




# OIL-FREE UNIVERSAL GUIDE BUSHINGS

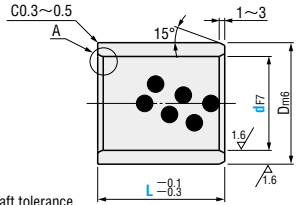
— STRAIGHT TYPE —



# OIL-FREE WASHERS



**GGBW**



Detail A (both sides)

• Slide direction

- Matching shaft tolerance
  - For general purpose (heavy load) d8
  - For general purpose (light load) e7
  - For high precision f7
- Recommended machining tolerance for holes H7

■ Copper alloy  
Special solid lubricant (embedded)


dF7	Dm6	Applicable washers	Catalog No.		L																	
			Type	d																		
8	+0.028	12	—	—	8	10	12	15														
10	+0.013	14	+0.018	GBWC10	10	8	10	12	15	20												
12		18	+0.007	GBWC12	12	8	10	12	15	16	19	20	25	30								
13		19		GBWC13	13	10	12	15	16	20												
14		20		GBWC14	14	10	12	15	20	25	30											
15	+0.034	21		GBWC15	15	10	12	15	16	20	25	30										
16	+0.016	22		GBWC16	16	10	12	15	16	19	20	25	30	35	40							
17		23			17	15																
18		24	+0.021	GBWC18	18	12	15	16	20	25	30	35	40									
19		26	+0.008	—	19	15	20															
20		28		GBWC20	20	10	12	15	16	19	20	25	30	35	40	50						
20		30			20A	12	15	16	20	25	30	35	40	50	70	100						
22		32		—	22	12	15	20	25													
25	+0.041	33		GBWC25	25	12	15	16	20	25	30	35	40	50	60							
25	+0.020	35			25A	12	15	16	20	25	30	35	40	50								
28		38		—	28	20	25	30	40													
30		38		GBWC30	30	12	15	20	25	30	35	40	50	60								
30		40	+0.025		30A	12	15	20	25	30	35	40	50	60								
32		42	+0.009	—	32	15	20	30	40													
35		44		GBWC35	35	20	25	30	35	40	50	60										
35		45			35A	20	25	30	35	40	50	60										
38		48		—	38	30	40															
40		50		GBWC40	40	15	20	25	30	35	40	50	60	70	80							
40	+0.050	55			40A	15	25	30	35	40	50	60										
45	+0.025	55		GBWC45	45	30	35	40	50	60												
45		56	+0.030		45A	30	35	40	50	60												
45		60	+0.011		45B	30	35	40	50	60	70	80										
50		60		GBWC50	50	30	35	40	50	60	70	80										
50		62			50A	30	35	40	50	60	70											
50		65		GBWC55	50B	30	40	50	60	70	80	100										
55		70		GBWC60	55	30	35	40	50	60	70											
60		74			60	30	35	40	50	60	70	80	100									
60		75		—	60A	30	35	40	50	60	70	80	100									
63		75		GBWC65	63	60	70	80														
65		80		GBWC70	65	40	50	60	70	80												
70	+0.060	85	+0.035		70	30	35	40	50	60	70	80	100									
70	+0.030	90	+0.013		70A	50	60	70	80													
75		90		GBWC75	75	50	60	70	80	100												
75		95			75A	60	70	80	100													
80		96		GBWC80	80	20	40	50	60	70	80	100	120									
80		100		—	80A	40	50	60	70	80	100	120	140									
85		100		GBWC90	85	25	60	80														
90		110		GBWC100	90	30	50	60	70	80	90	100	120									
100	+0.071	120	+0.036	—	100	40	50	60	70	80	90	100	120	140								
110		130		GBWC120	110	50	70	80	100	120												
120		140		—	120	70	80	90	100	120	140											
125		145			125	100	120															
130	+0.083	150	+0.040		130	80	100	130														
140	+0.043	160	+0.015	—	140	100	140															
150		170			150	80	100	150														
160		180			160	80	100	150														

Order

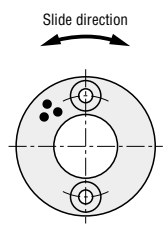
GGBW60 — 50  
GGBW60A — 50

Days to Ship

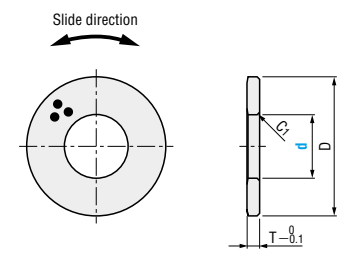
Price



**GBWC**



**GBWCN** (Without bolt hole type)



■ Copper alloy  
Special solid lubricant (embedded)

d (Actual dimension)	D	T	Mounting bolt hole			Catalog No.	d (Nominal dimension)				
			P.C.D.	Qty.	Flat head bolt used						
10.2	30	3	20	2	M3	3.5	10				
12.2	40		28				12				
13.2			28				13				
14.2			28				14				
15.2	50	35	4				15				
16.2							55	40	16		
18.2									60	45	18
20.2											70
25.2	80	60					25				
30.2							90	67.5	30		
35.2									100	75	35
40.2	110	85					40				
45.3				120	90	45					
50.3						130	95	50			
55.3	140	100		55							
60.3				150	110	60					
65.3			170			120	65				
70.3	190	140		70							
75.3				200	160		75				
80.3	25.2	175					80				
90.5			Without bolt holes			90					
100.5				100							
120.5				120							
10.2	30	3				GBWCN	10				
12.2	40						12				
16.2	50	5				16					
20.2						20					
25.2				25							

Order

GBWC

Days to Ship

Price