



Mounting Accessories

Adapter Assemblies and Applied Bearing Bore Numbers

Adapter Assembly series Bearings		<u>H30</u>	<u>H31</u>	<u>H2</u>	<u>H32</u>	<u>H3</u>	<u>H23</u>
		Self-aligning Ball Bearings	12 K			04 ~ 22	
22 K						04 ~ 22	
13 K						04 ~ 22	
23 K							04 ~ 22
Spherical Roller Bearings	230 K	24 ~ /500					
	231 K		22 ~ /500				
	222 K		24 ~ 64			05 ~ 22	
	232 K				60 ~ /500		18 ~ 56
	213 K					05 ~ 22	
	223 K						08 ~ 56
Ball Bearings for Bearing Units	UK2						05 ~ 18
	UKX						05 ~ 28
	UK3						05 ~ 20

Note: In case of spherical roller bearings without outer rib on inner ring, locknut may have a larger bore than the outside diameter of the inner ring. Please check the dimensions. ▼



Withdrawal Sleeves and Applied Bearing Bore Numbers

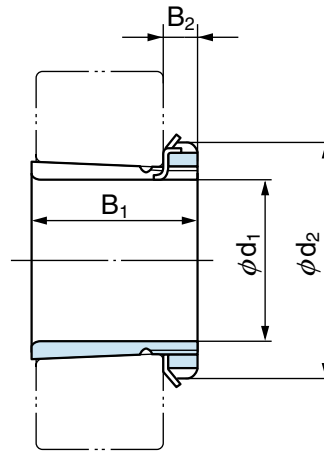
Withdrawal Sleeve series Bearings		<u>AH30</u>	<u>AH31</u>	<u>AH2</u>	<u>AH22</u>	<u>AH32</u>	<u>AH3</u>	<u>AH23</u>
		Self-aligning Ball Bearings	12 K			08 ~ 22		
22 K			22					08 ~ 20
13 K							08 ~ 22	
23 K								08 ~ 22
Spherical Roller Bearings	230 K	24 ~ /500						
	231 K		22 ~ /500					
	222 K		22 ~ 34		36 ~ 64		08 ~ 20	
	232 K					18 ~ 40 60 ~ /500		44 ~ 56
	213 K						08 ~ 22	
	223 K							08 ~ 56

Note: In case of spherical roller bearings without outer rib on inner ring, locknut may have a larger bore than the outside diameter of the inner ring. Please check the dimensions.

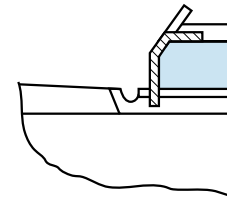
- Locknuts [Series AN](#)
[Series ANL](#)
- Nuts [Series HN/HNL](#)
- Lockwashers [Series AW/AWL](#)
- Lock Plates [Series AL/ALL](#)

Adapter Assemblies

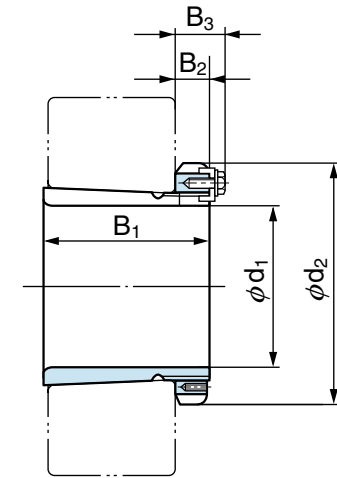
Series H30/HE30



Adapter Ass'y with Lockwasher



suffix X



Adapter Ass'y with Lock Plate

Bearing bore No.	Dimensions (mm)						Mass ⁽¹⁾ (kg) (reference)	Adapter Ass'y No.		Part No.			
	d ₁		d ₂	B ₁	B ₂	B ₃		H	HE	Adapter sleeve ⁽²⁾	Locknut	Lock-washer	Lock Plate
	H	HE											
24	110	107.95	145	72	22	—	1.96	H3024X	HE3024X	A3024X	ANL 24	AWL 24X	—
26	115	114.30	155	80	23	—	2.85	H3026	HE3026	A3026	ANL 26	AWL 26	—
28	125	127.00	165	82	24	—	3.18	H3028	HE3028	A3028	ANL 28	AWL 28	—
30	135	133.35	180	87	26	—	3.90	H3030	HE3030	A3030	ANL 30	AWL 30	—
32	140	139.70	190	93	28	—	5.20	H3032	HE3032	A3032	ANL 32	AWL 32	—
34	150	152.40	200	101	29	—	6.00	H3034	HE3034	A3034	ANL 34	AWL 34	—
36	160	165.10	210	109	30	—	6.85	H3036	HE3036	A3036	ANL 36	AWL 36	—
38	170	171.45	220	112	31	—	7.45	H3038	HE3038	A3038	ANL 38	AWL 38	—
40	180	177.80	240	120	32	—	9.20	H3040	HE3040	A3040	ANL 40	AWL 40	—

