	19	16	12	67	23	61	22	M20	UCFS310	FS310	UC310	62.0	38.3	5.3
55	140	185	150	52	20	17	13	71	23	66	25	M20	UCFS311	FS311	UC311	71.6	45.0	6.1
60	150	195	160	56	22	19	14	78	23	71	26	M20	UCFS312	FS312	UC312	81.9	52.2	7.4
65	166	208	175	58	22	15	18	78	23	75	30	M20	UCFS313	FS313	UC313	92.7	59.9	8.8
70	178	226	185	61	25	18	18	81	25	78	33	M22	UCFS314	FS314	UC314	104	68.2	11.2
75	184	236	200	66	25	21	18	89	25	82	32	M22	UCFS315	FS315	UC315	113	77.2	13.7
80	196	250	210	68	27	18	20	90	31	86	34	M27	UCFS316	FS316	UC316	123	86.7	15.1
85	204	260	220	74	27	24	20	100	31	96	40	M27	UCFS317	FS317	UC317	133	96.8	17.3
90	216	280	240	76	30	24	20	100	35	96	40	M30	UCFS318	FS318	UC318	143	107	21.3
95	228	290	250	94	30	39	20	121	35	103	41	M30	UCFS319	FS319	UC319	153	119	24.5
100	242	310	260	94	32	39	20	125	38	108	42	M33	UCFS320	FS320	UC320	173	141	29.5
105	242	310	260	94	32	39	20	127	38	112	44	M33	UCFS321	FS321	UC321	184	153	32.7
110	266	340	300	96	35	35	25	131	41	117	46	M36	UCFS322	FS322	UC322	205	180	39.0
120	290	370	330	110	40	35	30	140	41	126	51	M36	UCFS324	FS324	UC324	207	185	50.6
130	320	410	360	115	45	35	30	146	41	135	54	M36	UCFS326	FS326	UC326	229	214	67.7
140	350	450	400	125	55	45	30	161	41	145	59	M36	UCFS328	FS328	UC328	253	246	94.0

Remarks 1) Applicable sizes of grease nipples are shown below.

1/4-28UNF	305 – 308
PT 1/8	309 – 328

2) Bearings with triple-lip seals are indicated by L3 after the bearing and unit number.  
(For more detailed information, refer to ball bearing for unit specification tables.)

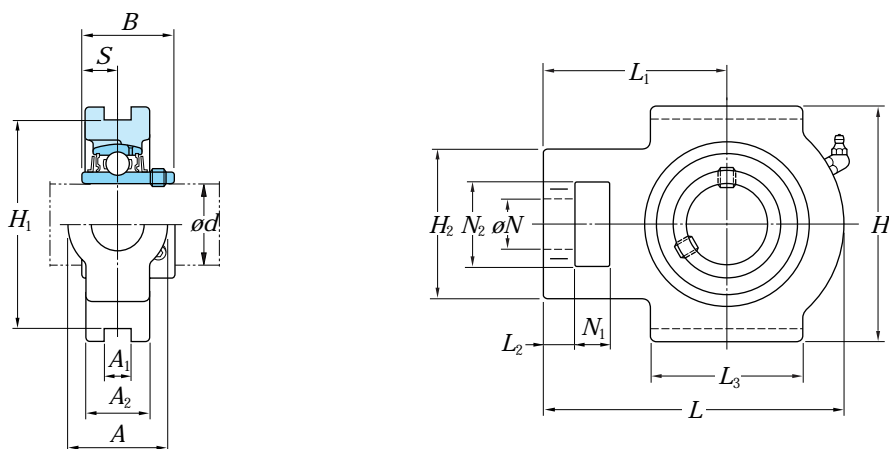


# Ball bearing units

## take-up type

### UCT (set screw locking)

#### $d$ 12 – 55 mm



Shaft dia. (mm) $d$	Dimensions (mm)															Unit No.	Housing No.	Applicable bearing No.	Basic load ratings (kN)		(Refer.) Unit Mass (kg)
	$A$	$A_1$	$A_2$	$H$	$H_1$	$H_2$	$L$	$L_1$	$L_2$	$L_3$	$N$	$N_1$	$N_2$	$B$	$S$				$C_r$	$C_{0r}$	
12	32	12	21	89	76	51	94	61	10	51	19	16	32	31	12.7	UCT201	T204	UC201	12.8	6.65	0.81
15	32	12	21	89	76	51	94	61	10	51	19	16	32	31	12.7	UCT202	T204	UC202	12.8	6.65	0.79
17	32	12	21	89	76	51	94	61	10	51	19	16	32	31	12.7	UCT203	T204	UC203	12.8	6.65	0.78
20	32	12	21	89	76	51	94	61	10	51	19	16	32	31	12.7	UCT204	T204	UC204	12.8	6.65	0.76
25	32	12	24	89	76	51	97	62	10	51	19	16	32	34.1	14.3	UCT205	T205	UC205	14.0	7.85	0.84
	37	12	28	102	89	56	113	70	10	57	22	16	37	38.1	15.9	UCTX05	TX05	UCX05	19.5	11.3	1.4
	36	12	26	89	80	62	122	76	12	65	26	16	36	38	15	UCT305	T305	UC305	20.6	11.3	1.4
30	37	12	28	102	89	56	113	70	10	57	22	16	37	38.1	15.9	UCT206	T206	UC206	19.5	11.3	1.3
	37	12	30	102	89	64	129	78	13	64	22	16	37	42.9	17.5	UCTX06	TX06	UCX06	25.7	15.4	1.7
	41	16	28	100	90	70	137	85	14	74	28	18	41	43	17	UCT306	T306	UC306	26.7	15.0	1.8
35	37	12	30	102	89	64	129	78	13	64	22	16	37	42.9	17.5	UCT207	T207	UC207	25.7	15.4	1.6
	49	16	36	114	102	83	144	88	15	83	29	19	49	49.2	19	UCTX07	TX07	UCX07	29.1	17.8	2.7
	45	16	32	111	100	75	150	94	15	80	30	20	45	48	19	UCT307	T307	UC307	33.4	19.3	2.3
40	49	16	33	114	102	83	144	88	16	83	29	19	49	49.2	19	UCT208	T208	UC208	29.1	17.8	2.5
	49	16	36	117	102	83	144	87	15	83	29	19	49	49.2	19	UCTX08	TX08	UCX08	32.7	20.3	2.6
	50	18	34	124	112	83	162	100	17	89	32	22	50	52	19	UCT308	T308	UC308	40.7	24.0	3.0
45	49	16	35	117	102	83	144	87	16	83	29	19	49	49.2	19	UCT209	T209	UC209	32.7	20.3	2.4
	49	16	38	117	102	83	149	90	16	86	29	19	49	51.6	19	UCTX09	TX09	UCX09	35.1	23.3	2.9
	55	18	38	138	125	90	178	110	18	97	34	24	55	57	22	UCT309	T309	UC309	48.9	29.5	4.1
50	49	16	37	117	102	83	149	90	16	86	29	19	49	51.6	19	UCT210	T210	UC210	35.1	23.3	2.6
	64	22	42	146	130	102	171	106	19	95	35	25	64	55.6	22.2	UCTX10	TX10	UCX10	43.4	29.4	4.4
	61	20	40	151	140	98	191	117	20	106	37	27	61	61	22	UCT310	T310	UC310	62.0	38.3	4.9
55	64	22	38	146	130	102	171	106	19	95	35	25	64	55.6	22.2	UCT211	T211	UC211	43.4	29.4	4.0
	64	22	44	146	130	102	194	119	19	102	35	32	64	65.1	25.4	UCTX11	TX11	UCX11	52.4	36.2	5.3
	66	22	44	163	150	105	207	127	21	115	39	29	66	66	25	UCT311	T311	UC311	71.6	45.0	6.1

Remarks 1) Applicable sizes of grease nipples are shown below.

1/4-28UNF .....	201 – 210, X05 – X09, 305 – 308
PT 1/8 .....	211 – 217, X10 – X17, 309 – 328

2) For bearings with double- or triple-lip seals, unit and bearing number are suffixed by L2 or L3.  
(For more detailed information, refer to ball bearing for unit specification tables.)

