

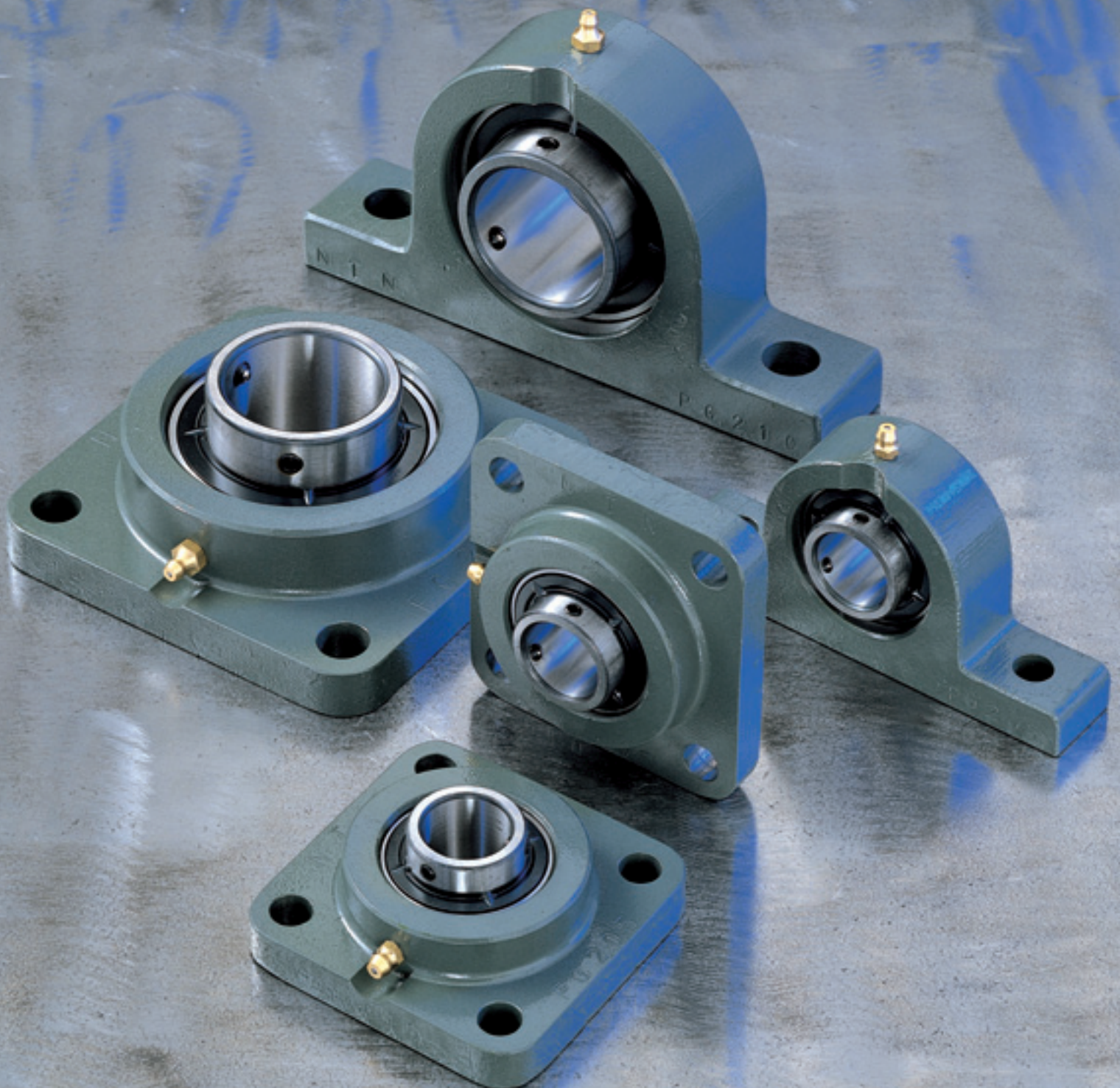
For New Technology Network

# NTN<sup>®</sup>

NTN corporation

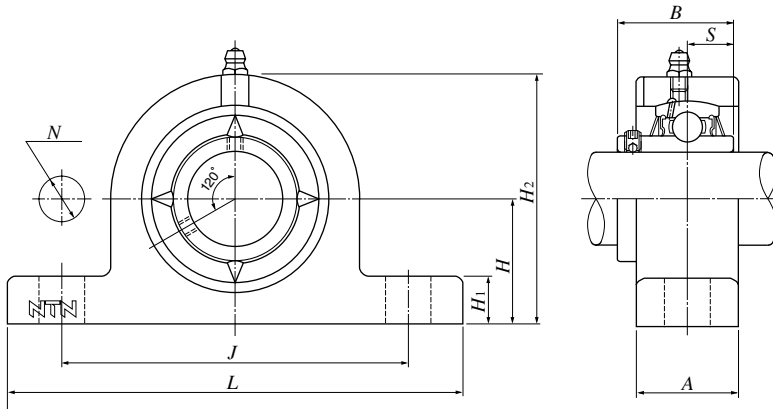
# Bearing Units Steel Series

CAT. No. 3902/E



## Pillow Block Unit; UCPG2 series

Cylindrical bore with set screw



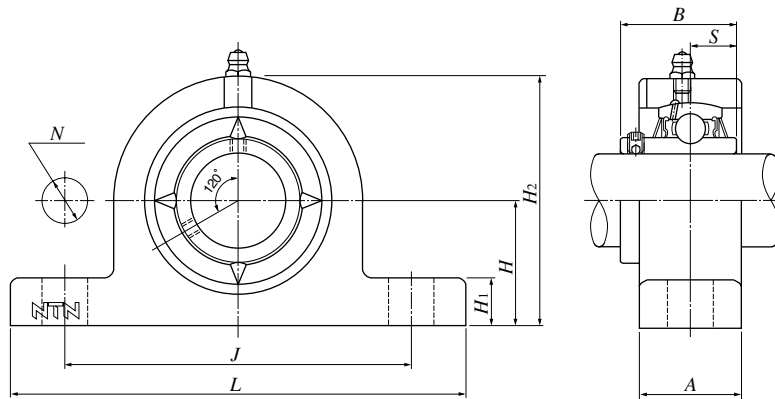
Bore dia. mm	Part number	Boundary dimensions mm									Nominal bolt dia.	Insert bearing number	Basic dynamic rated load kN C <sub>r</sub>	Basic static rated load kN C <sub>0r</sub>	Housing part number	Mass kg (Ref.)
		H	L	J	A	N	H <sub>1</sub>	H <sub>2</sub>	B	S						
12	UCPG201D1	30.2	127	95	25	12	14	62	31	12.7	M10	UC201D1	12.8	6.65	PG203D1	0.7
15	UCPG202D1							UC202D1								
17	UCPG203D1							UC203D1								
20	UCPG204D1	33.3	140	105	30	15	71	65	34	14.3	M10	UC204D1	14.0	7.85	PG204D1	0.8
25	UCPG205D1	UC205D1														
30	UCPG206D1	42.9						165				121			35	