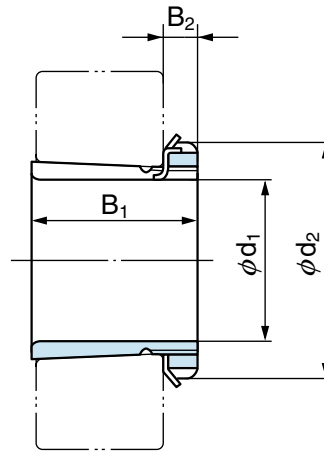
- Notes (1) The masses in the table are for H series.
 (2) The numbers in the table mean sleeves for H series. Sleeves for HE series have prefix AE instead of A.

Reference Suffix X means narrow axial slot type.
 For this type sleeves, only lockwashers with straight inner tab can be used.

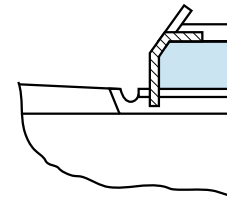


Adapter Assemblies

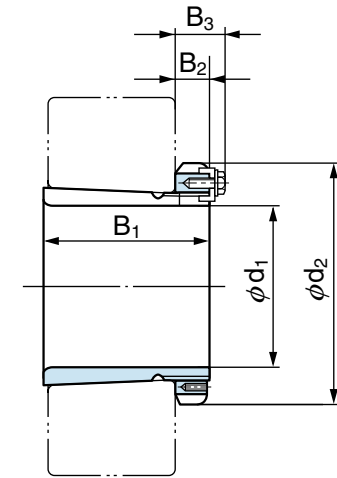
Series H30/HE30



Adapter Ass'y with Lockwasher



suffix X



Adapter Ass'y with Lock Plate

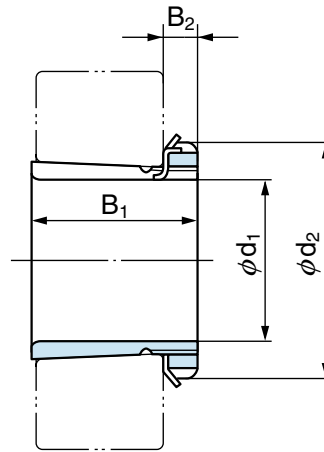
Bearing bore No.	Dimensions (mm)						Mass ⁽¹⁾ (kg) (reference)	Adapter Ass'y No.		Part No.			
	d ₁		d ₂	B ₁	B ₂	B ₃		H	HE	Adapter sleeve ⁽²⁾	Locknut	Lock-washer	Lock Plate
	H	HE											
44	200	—	260	128	30	41	10.3	H3044	—	A3044	ANL 44	—	ALL 44
48	220	—	290	133	34	46	13.4	H3048	—	A3048	ANL 48	—	ALL 48
52	240	—	310	145	34	46	15.6	H3052	—	A3052	ANL 52	—	ALL 48
56	260	—	330	152	38	50	17.7	H3056	—	A3056	ANL 56	—	ALL 56
60	280	—	360	168	42	54	22.8	H3060	—	A3060	ANL 60	—	ALL 60
64	300	—	380	171	42	55	24.6	H3064	—	A3064	ANL 64	—	ALL 64
68	320	—	400	187	45	58	28.6	H3068	—	A3068	ANL 68	—	ALL 64
72	340	—	420	188	45	58	30.6	H3072	—	A3072	ANL 72	—	ALL 72
76	360	—	450	193	48	62	35.8	H3076	—	A3076	ANL 76	—	ALL 76

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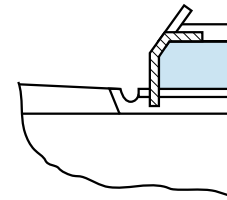
Reference Suffix X means narrow axial slot type.
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Adapter Assemblies