## *d* 60 – 140 mm

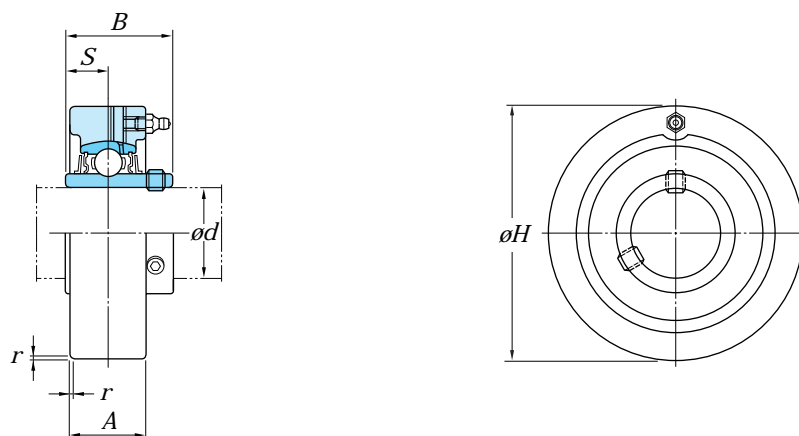
Shaft dia. (mm) <i>d</i>	Dimensions (mm)															Unit No.	Housing No.	Applicable bearing		(Refer.) Unit Mass (kg)	
	<i>A</i>	<i>A</i> <sub>1</sub>	<i>A</i> <sub>2</sub>	<i>H</i>	<i>H</i> <sub>1</sub>	<i>H</i> <sub>2</sub>	<i>L</i>	<i>L</i> <sub>1</sub>	<i>L</i> <sub>2</sub>	<i>L</i> <sub>3</sub>	<i>N</i>	<i>N</i> <sub>1</sub>	<i>N</i> <sub>2</sub>	<i>B</i>	<i>S</i>			No.	Basic load ratings (kN) <i>C</i> <sub>r</sub> <i>C</i> <sub>0r</sub>		
<b>60</b>	64	22	42	146	130	102	194	119	19	102	35	32	64	65.1	25.4	<b>UCT212</b>	T212	UC212	52.4	36.2	4.9
	70	26	48	167	151	111	224	137	21	121	41	32	70	65.1	25.4	<b>UCTX12</b>	TX12	UCX12	57.2	40.1	7.4
	71	22	46	178	160	113	220	135	23	123	41	31	71	71	26	<b>UCT312</b>	T312	UC312	81.9	52.2	7.6
<b>65</b>	70	26	44	167	151	111	224	137	21	121	41	32	70	65.1	25.4	<b>UCT213</b>	T213	UC213	57.2	40.1	6.9
	70	26	48	167	151	111	224	137	21	121	41	32	70	74.6	30.2	<b>UCTX13</b>	TX13	UCX13	62.2	44.1	7.6
	80	26	50	190	170	116	238	146	25	134	43	32	70	75	30	<b>UCT313</b>	T313	UC313	92.7	59.9	9.3
<b>70</b>	70	26	46	167	151	111	224	137	21	121	41	32	70	74.6	30.2	<b>UCT214</b>	T214	UC214	62.2	44.1	7.0
	70	26	48	167	151	111	232	140	21	121	41	32	70	77.8	33.3	<b>UCTX14</b>	TX14	UCX14	67.4	48.3	7.9
	90	26	52	202	180	130	252	155	25	140	46	36	85	78	33	<b>UCT314</b>	T314	UC314	104	68.2	11.1
<b>75</b>	70	26	48	167	151	111	232	140	21	121	41	32	70	77.8	33.3	<b>UCT215</b>	T215	UC215	67.4	48.3	7.3
	70	28	48	184	165	111	235	140	21	121	41	32	70	82.6	33.3	<b>UCTX15</b>	TX15	UCX15	72.7	53.0	8.7
	90	26	55	216	192	132	262	160	25	150	46	36	85	82	32	<b>UCT315</b>	T315	UC315	113	77.2	13.0
<b>80</b>	70	26	51	184	165	111	235	140	21	121	41	32	70	82.6	33.3	<b>UCT216</b>	T216	UC216	72.7	53.0	8.2
	73	28	54	198	173	124	260	162	28	157	48	38	73	85.7	34.1	<b>UCTX16</b>	TX16	UCX16	84.0	61.9	11.7
	102	30	60	230	204	150	282	174	28	160	53	42	98	86	34	<b>UCT316</b>	T316	UC316	123	86.7	16.2
<b>85</b>	73	30	54	198	173	124	260	162	29	157	48	38	73	85.7	34.1	<b>UCT217</b>	T217	UC217	84.0	61.9	11.0
	73	28	54	198	173	124	260	162	28	157	48	38	73	96	39.7	<b>UCTX17</b>	TX17	UCX17	96.1	71.5	11.7
	102	32	64	240	214	152	298	183	30	170	53	42	98	96	40	<b>UCT317</b>	T317	UC317	133	96.8	19.0
<b>90</b>	110	32	66	255	228	160	312	192	30	175	57	46	106	96	40	<b>UCT318</b>	T318	UC318	143	107	21.6
<b>95</b>	110	35	72	270	240	165	322	197	31	180	57	46	106	103	41	<b>UCT319</b>	T319	UC319	153	119	24.9
<b>100</b>	120	35	75	290	260	175	345	210	32	200	59	48	115	108	42	<b>UCT320</b>	T320	UC320	173	141	30.7
<b>105</b>	120	35	75	290	260	175	345	210	32	200	59	48	115	112	44	<b>UCT321</b>	T321	UC321	184	153	36.7
<b>110</b>	130	38	80	320	285	185	385	235	38	215	65	52	125	117	46	<b>UCT322</b>	T322	UC322	205	180	39.7
<b>120</b>	140	45	90	355	320	210	432	267	42	230	70	60	140	126	51	<b>UCT324</b>	T324	UC324	207	185	54.4
<b>130</b>	150	50	100	385	350	220	465	285	45	240	75	65	150	135	54	<b>UCT326</b>	T326	UC326	229	214	69.3
<b>140</b>	155	50	100	415	380	230	515	315	50	255	80	70	160	145	59	<b>UCT328</b>	T328	UC328	253	246	85.1

Remarks 1) Applicable sizes of grease nipples are shown below.

1/4-28UNF	.....	201 – 210, X05 – X09, 305 – 308
PT 1/8	.....	211 – 217, X10 – X17, 309 – 328

- 2) For bearings with double- or triple-lip seals, unit and bearing number are suffixed by L2 or L3.  
(For more detailed information, refer to ball bearing for unit specification tables.)

**Ball bearing units**  
**cartridge type**  
**UCC (set screw locking)**  
 **$d$  12 – 65 mm**



Shaft dia. (mm) $d$	Dimensions (mm)					Unit No.	Housing No.	Applicable bearing No.	Basic load ratings (kN)		(Refer.) Unit Mass (kg)
	$H$	$A$	$r$	$B$	$S$				$C_r$	$C_{0r}$	
12	72	20	1.5	31	12.7	<b>UCC201</b>	C204	UC201	12.8	6.65	0.52
15	72	20	1.5	31	12.7	<b>UCC202</b>	C204	UC202	12.8	6.65	0.50
17	72	20	1.5	31	12.7	<b>UCC203</b>	C204	UC203	12.8	6.65	0.49
20	72	20	1.5	31	12.7	<b>UCC204</b>	C204	UC204	12.8	6.65	0.47
25	80	22	1.5	34.1	14.3	<b>UCC205</b>	C205	UC205	14.0	7.85	0.64
30	85	27	1.5	38.1	15.9	<b>UCC206</b>	C206	UC206	19.5	11.3	0.81
35	90	28	2	42.9	17.5	<b>UCC207</b>	C207	UC207	25.7	15.4	0.93
40	100	30	2	49.2	19	<b>UCC208</b>	C208	UC208	29.1	17.8	1.2
45	110	31	2	49.2	19	<b>UCC209</b>	C209	UC209	32.7	20.3	1.5
50	120	33	2	51.6	19	<b>UCC210</b>	C210	UC210	35.1	23.3	2.0
55	125	35	2.5	55.6	22.2	<b>UCC211</b>	C211	UC211	43.4	29.4	2.2
60	130	38	2.5	65.1	25.4	<b>UCC212</b>	C212	UC212	52.4	36.2	2.6
65	140	40	2.5	65.1	25.4	<b>UCC213</b>	C213	UC213	57.2	40.1	3.0

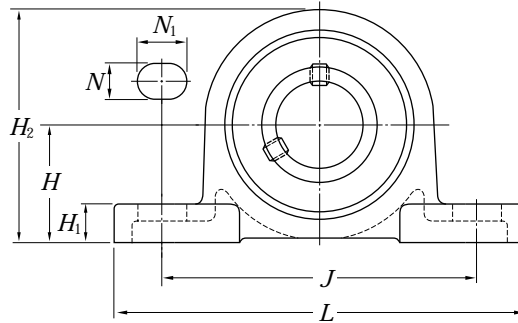
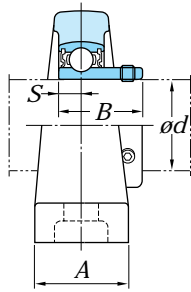
Remarks 1) Applicable sizes of grease nipples are shown below.

(1/4-28UNF ..... 201 – 213)

2) For bearings with double- or triple-lip seals, unit and bearing number are suffixed by L2 or L3.

(For more detailed information, refer to ball bearing for unit specification tables.)