35	UCPG207D1	47.6	167	127	17	18	93	42.9	17.5	UC207D1	25.7	15.3	PG207D1	1.6		
40	UCPG208D1	49.2	184	137	40	18	98	49.2	19	UC208D1	29.1	17.8	PG208D1	1.9		
45	UCPG209D1	54	190	146	40	20	106	49.2	19	UC209D1	32.5	20.4	PG209D1	2.2		
50	UCPG210D1	57.2	206	159	45	19	21	114	51.6	19	M16	UC210D1	35.0	23.2	PG210D1	2.6
55	UCPG211D1	63.5	219	171	50	23	126	55.6	22.2	UC211D1		43.5	29.2	PG211D1	3.3	
60	UCPG212D1	69.8	241	184	50	25	138	65.1	25.4	UC212D1		52.5	36.0	PG212D1	4.6	
65	UCPG213D1	76.2	265	203	55	27	151	74.6	30.2	27	M20	UC213D1	57.5	40.0	PG213D1	5.9
70	UCPG214D1	79.4	266	210	55	27	157	74.6	30.2	UC214D1		62.0	44.0	PG214D1	6.6	
75	UCPG215D1	82.6	275	217	55	24	28	163	77.8	33.3		UC215D1	66.0	49.5	PG215D1	7.4
80	UCPG216D1	88.9	292	232	60	30	175	82.6	33.3	30	M20	UC216D1	72.5	53.0	PG216D1	9.0
85	UCPG217D1	95.2	310	247	60	32	187	85.7	34.1	32		UC217D1	83.5	64.0	PG217D1	11
90	UCPG218D1	101.6	327	262	65	26	33	200	96	39.7		M22	UC218D1	96.0	71.5	PG218D1