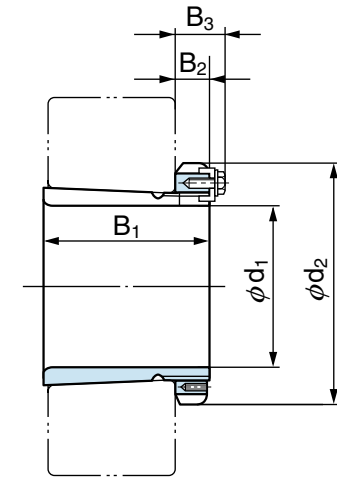
Series H30/HE30



Adapter Ass'y with Lockwasher



suffix X



Adapter Ass'y with Lock Plate

Bearing bore No.	Dimensions (mm)						Mass ⁽¹⁾ (kg) (reference)	Adapter Ass'y No.		Part No.			
	d ₁		d ₂	B ₁	B ₂	B ₃		H	HE	Adapter sleeve ⁽²⁾	Locknut	Lock-washer	Lock Plate
	H	HE											
80	380	–	470	210	52	66	42.1	H3080	–	A3080	ANL 80	–	ALL 76
84	400	–	490	212	52	66	44.3	H3084	–	A3084	ANL 84	–	ALL 84
88	410	–	520	228	60	77	67.0	H3088	–	A3088	ANL 88	–	ALL 88
92	430	–	540	234	60	77	71.5	H3092	–	A3092	ANL 92	–	ALL 88
96	450	–	560	237	60	77	75.2	H3096	–	A3096	ANL 96	–	ALL 96
/500	470	–	580	247	68	85	81.8	H30/500	–	A30/500	ANL100	–	ALL 96

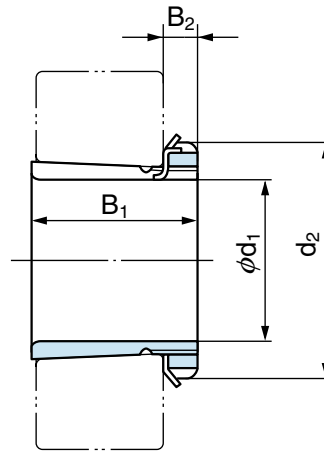
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 (2) The numbers in the table mean sleeves for H series.

Sleeves for HE series have prefix AE instead of A.

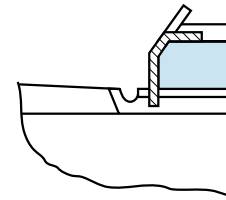
Reference Suffix X means narrow axial slot type.
 For this type sleeves, only lockwashers with straight inner tab can be used.

Adapter Assemblies

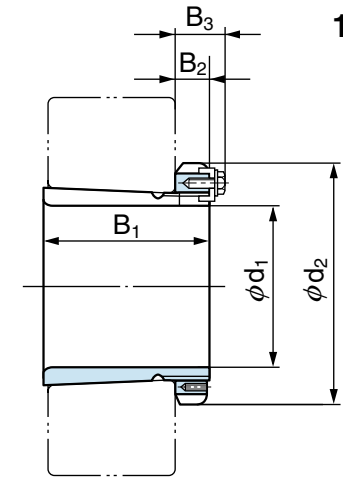
Series H31/HE31



Adapter Ass'y with Lockwasher



suffix X



Adapter Ass'y with Lock Plate

Bearing bore No.	Dimensions (mm)						Mass ⁽¹⁾ (kg) (reference)	Adapter Ass'y No.		Part No.			
	d ₁		d ₂	B ₁	B ₂	B ₃		H	HE	Adapter sleeve ⁽²⁾	Locknut	Lock-washer	Lock Plate
	H	HE											
22	100	101.60	145	81	21	—	2.25	H3122X	HE3122X	A3122X	AN 22	AW 22X	—
24	110	107.95	155	88	22	—	2.64	H3124X	HE3124X	A3124X	AN 24	AW 24X	—
26	115	114.30	165	92	23	—	3.66	H3126	HE3126	A3126	AN 26	AW 26	—
28	125	127.00	180	97	24	—	4.34	H3128	HE3128	A3128	AN 28	AW 28	—
30	135	133.35	195	111	26	—	5.54	H3130	HE3130	A3130	AN 30	AW 30	—
32	140	139.70	210	119	28	—	7.70	H3132	HE3132	A3132	AN 32	AW 32	—
34	150	152.40	220	122	29	—	8.40	H3134	HE3134	A3134	AN 34	AW 34	—
36	160	165.10	230	131	30	—	9.50	H3136	HE3136	A3136	AN 36	AW 36	—
38	170	171.45	240	141	31	—	10.8	H3138	HE3138	A3138	AN 38	AW 38	—

Notes (1) The masses in the table are for H series.