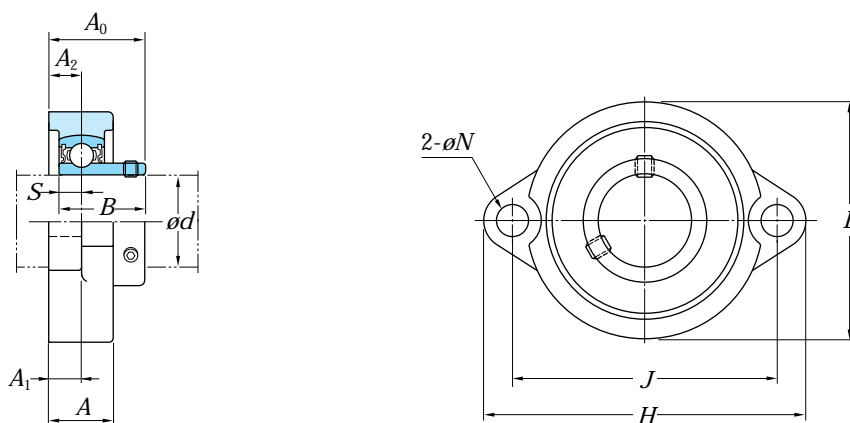
**Ball bearing units**  
**light duty pillow block type**  
**BLP (set screw locking)**  
***d* 12 – 40 mm**



Shaft dia. (mm) <i>d</i>	Dimensions (mm)										Bolt size	Unit No.	Housing No.	Applicable bearing No.	Basic load ratings (kN)		(Refer.) Unit Mass (kg)
	<i>H</i>	<i>J</i>	<i>L</i>	<i>A</i>	<i>H</i> <sub>1</sub>	<i>H</i> <sub>2</sub>	<i>N</i>	<i>N</i> <sub>1</sub>	<i>B</i>	<i>S</i>					<i>C</i> <sub>r</sub>	<i>C</i> <sub>0r</sub>	
12	30.2	87	114	25	12	57	11	16	22	6	M10	<b>BLP201</b>	LP203	SB201	9.55	4.80	0.36
15	30.2	87	114	25	12	57	11	16	22	6	M10	<b>BLP202</b>	LP203	SB202	9.55	4.80	0.36
17	30.2	87	114	25	12	57	11	16	22	6	M10	<b>BLP203</b>	LP203	SB203	9.55	4.80	0.36
20	33.3	97	125	27	13	65	11	16	25	7	M10	<b>BLP204</b>	LP204	SB204	12.8	6.65	0.51
25	36.5	100	130	29	13	71	11	16	27	7.5	M10	<b>BLP205</b>	LP205	SB205	14.0	7.85	0.57
30	42.9	120	156	33	14	83	14	21	30	8	M12	<b>BLP206</b>	LP206	SB206	19.5	11.3	0.69
35	47.6	127	165	35	16	93	14	21	32	8.5	M12	<b>BLP207</b>	LP207	SB207	25.7	15.4	0.94
40	50.8	140	184	37	18	102	14	22	34	9	M12	<b>BLP208</b>	LP208	SB208	29.1	17.8	1.8

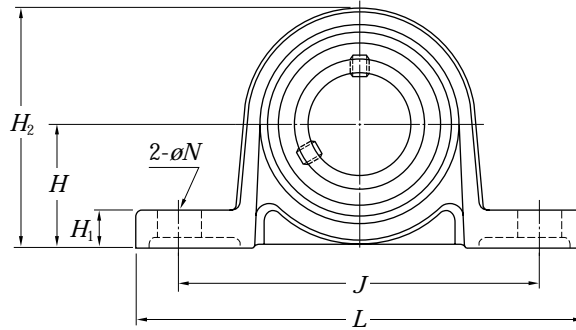
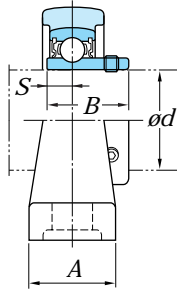


**Ball bearing units**  
**light duty rhombic-flanged type**  
**BLF (set screw locking)**  
***d* 12 – 35 mm**



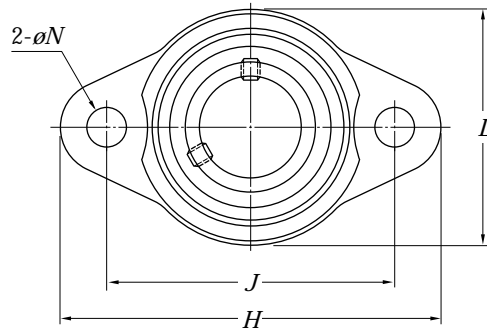
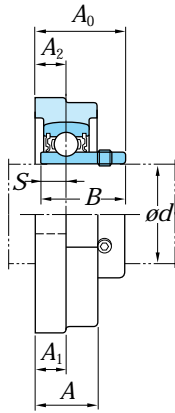
Shaft dia. (mm) <i>d</i>	Dimensions (mm)										Bolt size	Unit No.	Housing No.	Applicable bearing No.	Basic load ratings (kN)		(Refer.) Unit Mass (kg)
	<i>H</i>	<i>J</i>	<i>L</i>	<i>A</i>	<i>A</i> <sub>1</sub>	<i>A</i> <sub>2</sub>	<i>A</i> <sub>0</sub>	<i>N</i>	<i>B</i>	<i>S</i>					<i>C</i> <sub>r</sub>	<i>C</i> <sub>0r</sub>	
<b>12</b>	81	63.5	52	18	9.5	9.5	25.5	8	22	6	M6	<b>BLF201</b>	LF203	SB201	9.55	4.80	0.25
<b>15</b>	81	63.5	52	18	9.5	9.5	25.5	8	22	6	M6	<b>BLF202</b>	LF203	SB202	9.55	4.80	0.25
<b>17</b>	81	63.5	52	18	9.5	9.5	25.5	8	22	6	M6	<b>BLF203</b>	LF203	SB203	9.55	4.80	0.25
<b>20</b>	90	71.5	60	20	11	11	29	10	25	7	M8	<b>BLF204</b>	LF204	SB204	12.8	6.65	0.33
<b>25</b>	95	76	64	20	11	11	30.5	10	27	7.5	M8	<b>BLF205</b>	LF205	SB205	14.0	7.85	0.38
<b>30</b>	113	90.5	76	22.5	12	12	34	12	30	8	M10	<b>BLF206</b>	LF206	SB206	19.5	11.3	0.57
<b>35</b>	122	100	89	24	13	13	36.5	12	32	8.5	M10	<b>BLF207</b>	LF207	SB207	25.7	15.4	0.77

**Ball bearing units**  
**"clean" series pillow block type**  
**UP (set screw locking)**  
***d* 10 – 30 mm**



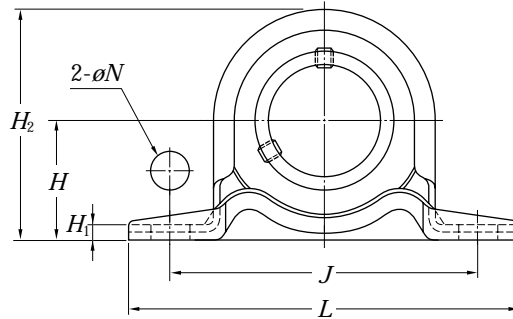
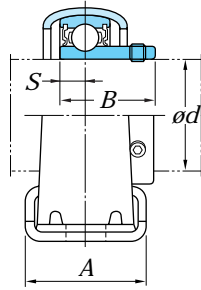
Shaft dia. (mm) <i>d</i>	Dimensions (mm)									Bolt size	Unit No.	Housing No.	Applicable bearing No.		Basic load ratings (kN)		(Refer.) Unit Mass (kg)
	<i>H</i>	<i>J</i>	<i>L</i>	<i>A</i>	<i>H</i> <sub>1</sub>	<i>H</i> <sub>2</sub>	<i>N</i>	<i>B</i>	<i>S</i>				<i>C</i> <sub>r</sub>	<i>C</i> <sub>0r</sub>			
10	18	53	67	16	6	35	7	15	5	M6	UP000	P000	SU000	4.55	1.95	0.070	
12	19	56	71	16	6	38	7	15	5	M6	UP001	P001	SU001	5.10	2.40	0.090	
15	22	63	80	16	7	43	7	16.5	5.5	M6	UP002	P002	SU002	5.60	2.85	0.110	
17	24	67	85	18	7	47	7	17.5	6	M6	UP003	P003	SU003	6.00	3.25	0.150	
20	28	80	100	20	9	55	10	21	7	M8	UP004	P004	SU004	9.40	5.05	0.230	
25	32	90	112	20	10	62	10	22	7	M8	UP005	P005	SU005	10.1	5.85	0.280	
30	36	106	132	26	11	70	13	24.5	7.5	M10	UP006	P006	SU006	13.2	8.25	0.420	