Note)

1. Stamped steel or cast iron dust covers are also available upon request.
2. Refer to catalog 2400.
3. Ball bearing tolerances according to JIS B 1558.
4. Housing tolerances according to JIS B 1559.

# Pillow Block Unit; UCPG3 series

Cylindrical bore with set screw



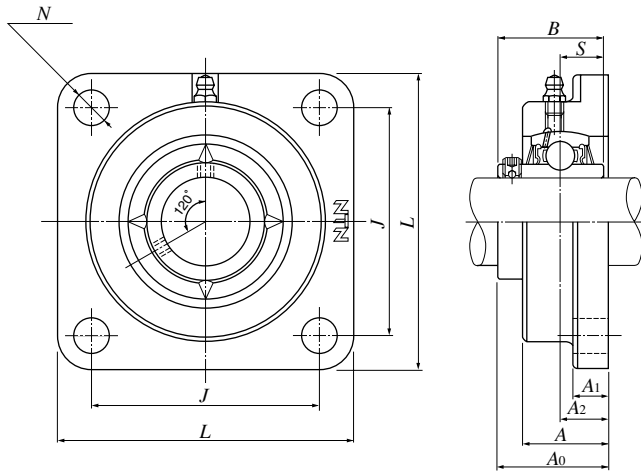
Bore dia. mm	Part number	Boundary dimensions mm									Nominal bolt dia.	Insert bearing number	Basic dynamic rated load kN Cr	Basic static rated load kN Cor	Housing part number	Mass kg (Ref.)
		H	L	J	A	N	H <sub>1</sub>	H <sub>2</sub>	B	S						
25	UCPG305D1	45	175	132	35	17	15	85	38	15	M14	UC305D1	21.2	10.9	PG305D1	1.4
30	UCPG306D1	50	180	140			18	95	43	17		19	UC306D1	26.7	15.0	PG306D1
35	UCPG307D1	56	210	160	40	20	106	48	22	UC307D1			33.5	19.1	PG307D1	2.8
40	UCPG308D1	60	220	170	45	22	116	52		M16		UC308D1	40.5	24.0	PG308D1	3.0
45	UCPG309D1	67	245	190	50	24	129	57	25		UC309D1	53.0	32.0	PG309D1	4.1	
50	UCPG310D1	75	275	212	55	19	27	143			61	M20	UC310D1	62.0	38.5	PG310D1
55	UCPG311D1	80	310	236	60	30	154	66	32		UC311D1		71.5	45.0	PG311D1	7.4
60	UCPG312D1	85	330	250	65	24	32	165		71	26	M22	UC312D1	82.0	52.0	PG312D1
65	UCPG313D1	90	340	260		33	176	75	30	35	UC313D1		92.5	60.0	PG313D1	10
70	UCPG314D1	95	360	280	75	26	187	78	33		40	UC314D1	104	68.0	PG314D1	12
75	UCPG315D1	100	380	290		198	82	32	96	40		M27	UC315D1	113	77.0	PG315D1
80	UCPG316D1	106	400	300	80	32	210	86		34	45		UC316D1	123	86.5	PG316D1
85	UCPG317D1	112	420	320		80	32	220	96	40		M30	UC317D1	133	97.0	PG317D1
90	UCPG318D1	118	430	330	90		35	235		103	41		50	UC318D1	143	107
95	UCPG319D1	125	470	360		90	35	250	108		42	M33		UC319D1	153	119
100	UCPG320D1	140	490	380	100		38	275		112	44		54	UC320D1	173	141
105	UCPG321D1					50	280	112	44		UC321D1	184		153	PG321D1	
110	UCPG322D1	150	520	400	100	38	55	300	117	46	M33	UC322D1	205	179	PG322D1	45
120	UCPG324D1	160	570	450			110	75	65	320		126	51	UC324D1	207	185
130	UCPG326D1	180	600	480	110	75			355	135		54	UC326D1	229	214	PG326D1
140	UCPG328D1	200	620	500			390	145	59	UC328D1		253	246	PG328D1	89	