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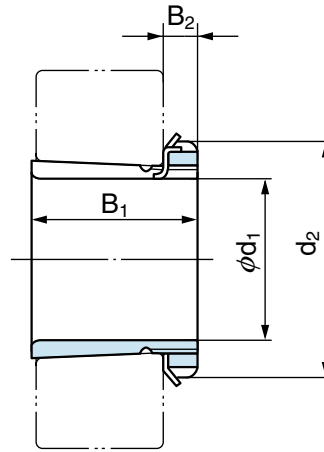
Reference Suffix X means narrow axial slot type.

For this type sleeves, only lockwashers with straight inner tab can be used.

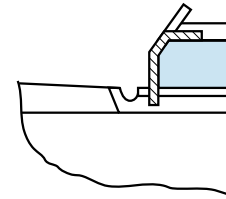


Adapter Assemblies

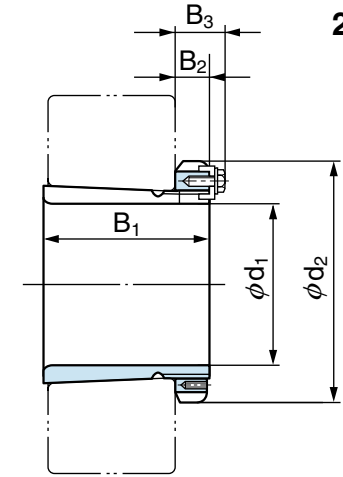
Series H31/HE31



Adapter Ass'y with Lockwasher



suffix X



Adapter Ass'y with Lock Plate

Bearing bore No.	Dimensions (mm)						Mass ⁽¹⁾ (kg) (reference)	Adapter Ass'y No.		Part No.			
	d ₁		d ₂	B ₁	B ₂	B ₃		H	HE	Adapter sleeve ⁽²⁾	Locknut	Lock-washer	Lock Plate
	H	HE											
40	180	177.80	250	150	32	—	12.1	H3140	HE3140	A3140	AN 40	AW 40X	—
44	200	—	280	158	32	44	14.7	H3144	—	A3144	AN 44	— X	AL 44
48	220	—	300	169	34	46	17.3	H3148	—	A3148	AN 48	—	AL 44
52	240	—	330	187	36	49	22.0	H3152	—	A3152	AN 52	—	AL 52
56	260	—	350	192	38	51	24.5	H3156	—	A3156	AN 56	—	AL 52
60	280	—	380	208	40	53	30.3	H3160	—	A3160	AN 60	—	AL 60
64	300	—	400	226	42	56	35.0	H3164	—	A3164	AN 64	—	AL 64
68	320	—	440	254	55	72	49.5	H3168	—	A3168	AN 68	—	AL 68
72	340	—	460	259	58	75	54.5	H3172	—	A3172	AN 72	—	AL 68

Notes (1) The masses in the table are for H series.

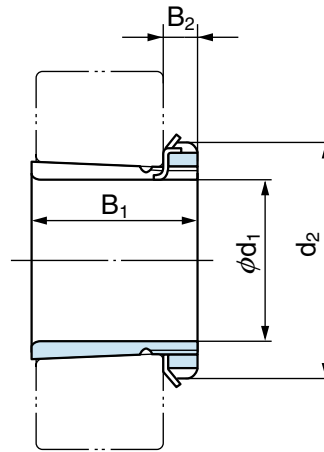
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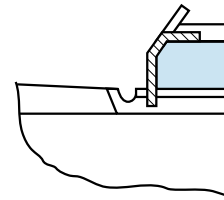
For this type sleeves, only lockwashers with straight inner tab can be used.

Adapter Assemblies

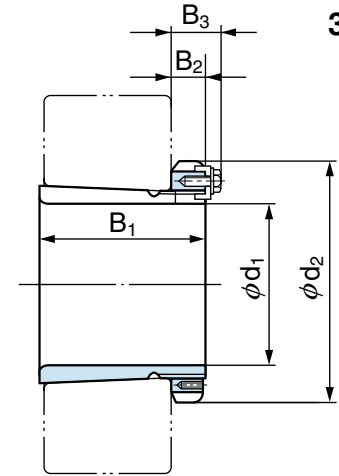
Series H31/HE31



Adapter Ass'y with Lockwasher



suffix X



Adapter Ass'y with Lock Plate

Bearing bore No.	Dimensions (mm)						Mass ⁽¹⁾ (kg) (reference)	Adapter Ass'y No.		Part No.			
	d ₁		d ₂	B ₁	B ₂	B ₃		H	HE	Adapter sleeve ⁽²⁾	Locknut	Lock-washer	Lock Plate
	H	HE											
76	360	–	490	264	60	77	61.6	H3176	–	A3176	AN 76	– X	AL 76
80	380	–	520	272	62	82	70.1	H3180	–	A3180	AN 80	– X	AL 80
84	400	–	540	304	70	90	84.0	H3184	–	A3184	AN 84	–	AL 80
88	410	–	560	307	70	90	103	H3188	–	A3188	AN 88	–	AL 88
92	430	–	580	326	75	95	116	H3192	–	A3192	AN 92	–	AL 88
96	450	–	620	335	75	95	133	H3196	–	A3196	AN 96	–	AL 96
/500	470	–	630	356	80	100	143	H31/500	–	A31/500	AN100	–	AL100

Notes (1) The masses in the table are for H series.