**Ball bearing units**  
**"clean" series rhombic-flanged type**  
**UFL (set screw locking)**  
 **$d$  10 – 30 mm**



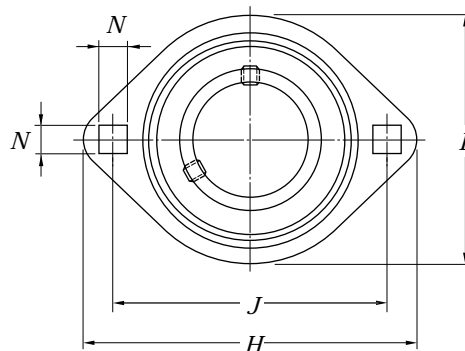
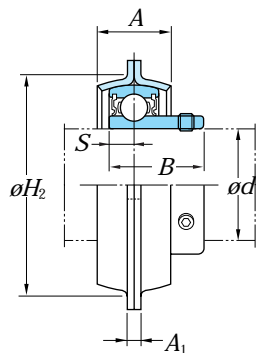
Shaft dia. (mm) $d$	Dimensions (mm)										Bolt size	Unit No.	Housing No.	Applicable bearing No.	Basic load ratings (kN)		(Refer.) Unit Mass (kg)
	$H$	$J$	$L$	$A$	$A_1$	$A_2$	$A_0$	$N$	$B$	$S$					$C_r$	$C_{0r}$	
10	60	45	36	12	6	6	16	7	15	5	M6	UFL000	FL000	SU000	4.55	1.95	0.050
12	63	48	38	12	6	6	16	7	15	5	M6	UFL001	FL001	SU001	5.10	2.40	0.065
15	67	53	42	13	6.5	6.5	17.5	7	16.5	5.5	M6	UFL002	FL002	SU002	5.60	2.85	0.085
17	71	56	46	14	7	7	18.5	7	17.5	6	M6	UFL003	FL003	SU003	6.00	3.25	0.110
20	90	71	55	16	8	8	22	10	21	7	M8	UFL004	FL004	SU004	9.40	5.05	0.180
25	95	75	60	16	8	8	23	10	22	7	M8	UFL005	FL005	SU005	10.1	5.85	0.230
30	112	85	70	18	9	9	26	13	24.5	7.5	M10	UFL006	FL006	SU006	13.2	8.25	0.310

**Ball bearing units**  
**pressed steel pillow block type**  
**SBPP (set screw locking)**  
***d* 12 – 35 mm**



Shaft dia. (mm) <i>d</i>	Dimensions (mm)									Bolt size	Unit No.	Housing No.	Applicable bearing No.	Basic load ratings (kN)		(Refer.) Unit Mass (kg)
	<i>H</i>	<i>J</i>	<i>L</i>	<i>A</i>	<i>H</i> <sub>1</sub>	<i>H</i> <sub>2</sub>	<i>N</i>	<i>B</i>	<i>S</i>					<i>C</i> <sub>r</sub>	<i>C</i> <sub>0r</sub>	
12	22.2	68	86	25	3.2	43.8	9.5	22	6	M8	SBPP201F	PP203F	SB201	9.55	4.80	0.16
15	22.2	68	86	25	3.2	43.8	9.5	22	6	M8	SBPP202F	PP203F	SB202	9.55	4.80	0.16
17	22.2	68	86	25	3.2	43.8	9.5	22	6	M8	SBPP203F	PP203F	SB203	9.55	4.80	0.16
20	25.4	76	98	32	3.2	50.5	9.5	25	7	M8	SBPP204F	PP204F	SB204	12.8	6.65	0.23
25	28.6	86	108	32	4	56.6	11.5	27	7.5	M10	SBPP205F	PP205F	SB205	14.0	7.85	0.28
30	33.3	95	117	38	4	66.3	11.5	30	8	M10	SBPP206F	PP206F	SB206	19.5	11.3	0.47
35	39.7	106	129	41	4.6	78	11.5	32	8.5	M10	SBPP207F	PP207F	SB207	25.7	15.4	0.67

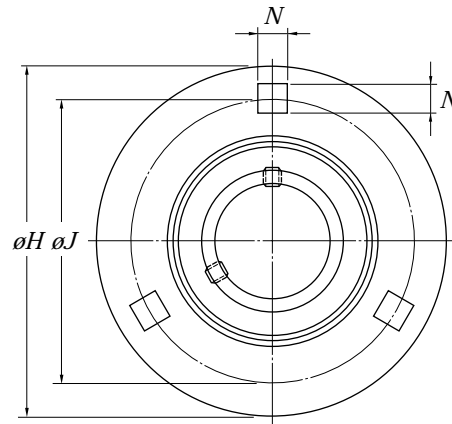
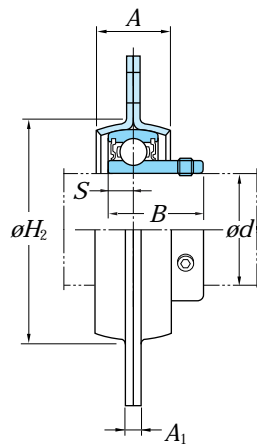
**Ball bearing units**  
**pressed steel rhombic-flanged type**  
**SBPFL (set screw locking)**  
 **$d$  12 – 35 mm**



Shaft dia. (mm) $d$	Dimensions (mm)									Bolt size	Unit No.	Housing No.	Applicable bearing No.	Basic load ratings (kN)		(Refer.) Unit Mass (kg)
	$H$	$J$	$L$	$A$	$A_1$	$N$	$H_2^{1)}$	$B$	$S$					$C_r$	$C_{0r}$	
12	81	63.5	59	14	4	7.1	49	22	6	M6	SBPFL201	PFL203	SB201	9.55	4.80	0.19
15	81	63.5	59	14	4	7.1	49	22	6	M6	SBPFL202	PFL203	SB202	9.55	4.80	0.19
17	81	63.5	59	14	4	7.1	49	22	6	M6	SBPFL203	PFL203	SB203	9.55	4.80	0.19
20	90	71.5	67	16	4	9	55	25	7	M8	SBPFL204	PFL204	SB204	12.8	6.65	0.24
25	95	76	71	18	4	9	60	27	7.5	M8	SBPFL205	PFL205	SB205	14.0	7.85	0.28
30	113	90.5	84	19	5.2	11	71	30	8	M10	SBPFL206	PFL206	SB206	19.5	11.3	0.38
35	122	100	94	22	5.2	11	81	32	8.5	M10	SBPFL207	PFL207	SB207	25.7	15.4	0.66

Note 1)  $H_2$  shows minimum dimension of mounting hole.

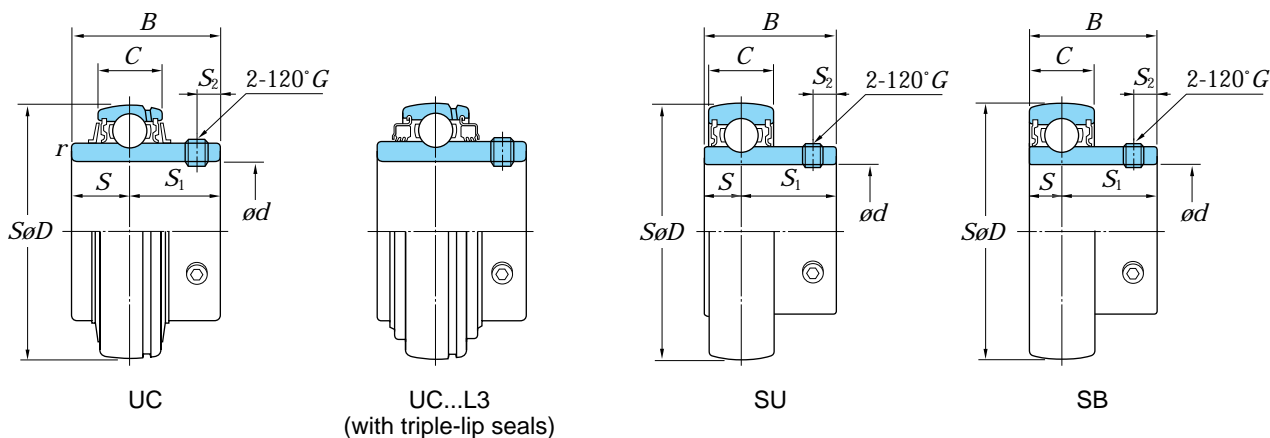
**Ball bearing units**  
**pressed steel round-flanged type**  
**SBPF (set screw locking)**  
 **$d$  12 – 35 mm**



Shaft dia. (mm) $d$	Dimensions (mm)								Bolt size	Unit No.	Housing No.	Applicable bearing No.	Basic load ratings (kN)		(Refer.) Unit Mass (kg)
	$H$	$J$	$A$	$A_1$	$N$	$H_2^{1)}$	$B$	$S$					$C_r$	$C_{0r}$	
12	81	63.5	14	4	7.1	49	22	6	M6	<b>SBPF201</b>	PF203	SB201	9.55	4.80	0.27
15	81	63.5	14	4	7.1	49	22	6	M6	<b>SBPF202</b>	PF203	SB202	9.55	4.80	0.27
17	81	63.5	14	4	7.1	49	22	6	M6	<b>SBPF203</b>	PF203	SB203	9.55	4.80	0.27
20	90	71.5	16	4	9	55	25	7	M8	<b>SBPF204</b>	PF204	SB204	12.8	6.65	0.33
25	95	76	18	4	9	60	27	7.5	M8	<b>SBPF205</b>	PF205	SB205	14.0	7.85	0.38
30	113	90.5	19	5.2	11	71	30	8	M10	<b>SBPF206</b>	PF206	SB206	19.5	11.3	0.62
35	122	100	22	5.2	11	81	32	8.5	M10	<b>SBPF207</b>	PF207	SB207	25.7	15.4	0.82

Note 1)  $H_2$  shows minimum dimension of mounting hole.