Note)

1. Stamped steel or cast iron dust covers are also available upon request.
2. Refer to catalog 2400.
3. Ball bearing tolerances according to JIS B 1558.
4. Housing tolerances according to JIS B 1559.

## Square Flange Unit; UCFG2 series

Cylindrical bore with set screw



Bore dia. mm	Part number	Boundary dimensions mm									Nominal bolt dia.	Insert bearing number	Basic dynamic rated load kN C <sub>r</sub>	Basic static rated load kN C <sub>0r</sub>	Housing part number	Mass kg (Ref.)
		L	J	A <sub>2</sub>	A <sub>1</sub>	A	N	A <sub>0</sub>	B	S						
12	UCFG201D1	86	64	15	11	25.5	12	33.3	31	12.7	M10	UC201D1	12.8	6.65	FG204D1	0.7
15	UCFG202D1											UC202D1				
17	UCFG203D1											UC203D1				
20	UCFG204D1											UC204D1				0.6
25	UCFG205D1	95	70	16	13	27	35.7	34	14.3	M10	UC205D1	14.0	7.85	FG205D1	0.8	
30	UCFG206D1	108	83	18		31					40.2	38.1	15.9	UC206D1	19.5	11.3
35	UCFG207D1	117	92	19	15	34	44.4	42.9	17.5	M12	UC207D1	25.7	15.3	FG207D1	1.4	
40	UCFG208D1	130	102	21		36					51.2	49.2	19	M14	UC208D1	29.1
45	UCFG209D1	137	105	22	16	38	52.2	51.6	M14	UC209D1	32.5				20.4	FG209D1
50	UCFG210D1	143	111			40				54.6	51.6	UC210D1	35.0	23.2	FG210D1	2.4
55	UCFG211D1	162	130	25	18	43	58.4	55.6	22.2	M16	UC211D1	43.5	29.2	FG211D1	3.6	
60	UCFG212D1	175	143	29		48					68.7	65.1	25.4	M16	UC212D1	52.5
65	UCFG213D1	187	149	30	22	50	69.7	74.6	30.2	M16	UC213D1				57.5	40.0
70	UCFG214D1	193	152	31		54					75.4	74.6	30.2	UC214D1	62.0	44.0
75	UCFG215D1	200	159	34	22	56	78.5	77.8	33.3	M20	UC215D1	66.0	49.5	FG215D1	6.9	
80	UCFG216D1	208	165			58					83.3	82.6	UC216D1	72.5	53.0	FG216D1
85	UCFG217D1	220	175	36	24	63	87.6	85.7	34.1	M20	UC217D1	83.5	64.0	FG217D1	9.3	
90	UCFG218D1	235	187	40		68					96.3	96	39.7	UC218D1	96.0	71.5

Note)

1. Stamped steel or cast iron dust covers are also available upon request.
2. Refer to catalog 2400.
3. Ball bearing tolerances according to JIS B 1558.
4. Housing tolerances according to JIS B 1559.