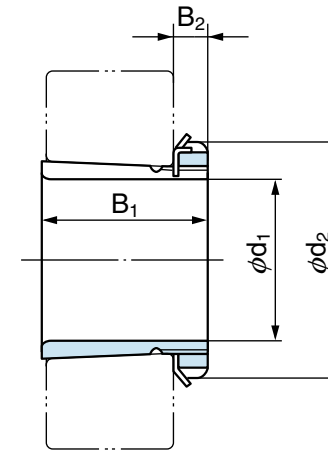
(2) The numbers in the table mean sleeves for H series. Sleeves for HE series have prefix AE instead of A.

Reference Suffix X means narrow axial slot type.

For this type sleeves, only lockwashers with straight inner tab can be used.

Adapter Assemblies

Series H2/HE2/HS2



Bearing bore No.	Dimensions (mm)						Mass ⁽¹⁾ (kg) (reference)	Adapter Ass'y No.			Part No.		
	d ₁			d ₂	B ₁	B ₂		H	HE	HS	Adapter sleeve ⁽²⁾	Locknut	Lock-washer
	H	HE	HS										
04	17	–	–	32	24	7	0.041	H204X	–	–	A204X	AN 04	AW 04X
05	20	19.050	–	38	26	8	0.070	H205X	HE205X	–	A205X	AN 05	AW 05X
06	25	25.400	22.225	45	27	8	0.099	H206X	HE206X	HS206X	A206X	AN 06	AW 06X
07	30	–	28.575	52	29	9	0.125	H207X	–	HS207X	A207X	AN 07	AW 07X
08	35	31.750	34.925	58	31	10	0.174	H208X	HE208X	HS208X	A208X	AN 08	AW 08X
09	40	38.100	–	65	33	11	0.226	H209X	HE209X	–	A209X	AN 09	AW 09X
10	45	44.450	41.275	70	35	12	0.274	H210X	HE210X	HS210X	A210X	AN 10	AW 10X
11	50	50.800	47.625	75	37	12	0.308	H211X	HE211X	HS211X	A211X	AN 11	AW 11X
12	55	–	53.975	80	38	13	0.346	H212X	–	HS212X	A212X	AN 12	AW 12X

Notes (1) The masses in the table are for H series.

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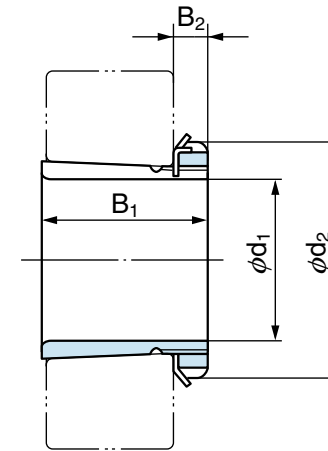
Reference Suffix X means narrow axial slot type.

For this type sleeves, only lockwashers with straight inner tab can be used.



Adapter Assemblies

Series H2/HE2/HS2



Bearing bore No.	Dimensions (mm)						Mass ⁽¹⁾ (kg) (reference)	Adapter Ass'y No.			Part No.		
	d_1			d_2	B_1	B_2		H	HE	HS	Adapter sleeve ⁽²⁾	Locknut	Lock-washer
	H	HE	HS										
13	60	57.150	60.325	85	40	14	0.401	H213X	HE213X	HS213X	A213X	AN 13	AW 13X
14	60	–	–	92	41	14	0.550	H214X	–	–	A214X	AN 14	AW 14X
15	65	63.500	66.675	98	43	15	0.708	H215X	HE215X	HS215X	A215X	AN 15	AW 15X
16	70	69.850	–	105	46	17	0.881	H216X	HE216X	–	A216X	AN 16	AW 16X
17	75	76.200	73.025	110	50	18	1.02	H217X	HE217X	HS217X	A217X	AN 17	AW 17X
18	80	–	79.375	120	52	18	1.18	H218X	–	HS218X	A218X	AN 18	AW 18X
19	85	82.550	85.725	125	55	19	1.37	H219X	HE219X	HS219X	A219X	AN 19	AW 19X
20	90	88.900	–	130	58	20	1.49	H220X	HE220X	–	A220X	AN 20	AW 20X
21	95	–	–	140	60	20	1.70	H221X	–	–	A221X	AN 21	AW 21X
22	100	101.600	–	145	63	21	1.93	H222X	HE222X	–	A222X	AN 22	AW 22X

Notes (1) The masses in the table are for H series.