# Ball bearings for units cylindrical bore type (set screw locking) $d$ 10 – 40 mm



Shaft dia. (mm) $d$	Boundary dimensions (mm)				Basic load ratings (kN)		Bearing No.		Dimensions (mm)			Set screw size $G$	(Refer.) Mass (kg)
	$D$	$B$	$C$	$r$ min.	$C_r$	$C_{0r}$	With standard seals	With triple-lip seals	$S$	$S_1$	$S_2$		
10	26	15	8	–	4.55	1.95	<b>SU000</b>	–	5	10	3	M3X0.35	0.024
12	28	15	8	–	5.10	2.40	<b>SU001</b>	–	5	10	3	M3X0.35	0.026
	40	22	12	–	9.55	4.80	<b>SB201</b>	–	6	16	4	M5X0.5	0.10
	47	31	16	0.6	12.8	6.65	<b>UC201</b>	<b>UC201L2</b>	12.7	18.3	5	M6X0.75	0.21
15	32	16.5	9	–	5.60	2.85	<b>SU002</b>	–	5.5	11	3.3	M4X0.5	0.038
	40	22	12	–	9.55	4.80	<b>SB202</b>	–	6	16	4	M5X0.5	0.10
	47	31	16	0.6	12.8	6.65	<b>UC202</b>	<b>UC202L2</b>	12.7	18.3	5	M6X0.75	0.19
17	35	17.5	10	–	6.00	3.25	<b>SU003</b>	–	6	11.5	3.3	M4X0.5	0.050
	40	22	12	–	9.55	4.80	<b>SB203</b>	–	6	16	4	M5X0.5	0.10
	47	31	16	0.6	12.8	6.65	<b>UC203</b>	<b>UC203L2</b>	12.7	18.3	5	M6X0.75	0.18
20	42	21	12	–	9.40	5.05	<b>SU004</b>	–	7	14	4	M5X0.5	0.080
	47	25	14	–	12.8	6.65	<b>SB204</b>	–	7	18	5	M6X0.75	0.15
	47	31	16	1	12.8	6.65	<b>UC204</b>	<b>UC204L2</b>	12.7	18.3	5	M6X0.75	0.16
25	47	22	12	–	10.1	5.85	<b>SU005</b>	–	7	15	4.5	M5X0.5	0.10
	52	27	15	–	14.0	7.85	<b>SB205</b>	–	7.5	19.5	5.5	M6X0.75	0.18
	52	34.1	17	1	14.0	7.85	<b>UC205</b>	<b>UC205L2</b>	14.3	19.8	5.5	M6X0.75	0.20
30	62	38	22	1.1	20.6	11.3	<b>UC305</b>	–	15	23	6	M6X0.75	0.45
	62	38.1	19	1	19.5	11.3	<b>UCX05</b>	<b>UCX05L3</b>	15.9	22.2	6	M6X0.75	0.39
	55	24.5	13	–	13.2	8.25	<b>SU006</b>	–	7.5	17	5.5	M5X0.5	0.15
35	62	30	16	–	19.5	11.3	<b>SB206</b>	–	8	22	6	M6X0.75	0.27
	62	38.1	19	1	19.5	11.3	<b>UC206</b>	<b>UC206L3</b>	15.9	22.2	6	M6X0.75	0.32
	72	42.9	20	1	25.7	15.4	<b>UCX06</b>	<b>UCX06L3</b>	17.5	25.4	6.5	M8X1	0.58
40	72	43	24	1.1	26.7	15.0	<b>UC306</b>	–	17	26	6	M6X0.75	0.56
	72	32	17	–	25.7	15.4	<b>SB207</b>	–	8.5	23.5	6	M6X0.75	0.42
	72	42.9	20	1.1	25.7	15.4	<b>UC207</b>	<b>UC207L3</b>	17.5	25.4	6.5	M8X1	0.48
40	80	48	26	1.5	33.4	19.3	<b>UC307</b>	<b>UC307L3</b>	19	29	8	M8X1	0.71
	80	49.2	21	1.1	29.1	17.8	<b>UCX07</b>	<b>UCX07L3</b>	19	30.2	8	M8X1	0.75
	80	34	18	–	29.1	17.8	<b>SB208</b>	–	9	25	8	M8X1	0.60
40	80	49.2	21	1.1	29.1	17.8	<b>UC208</b>	<b>UC208L3</b>	19	30.2	8	M8X1	0.64
	85	49.2	22	1.1	32.7	20.3	<b>UCX08</b>	<b>UCX08L3</b>	19	30.2	8	M8X1	0.83
	90	52	28	1.5	40.7	24.0	<b>UC308</b>	<b>UC308L3</b>	19	33	10	M10X1.25	1.00

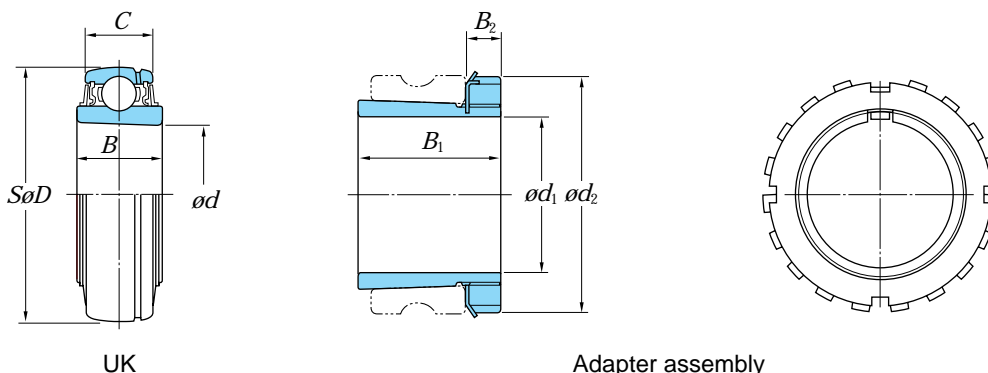
Remark) Bearing in number range from UC201L2 to UC205L2 are double-lip sealed (L2) due to dimensional restriction.