# NTN Rolled Steel Housings Ensure A Safer Design

## 1. Features

### Superior Housing Strength

Made of precision gas cut rolled steel, NTN steel housings offer superior strength characteristics when compared to cast iron and cast steel housings.

### Consistent Microstructure

The rolled steel microstructure is more consistent than cast iron or cast steel, reducing the risk of housing fracture under severe conditions.

### Interchangeability

Roller steel housing dimensions are consistent with cast units, allowing them to be interchanged with NTN standard housings and other manufacturers ISO standard.

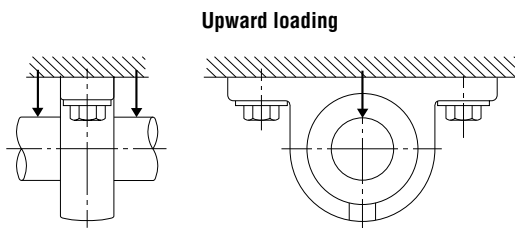
## 2. Bearing housing material

The bearing housings use material classified as SS400 of JIS G 3101 (Rolled Steel for General Structures). The table below lists the material's general mechanical properties.

Class code	Tension test				
	Steel thickness mm	Yield strength N/mm <sup>2</sup>	Tensile strength N/mm <sup>2</sup>	Elongation	
				Sample piece	%
SS400	Thickness from 16 to 40	235 or more	400~510	No. 1A	21 or more
	Thicker than 40	215 or more		No. 4	23 or more

## 3. Allowable load for bearing housings

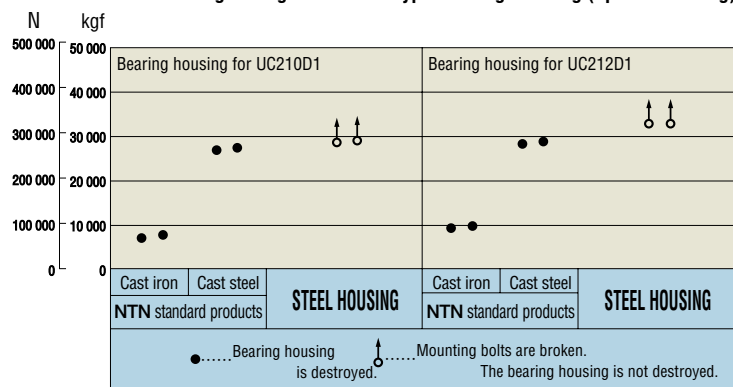
The allowable load for rolled steel housings is approximately 5 times the insert bearing's dynamic capacity. In most applications the load is transmitted through the bearing into the housing. As shown below, the static fracture strength of NTN rolled steel housings is considerably higher than that of cast iron and cast steel housings.



(Reference) Basic dynamic rated load of bearings  $C_r$   
 UC210D1=35000 N {3600kgf}  
 UC212D1=52500 N {5350kgf}

※The above sketch shows the application of an upward load. This loading was applied for testing purposes only and is not recommended for actual use.

Static Breaking Strength of Pillow Type Bearing Housing (upward loading)



## 4. Applications

NTN rolled steel housings provide superior strength to cast steel and cast iron. Their ability to resist impact loads makes them suitable for applications involving heavy loads and vibration. Possible applications for NTN rolled steel housings include but are not limited to conveyors, trucks and overhead cranes at steel mills, mining machinery and pollution control equipment.

- Care should be taken when loads do not act through the base of the housing. For applications where loads are acting axially or at a 45 degree angle, an external retainer may be needed to prevent the housing from moving.
- The grease nipple is not installed prior to shipment to prevent breaking. It should be installed prior to using the unit.
- Other housing configurations, such as the 300 series square flange, the thick pillow block, the diamond shaped flange, the piloted round flange, the piloted square flange and the take-up type units are available. Stamped steel or cast iron dust covers are also available upon request. Ask your NTN representative about these available options.