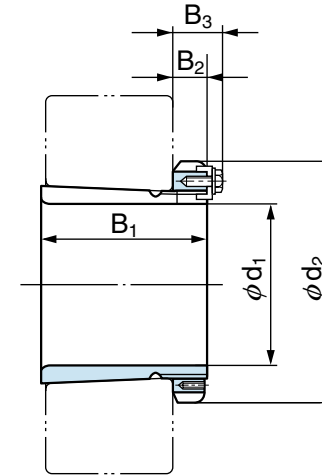
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Adapter Assemblies

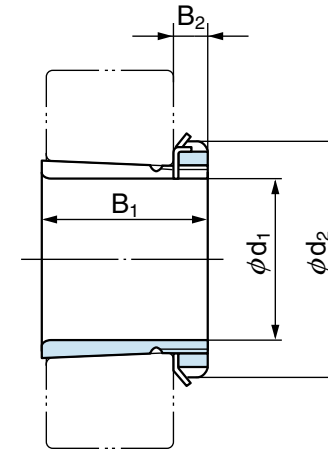
Series H32



Bearing bore No.	Dimensions (mm)					Mass (kg) (reference)	Adapter Ass'y No.	Part No.		
	d ₁	d ₂	B ₁	B ₂	B ₃			Adapter sleeve	Locknut	Lock- washer
60	280	380	240	40	53	34.0	H3260	A3260	AN 60	AL 60
64	300	400	258	42	56	39.4	H3264	A3264	AN 64	AL 64
68	320	440	288	55	72	54.6	H3268	A3268	AN 68	AL 68
72	340	460	299	58	75	60.2	H3272	A3272	AN 72	AL 68
76	360	490	310	60	77	69.6	H3276	A3276	AN 76	AL 76
80	380	520	328	62	82	80.9	H3280	A3280	AN 80	AL 80
84	400	540	352	70	90	94.6	H3284	A3284	AN 84	AL 80
88	410	560	361	70	90	118	H3288	A3288	AN 88	AL 88
92	430	580	382	75	95	133	H3292	A3292	AN 92	AL 88
96	450	620	397	75	95	153	H3296	A3296	AN 96	AL 96
/500	470	630	428	80	100	166	H32/500	A32/500	AN100	AL100

Adapter Assemblies

Series H3/HE3/HS3



Bearing bore No.	Dimensions (mm)						Mass ⁽¹⁾ (kg) (reference)	Adapter Ass'y No.			Part No.		
	d_1			d_2	B_1	B_2		H	HE	HS	Adapter sleeve ⁽²⁾	Locknut	Lock-washer
H	HE	HS	H				HE						
04	17	–	–	32	28	7	0.045	H304X	–	–	A304X	AN 04	AW 04X
05	20	19.050	–	38	29	8	0.075	H305X	HE305X	–	A305X	AN 05	AW 05X
06	25	25.400	22.225	45	31	8	0.109	H306X	HE306X	HS306X	A306X	AN 06	AW 06X
07	30	–	28.575	52	35	9	0.142	H307X	–	HS307X	A307X	AN 07	AW 07X
08	35	31.750	34.925	58	36	10	0.189	H308X	HE308X	HS308X	A308X	AN 08	AW 08X
09	40	38.100	–	65	39	11	0.248	H309X	HE309X	–	A309X	AN 09	AW 09X
10	45	44.450	41.275	70	42	12	0.302	H310X	HE310X	HS310X	A310X	AN 10	AW 10X
11	50	50.800	47.625	75	45	12	0.345	H311X	HE311X	HS311X	A311X	AN 11	AW 11X
12	55	–	53.975	80	47	13	0.393	H312X	–	HS312X	A312X	AN 12	AW 12X

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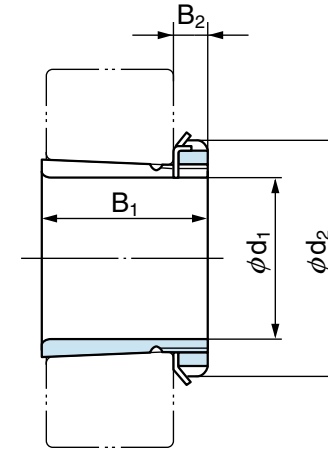
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Adapter Assemblies