## *d* 45 – 140 mm

Shaft dia. (mm) <i>d</i>	Boundary dimensions (mm)				Basic load ratings (kN)		Bearing No.		Dimensions (mm)			Set screw size	(Refer.) Mass
	<i>D</i>	<i>B</i>	<i>C</i>	<i>r</i> min.	<i>C<sub>r</sub></i>	<i>C<sub>0r</sub></i>	With standard seals	With triple-lip seals	<i>S</i>	<i>S<sub>1</sub></i>	<i>S<sub>2</sub></i>	<i>G</i>	(kg)
<b>45</b>	85	49.2	22	1.1	32.7	20.3	<b>UC209</b>	<b>UC209L3</b>	19	30.2	8	M8X1	0.68
	90	51.6	24	1.1	35.1	23.3	<b>UCX09</b>	<b>UCX09L3</b>	19	32.6	9	M10X1.25	0.95
	100	57	30	1.5	48.9	29.5	<b>UC309</b>	<b>UC309L3</b>	22	35	10	M10X1.25	1.33
<b>50</b>	90	51.6	24	1.1	35.1	23.3	<b>UC210</b>	<b>UC210L3</b>	19	32.6	9	M10X1.25	0.80
	100	55.6	25	1.1	43.4	29.4	<b>UCX10</b>	<b>UCX10L3</b>	22.2	33.4	9	M10X1.25	1.29
	110	61	32	2	62.0	38.3	<b>UC310</b>	<b>UC310L3</b>	22	39	12	M12X1.5	1.69
<b>55</b>	100	55.6	25	1.5	43.4	29.4	<b>UC211</b>	<b>UC211L3</b>	22.2	33.4	9	M10X1.25	1.11
	110	65.1	27	1.5	52.4	36.2	<b>UCX11</b>	<b>UCX11L3</b>	25.4	39.7	10.5	M10X1.25	1.80
	120	66	34	2	71.6	45.0	<b>UC311</b>	<b>UC311L3</b>	25	41	12	M12X1.5	1.90
<b>60</b>	110	65.1	27	1.5	52.4	36.2	<b>UC212</b>	<b>UC212L3</b>	25.4	39.7	10.5	M10X1.25	1.54
	120	65.1	28	1.5	57.2	40.1	<b>UCX12</b>	<b>UCX12L3</b>	25.4	39.7	12	M12X1.5	2.05
	130	71	36	2.1	81.9	52.2	<b>UC312</b>	<b>UC312L3</b>	26	45	12	M12X1.5	2.60
<b>65</b>	120	65.1	28	1.5	57.2	40.1	<b>UC213</b>	<b>UC213L3</b>	25.4	39.7	12	M12X1.5	1.86
	125	74.6	30	1.5	62.2	44.1	<b>UCX13</b>	<b>UCX13L3</b>	30.2	44.4	12	M12X1.5	2.52
	140	75	38	2.1	92.7	59.9	<b>UC313</b>	<b>UC313L3</b>	30	45	12	M12X1.5	3.16
<b>70</b>	125	74.6	30	1.5	62.2	44.1	<b>UC214</b>	<b>UC214L3</b>	30.2	44.4	12	M12X1.5	2.05
	130	77.8	32	1.5	67.4	48.3	<b>UCX14</b>	<b>UCX14L3</b>	33.3	44.5	12	M12X1.5	2.74
	150	78	40	2.1	104	68.2	<b>UC314</b>	<b>UC314L3</b>	33	45	12	M12X1.5	3.90
<b>75</b>	130	77.8	32	1.5	67.4	48.3	<b>UC215</b>	<b>UC215L3</b>	33.3	44.5	12	M12X1.5	2.21
	140	82.6	33	1.5	72.7	53.0	<b>UCX15</b>	<b>UCX15L3</b>	33.3	49.3	14	M12X1.5	3.41
	160	82	42	2.1	113	77.2	<b>UC315</b>	<b>UC315L3</b>	32	50	14	M14X1.5	4.70
<b>80</b>	140	82.6	33	2	72.7	53.0	<b>UC216</b>	<b>UC216L3</b>	33.3	49.3	14	M12X1.5	2.79
	150	85.7	35	2	84.0	61.9	<b>UCX16</b>	<b>UCX16L3</b>	34.1	51.6	14	M12X1.5	3.87
	170	86	44	2.1	123	86.7	<b>UC316</b>	<b>UC316L3</b>	34	52	14	M14X1.5	5.60
<b>85</b>	150	85.7	35	2	84.0	61.9	<b>UC217</b>	<b>UC217L3</b>	34.1	51.6	14	M12X1.5	3.45
	160	96	38	2	96.1	71.5	<b>UCX17</b>	<b>UCX17L3</b>	39.7	56.3	15	M12X1.5	5.05
	180	96	46	3	133	96.8	<b>UC317</b>	<b>UC317L3</b>	40	56	16	M16X1.5	6.90
<b>90</b>	160	96	38	2	96.1	71.5	<b>UC218</b>	<b>UC218L3</b>	39.7	56.3	15	M12X1.5	4.35
	170	104	40	2	109	81.9	<b>UCX18</b>	–	42.9	61.1	16	M14X1.5	6.00
	190	96	48	3	143	107	<b>UC318</b>	<b>UC318L3</b>	40	56	16	M16X1.5	7.87
<b>95</b>	200	103	50	3	153	119	<b>UC319</b>	<b>UC319L3</b>	41	62	18	M16X1.5	8.91
<b>100</b>	190	117.5	43	2.1	133	105	<b>UCX20</b>	–	49.2	68.3	18	M16X1.5	8.56
	215	108	54	3	173	141	<b>UC320</b>	<b>UC320L3</b>	42	66	20	M18X1.5	11.2
<b>105</b>	225	112	56	3	184	153	<b>UC321</b>	–	44	68	20	M18X1.5	12.7
<b>110</b>	240	117	60	3	205	180	<b>UC322</b>	<b>UC322L3</b>	46	71	20	M18X1.5	15.1
<b>120</b>	260	126	64	3	207	185	<b>UC324</b>	<b>UC324L3</b>	51	75	20	M18X1.5	19.0
<b>130</b>	280	135	68	4	229	214	<b>UC326</b>	<b>UC326L3</b>	54	81	20	M20X1.5	23.6
<b>140</b>	300	145	72	4	253	246	<b>UC328</b>	<b>UC328L3</b>	59	86	20	M20X1.5	29.4



**Ball bearings for units**  
**tapered bore type (adapter locking)**  
 **$d_1$  20 – 65 mm**



Shaft dia. (mm) $d_1$	Boundary dimensions (mm)				Basic load ratings (kN)		Bearing No.	(Refer.) Mass (kg)	Applicable adapter assembly Dimensions (mm) Mass				Sleeve No.	
	$d$	$D$	$B$	$C$	$C_r$	$C_{0r}$			No.	$B_1$	$B_2$	$d_2$		(kg)
20	25	52	21	17	14.0	7.85	UK205	0.16	H305X	29	8	38	0.075	A305X
	25	62	23	19	19.5	11.3	UKX05	0.27	H2305X	35	8	38	0.095	A2305X
	25	62	27	22	20.6	11.3	UK305	0.40	H2305X	35	8	38	0.095	A2305X
25	30	62	23	19	19.5	11.3	UK206	0.25	H306X	31	8	45	0.11	A306X
	30	72	26	20	25.7	15.4	UKX06	0.43	H2306X	38	8	45	0.13	A2306X
	30	72	30	24	26.7	15.0	UK306	0.47	H2306X	38	8	45	0.13	A2306X
30	35	72	26	20	25.7	15.4	UK207	0.37	H307X	35	9	52	0.14	A307X
	35	80	27	21	29.1	17.8	UKX07	0.53	H2307X	43	9	52	0.17	A2307X
	35	80	33	26	33.4	19.3	UK307	0.60	H2307X	43	9	52	0.17	A2307X
35	40	80	27	21	29.1	17.8	UK208	0.47	H308X	36	10	58	0.19	A308X
	40	85	29	22	32.7	20.3	UKX08	0.58	H2308X	46	10	58	0.22	A2308X
	40	90	35	28	40.7	24.0	UK308	0.80	H2308X	46	10	58	0.22	A2308X
40	45	85	29	22	32.7	20.3	UK209	0.52	H309X	39	11	65	0.25	A309X
	45	90	29	24	35.1	23.3	UKX09	0.67	H2309X	50	11	65	0.28	A2309X
	45	100	38	30	48.9	29.5	UK309	1.08	H2309X	50	11	65	0.28	A2309X
45	50	90	29	24	35.1	23.3	UK210	0.59	H310X	42	12	70	0.30	A310X
	50	100	31	25	43.4	29.4	UKX10	0.89	H2310X	55	12	70	0.36	A2310X
	50	110	40	32	62.0	38.3	UK310	1.38	H2310X	55	12	70	0.36	A2310X
50	55	100	31	25	43.4	29.4	UK211	0.80	H311X	45	12	75	0.35	A311X
	55	110	33	27	52.4	36.2	UKX11	1.15	H2311X	59	12	75	0.42	A2311X
	55	120	43	34	71.6	45.0	UK311	1.78	H2311X	59	12	75	0.42	A2311X
55	60	110	33	27	52.4	36.2	UK212	1.02	H312X	47	13	80	0.43	A312X
	60	120	36	28	57.2	40.1	UKX12	1.45	H2312X	62	13	80	0.48	A2312X
	60	130	47	36	81.9	52.2	UK312	2.06	H2312X	62	13	80	0.48	A2312X
60	65	120	36	28	57.2	40.1	UK213	1.34	H313X	50	14	85	0.46	A313X
	65	125	40	30	62.2	44.1	UKX13	1.62	H2313X	65	14	85	0.56	A2313X
	65	140	49	38	92.7	59.9	UK313	2.71	H2313X	65	14	85	0.56	A2313X
65	75	130	40	32	67.4	48.3	UK215	1.50	H315X	55	15	98	0.83	A315X
	75	140	42	33	72.7	53.0	UKX15	2.10	H2315X	73	15	98	1.05	A2315X
	75	160	55	42	113	77.2	UK315	3.80	H2315X	73	15	98	1.05	A2315X

## $d_1$ 70 – 125 mm

Shaft dia. (mm) $d_1$	Boundary dimensions (mm)				Basic load ratings (kN)		Bearing No.	(Refer.) Mass (kg)	Applicable adapter assembly					Sleeve No.
	$d$	$D$	$B$	$C$	$C_r$	$C_{or}$			No.	$B_1$	$B_2$	$d_2$	Mass (kg)	
<b>70</b>	80	140	42	33	72.7	53.0	<b>UK216</b>	1.96	H316X	59	17	105	1.05	A316X
	80	150	44	35	84.0	61.9	<b>UKX16</b>	2.64	H2316X	78	17	105	1.3	A2316X
	80	170	55	44	123	86.7	<b>UK316</b>	4.39	H2316X	78	17	105	1.3	A2316X
<b>75</b>	85	150	44	35	84.0	61.9	<b>UK217</b>	2.42	H317X	63	18	110	1.2	A317X
	85	160	48	38	96.1	71.5	<b>UKX17</b>	3.25	H2317X	82	18	110	1.45	A2317X
	85	180	60	46	133	96.8	<b>UK317</b>	5.30	H2317X	82	18	110	1.45	A2317X
<b>80</b>	90	160	48	38	96.1	71.5	<b>UK218</b>	2.90	H318X	65	18	120	1.4	A318X
	90	170	50	40	109	81.9	<b>UKX18</b>	3.80	H2318X	86	18	120	1.7	A2318X
	90	190	60	48	143	107	<b>UK318</b>	6.20	H2318X	86	18	120	1.7	A2318X
<b>85</b>	95	200	66	50	153	119	<b>UK319</b>	7.31	H2319X	90	19	125	1.95	A2319X
<b>90</b>	100	190	54	43	133	105	<b>UKX20</b>	5.36	H2320X	97	20	130	2.2	A2320X
	100	215	68	54	173	141	<b>UK320</b>	8.70	H2320X	97	20	130	2.2	A2320X
<b>100</b>	110	240	78	60	205	180	<b>UK322</b>	12.2	H2322X	105	21	145	2.75	A2322X
<b>110</b>	120	260	87	64	207	185	<b>UK324</b>	16.1	H2324	112	22	155	3.2	A2324
<b>115</b>	130	280	87	68	229	214	<b>UK326</b>	18.8	H2326	121	23	165	4.6	A2326
<b>125</b>	140	300	97	72	253	246	<b>UK328</b>	23.9	H2328	131	24	180	5.5	A2328

# KOYO



# Locknuts and lockwashers

Bearings are often fit to a shaft with an adapter sleeve, locknut, lockwasher or lock plate.

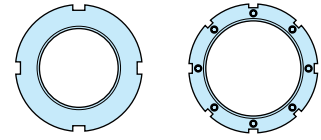
These accessories make it easy to attach and remove bearings.

They are standardized in JIS.

- Locknuts are standardized such that they can be used with either adapter sleeves, withdrawal sleeves or shafts.
- Lockwashers and lock plates are used as locks on locknuts.

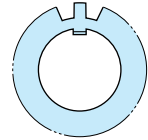
Lockwashers are used with bearings of bore diameter number 40 or lower. Lock plates are used with those of bore diameter 44 or higher.

## Locknuts



AN 02 - 100

## Lockwashers

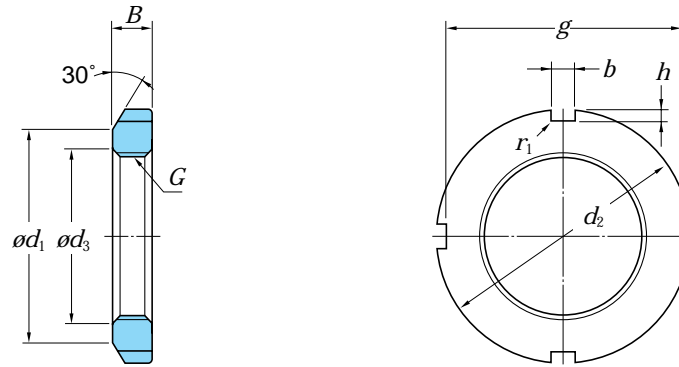


AW 00 - 40 (X)

# Locknuts

## for adapter sleeves and shafts

### AN02 – 25



Locknut No.	Thread size <i>G</i> <sup>1)</sup>	Standard dimensions (mm)								(Refer.) Mass (kg)	Applicable <sup>2)</sup> adapter sleeve (bore No.)	Applicable <sup>3)</sup> lockwasher No.
		<i>d</i> <sub>2</sub>	<i>d</i> <sub>1</sub>	<i>g</i>	<i>d</i> <sub>3</sub>	<i>b</i>	<i>h</i>	<i>B</i>	<i>r</i> max.			
AN02 03 04	M 15X1	25	21	21	15.5	4	2	5	0.4	0.010	—	AW02
	M 17X1	28	24	24	17.5	4	2	5	0.4	0.013	—	03
	M 20X1	32	26	28	20.5	4	2	6	0.4	0.019	04	04
AN05 06 07	M 25X1.5	38	32	34	25.8	5	2	7	0.4	0.025	05	AW05
	M 30X1.5	45	38	41	30.8	5	2	7	0.4	0.043	06	06
	M 35X1.5	52	44	48	35.8	5	2	8	0.4	0.053	07	07
AN08 09 10	M 40X1.5	58	50	53	40.8	6	2.5	9	0.5	0.085	08	AW08
	M 45X1.5	65	56	60	45.8	6	2.5	10	0.5	0.119	09	09
	M 50X1.5	70	61	65	50.8	6	2.5	11	0.5	0.148	10	10
AN11 12 13	M 55X2	75	67	69	56	7	3	11	0.5	0.158	11	AW11
	M 60X2	80	73	74	61	7	3	11	0.5	0.174	12	12
	M 65X2	85	79	79	66	7	3	12	0.5	0.203	13	13
AN14 15 16	M 70X2	92	85	85	71	8	3.5	12	0.5	0.242	14	AW14
	M 75X2	98	90	91	76	8	3.5	13	0.5	0.287	15	15
	M 80X2	105	95	98	81	8	3.5	15	0.6	0.397	16	16
AN17 18 19	M 85X2	110	105	103	86	8	3.5	16	0.6	0.451	17	AW17
	M 90X2	120	108	112	91	10	4	16	0.6	0.556	18	18
	M 95X2	125	113	117	96	10	4	17	0.6	0.658	19	19
AN20 21 22	M100X2	130	120	122	101	10	4	18	0.6	0.698	20	AW20
	M105X2	140	126	130	106	12	5	18	0.7	0.845	21	21
	M110X2	145	133	135	111	12	5	19	0.7	0.965	22	22
AN23 24 25	M115X2	150	137	140	116	12	5	19	0.7	1.01	—	AW23
	M120X2	155	138	145	121	12	5	20	0.7	1.08	24	24
	M125X2	160	148	150	126	12	5	21	0.7	1.19	—	25

Notes 1) Basic profile and dimension of screw thread are in accordance with JIS B 0207 (metric fine screw threads).

2) Applicable to adapter sleeve series A31, A2, A3 and A23.

3) Applicable to lockwashers with flat inner tongue.

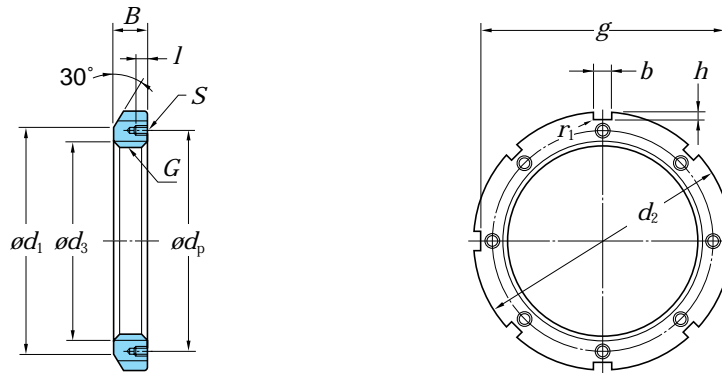
## AN26 – 40

Locknut No.	Thread size $G^{1)}$	Standard dimensions (mm)								(Refer.) Mass (kg)	Applicable <sup>2)</sup> adapter sleeve (bore No.)	Applicable <sup>3)</sup> lockwasher No.
		$d_2$	$d_1$	$g$	$d_3$	$b$	$h$	$B$	$r_{\text{max.}}$			
<b>AN26</b>	M130X2	165	149	155	131	12	5	21	0.7	1.25	26	AW26
<b>27</b>	M135X2	175	160	163	136	14	6	22	0.7	1.55	–	27
<b>28</b>	M140X2	180	160	168	141	14	6	22	0.7	1.56	28	28
<b>AN29</b>	M145X2	190	172	178	146	14	6	24	0.7	1.80	–	AW29
<b>30</b>	M150X2	195	171	183	151	14	6	24	0.7	2.03	30	30
<b>31</b>	M155X3	200	182	186	156.5	16	7	25	0.7	2.30	–	–
<b>AN32</b>	M160X3	210	182	196	161.5	16	7	25	0.7	2.59	32	AW32
<b>33</b>	M165X3	210	193	196	166.5	16	7	26	0.7	2.70	–	–
<b>34</b>	M170X3	220	193	206	171.5	16	7	26	0.7	2.80	34	34
<b>AN36</b>	M180X3	230	203	214	181.5	18	8	27	0.7	3.07	36	AW36
<b>38</b>	M190X3	240	214	224	191.5	18	8	28	0.7	3.39	38	38
<b>40</b>	M200X3	250	226	234	201.5	18	8	29	0.7	3.69	40	40