Series H3/HE3/HS3



Bearing bore No.	Dimensions (mm)						Mass ⁽¹⁾ (kg) (reference)	Adapter Ass'y No.			Part No.		
	d_1			d_2	B_1	B_2		H	HE	HS	Adapter sleeve ⁽²⁾	Locknut	Lock-washer
H	HE	HS											
13	60	57.150	60.325	85	50	14	0.459	H313X	HE313X	HS313X	A313X	AN 13	AW 13X
14	60	—	—	92	52	14	0.723	H314X	—	—	A314X	AN 14	AW 14X
15	65	63.500	66.675	98	55	15	0.830	H315X	HE315X	HS315X	A315X	AN 15	AW 15X
16	70	69.850	—	105	59	17	1.03	H316X	HE316X	—	A316X	AN 16	AW 16X
17	75	76.200	73.025	110	63	18	1.18	H317X	HE317X	HS317X	A317X	AN 17	AW 17X
18	80	—	79.375	120	65	18	1.37	H318X	—	HS318X	A318X	AN 18	AW 18X
19	85	82.550	85.725	125	68	19	1.56	H319X	HE319X	HS319X	A319X	AN 19	AW 19X
20	90	88.900	—	130	71	20	1.69	H320X	HE320X	—	A320X	AN 20	AW 20X
21	95	—	—	140	74	20	1.93	H321X	—	—	A321X	AN 21	AW 21X
22	100	101.600	—	145	77	21	2.18	H322X	HE322X	—	A322X	AN 22	AW 22X

Notes (1) The masses in the table are for H series.

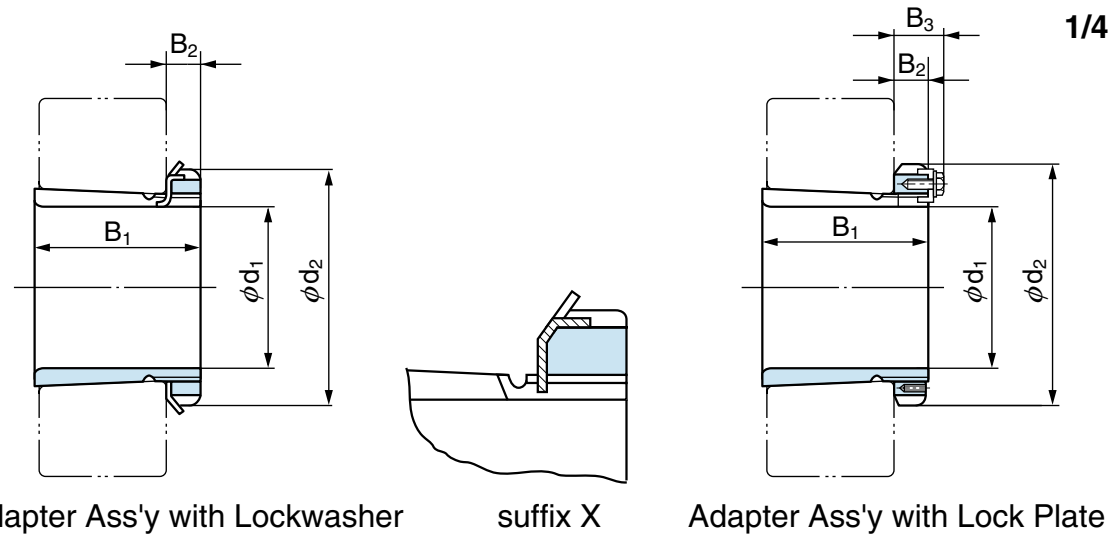
(2) The numbers in the table mean sleeves for H series. Sleeves for HE or HS series have prefix AE or AS.

Reference Suffix X means narrow axial slot type.

For this type sleeves, only lockwashers with straight inner tab can be used.