# Locknuts

## for adapter sleeves and shafts

### AN44 – 100



Locknut No.	Thread size $G^{1)}$	Standard dimensions (mm)								Tapped hole (mm)			(Refer.) Mass (kg)	Applicable <sup>3)</sup> adapter sleeve (bore No.)	Applicable lock plate No.
		$d_2$	$d_1$	$g$	$d_3$	$b$	$h$	$B$	$r_{max.}$	$l$	$S^{2)}$ Thread size	$d_p$			
<b>AN44</b> 48 52	Tr220X4	280	250	260	222	20	10	32	0.8	15	M 8X1.25	238	5.16	44	AL44
	Tr240X4	300	270	280	242	20	10	34	0.8	15	M 8X1.25	258	5.91	48	44
	Tr260X4	330	300	306	262	24	12	36	0.8	18	M10X1.5	281	7.99	52	52
<b>AN56</b> 60 64	Tr280X4	350	320	326	282	24	12	38	0.8	18	M10X1.5	301	8.99	56	AL52
	Tr300X4	380	340	356	302	24	12	40	0.8	18	M10X1.5	326	11.7	60	60
	Tr320X5	400	360	376	322.5	24	12	42	0.8	18	M10X1.5	345	13.0	64	64
<b>AN68</b> 72 76	Tr340X5	440	400	410	342.5	28	15	55	1	21	M12X1.75	372	23.0	68	AL68
	Tr360X5	460	420	430	362.5	28	15	58	1	21	M12X1.75	392	25.0	72	68
	Tr380X5	490	450	454	382.5	32	18	60	1	21	M12X1.75	414	30.8	76	76
<b>AN80</b> 84 88	Tr400X5	520	470	484	402.5	32	18	62	1	27	M16X2	439	36.7	80	AL80
	Tr420X5	540	490	504	422.5	32	18	70	1	27	M16X2	459	43.3	84	80
	Tr440X5	560	510	520	442.5	36	20	70	1	27	M16X2	477	45.1	88	88
<b>AN92</b> 96 100	Tr460X5	580	540	540	462.5	36	20	75	1	27	M16X2	497	50.2	92	AL88
	Tr480X5	620	560	580	482.5	36	20	75	1	27	M16X2	527	62.0	96	96
	Tr500X5	630	580	584	502.5	40	23	80	1	27	M16X2	539	63.1	/500	100

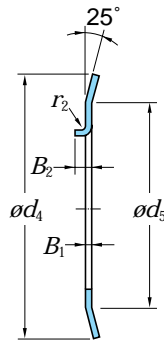
Notes 1) Basic profile and dimension of screw thread are in accordance with JIS B 0216.

2) Basic profile and dimension of bore with internal thread are in accordance with JIS B 0205 (metric coarse screw threads).

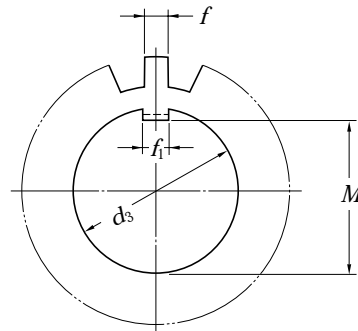
3) Applicable to adapter sleeve series A31, A32, A23 and A30.

# Lockwashers

## AW00 – 40(X)



With bent inner tongue



With flat inner tongue

Lockwasher No.		Standard dimensions (mm)										No. of tooth	(Refer.) Mass (kg/100pcs.)	Applicable adapter sleeve (bore No.)	Applicable locknut No.
With bent inner tongue	With flat inner tongue	$d_3$	$M$	$f_1$	$B_1$	$f$	$d_4$	$d_5$	$r$	$B_2$					
<b>AW00</b>	<b>AW00X</b>	10	8.5	3	1	3	13	21	0.5	2	9	0.131	—	AN00	
<b>01</b>	<b>01X</b>	12	10.5	3	1	3	17	25	0.5	2	9	0.192	—	01	
<b>02</b>	<b>02X</b>	15	13.5	4	1	4	21	28	1	2.5	13	0.253	—	02	
<b>AW03</b>	<b>AW03X</b>	17	15.5	4	1	4	24	32	1	2.5	13	0.313	—	AN03	
<b>04</b>	<b>04X</b>	20	18.5	4	1	4	26	36	1	2.5	13	0.350	04	04	
<b>05</b>	<b>05X</b>	25	23	5	1.2	5	32	42	1	2.5	13	0.640	05	05	
<b>AW06</b>	<b>AW06X</b>	30	27.5	5	1.2	5	38	49	1	2.5	13	0.780	06	AN06	
<b>07</b>	<b>07X</b>	35	32.5	6	1.2	5	44	57	1	2.5	15	1.04	07	07	
<b>08</b>	<b>08X</b>	40	37.5	6	1.2	6	50	62	1	2.5	15	1.23	08	08	
<b>AW09</b>	<b>AW09X</b>	45	42.5	6	1.2	6	56	69	1	2.5	17	1.52	09	AN09	
<b>10</b>	<b>10X</b>	50	47.5	6	1.2	6	61	74	1	2.5	17	1.60	10	10	
<b>11</b>	<b>11X</b>	55	52.5	8	1.2	7	67	81	1	4	17	1.96	11	11	
<b>AW12</b>	<b>AW12X</b>	60	57.5	8	1.5	7	73	86	1.2	4	17	2.53	12	AN12	
<b>13</b>	<b>13X</b>	65	62.5	8	1.5	7	79	92	1.2	4	19	2.90	13	13	
<b>14</b>	<b>14X</b>	70	66.5	8	1.5	8	85	98	1.2	4	19	3.34	14	14	
<b>AW15</b>	<b>AW15X</b>	75	71.5	8	1.5	8	90	104	1.2	4	19	3.56	15	AN15	
<b>16</b>	<b>16X</b>	80	76.5	10	1.8	8	95	112	1.2	4	19	4.64	16	16	
<b>17</b>	<b>17X</b>	85	81.5	10	1.8	8	102	119	1.2	4	19	5.24	17	17	
<b>AW18</b>	<b>AW18X</b>	90	86.5	10	1.8	10	108	126	1.2	4	19	6.23	18	AN18	
<b>19</b>	<b>19X</b>	95	91.5	10	1.8	10	113	133	1.2	4	19	6.70	19	19	
<b>20</b>	<b>20X</b>	100	96.5	12	1.8	10	120	142	1.2	6	19	7.65	20	20	
<b>AW21</b>	<b>AW21X</b>	105	100.5	12	1.8	12	126	145	1.2	6	19	8.26	21	AN21	
<b>22</b>	<b>22X</b>	110	105.5	12	1.8	12	133	154	1.2	6	19	9.40	22	22	
<b>23</b>	<b>23X</b>	115	110.5	12	2	12	137	159	1.5	6	19	10.8	—	23	
<b>AW24</b>	<b>AW24X</b>	120	115	14	2	12	138	164	1.5	6	19	10.5	24	AN24	
<b>25</b>	<b>25X</b>	125	120	14	2	12	148	170	1.5	6	19	11.8	—	25	
<b>26</b>	<b>26X</b>	130	125	14	2	12	149	175	1.5	6	19	11.3	26	26	
<b>AW27</b>	<b>AW27X</b>	135	130	14	2	14	160	185	1.5	6	19	14.4	—	AN27	
<b>28</b>	<b>28X</b>	140	135	16	2	14	160	192	1.5	8	19	14.2	28	28	
<b>29</b>	<b>29X</b>	145	140	16	2	14	172	202	1.5	8	19	16.8	—	29	
<b>AW30</b>	<b>AW30X</b>	150	145	16	2	14	171	205	1.5	8	19	15.5	30	AN30	
<b>31</b>	<b>31X</b>	155	147.5	16	2.5	16	182	212	1.5	8	19	20.9	—	31	
<b>32</b>	<b>32X</b>	160	154	18	2.5	16	182	217	1.5	8	19	22.2	32	32	
<b>AW33</b>	<b>AW33X</b>	165	157.5	18	2.5	16	193	222	1.5	8	19	24.1	—	AN33	
<b>34</b>	<b>34X</b>	170	164	18	2.5	16	193	232	1.5	8	19	24.7	34	34	
<b>36</b>	<b>36X</b>	180	174	20	2.5	18	203	242	1.5	8	19	26.8	36	36	
<b>AW38</b>	<b>AW38X</b>	190	184	20	2.5	18	214	252	1.5	8	19	27.8	38	AN38	
<b>40</b>	<b>40X</b>	200	194	20	2.5	18	226	262	1.5	8	19	29.3	40	40	

Remarks 1) AW00–AW40, AW00X–AW40X are applicable to adapter assembly series H31, H2, H3 and H23.

2) For adapter sleeves with narrow slits, lockwashers with flat inner tongue should be used. Either type of lockwasher can be used for adapter sleeves with wide slits.