Adapter Assemblies

Series H23/HE23



Bearing bore No.	Dimensions (mm)						Mass ⁽¹⁾ (kg) (reference)	Adapter Ass'y No.		Part No.			
	d ₁		d ₂	B ₁	B ₂	B ₃		H	HE	Adapter sleeve ⁽²⁾	Locknut	Lock-washer	Lock Plate
	H	HE											
04	17	—	32	31	7	—	0.049	H2304X	—	A2304X	AN 04	AW 04X	—
05	20	19.05	38	35	8	—	0.087	H2305X	HE2305X	A2305X	AN 05	AW 05X	—
06	25	25.40	45	38	8	—	0.126	H2306X	HE2306X	A2306X	AN 06	AW 06X	—
07	30	—	52	43	9	—	0.165	H2307X	—	A2307X	AN 07	AW 07X	—
08	35	31.75	58	46	10	—	0.224	H2308X	HE2308X	A2308X	AN 08	AW 08X	—
09	40	38.10	65	50	11	—	0.280	H2309X	HE2309X	A2309X	AN 09	AW 09X	—
10	45	44.45	70	55	12	—	0.362	H2310X	HE2310X	A2310X	AN 10	AW 10X	—
11	50	50.80	75	59	12	—	0.420	H2311X	HE2311X	A2311X	AN 11	AW 11X	—
12	55	—	80	62	13	—	0.480	H2312X	—	A2312X	AN 12	AW 12X	—

Notes (1) The masses in the table are for H series.

(2) The numbers in the table mean sleeves for H series. Sleeves for HE series have prefix AE instead of A.

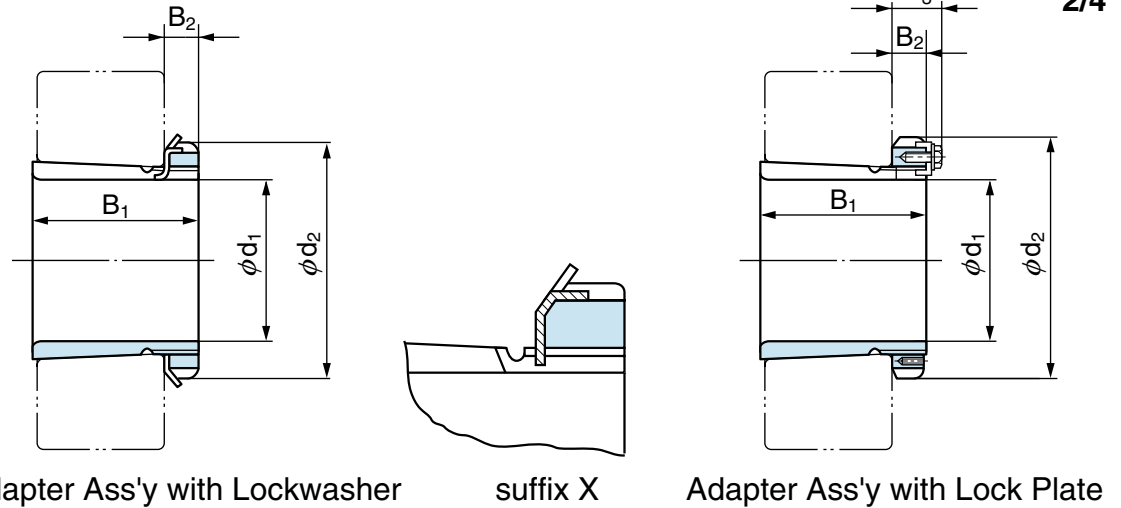
Reference 1. Suffix X means narrow axial slot type. For this type sleeves, only lockwashers with straight inner tab can be used.

2. Inch bore type HS series is also available.



Adapter Assemblies

Series H23/HE23



Bearing bore No.	Dimensions (mm)						Mass ⁽¹⁾ (kg) (reference)	Adapter Ass'y No.		Part No.			
	d ₁		d ₂	B ₁	B ₂	B ₃		H	HE	Adapter sleeve ⁽²⁾	Locknut	Lock-washer	Lock Plate
	H	HE											
13	60	57.15	85	65	14	—	0.556	H2313X	HE2313X	A2313X	AN 13	AW 13X	—
14	60	—	92	68	14	—	0.897	H2314X	—	A2314X	AN 14	AW 14X	—
15	65	63.50	98	73	15	—	1.05	H2315X	HE2315X	A2315X	AN 15	AW 15X	—
16	70	69.85	105	78	17	—	1.28	H2316X	HE2316X	A2316X	AN 16	AW 16X	—
17	75	76.20	110	82	18	—	1.45	H2317X	HE2317X	A2317X	AN 17	AW 17X	—
18	80	—	120	86	18	—	1.70	H2318X	—	A2318X	AN 18	AW 18X	—
19	85	82.55	125	90	19	—	1.94	H2319X	HE2319X	A2319X	AN 19	AW 19X	—
20	90	88.90	130	97	20	—	2.15	H2320X	HE2320X	A2320X	AN 20	AW 20X	—
21	95	—	140	101	20	—	2.45	H2321X	—	A2321X	AN 21	AW 21X	—

Notes (1) The masses in the table are for H series.

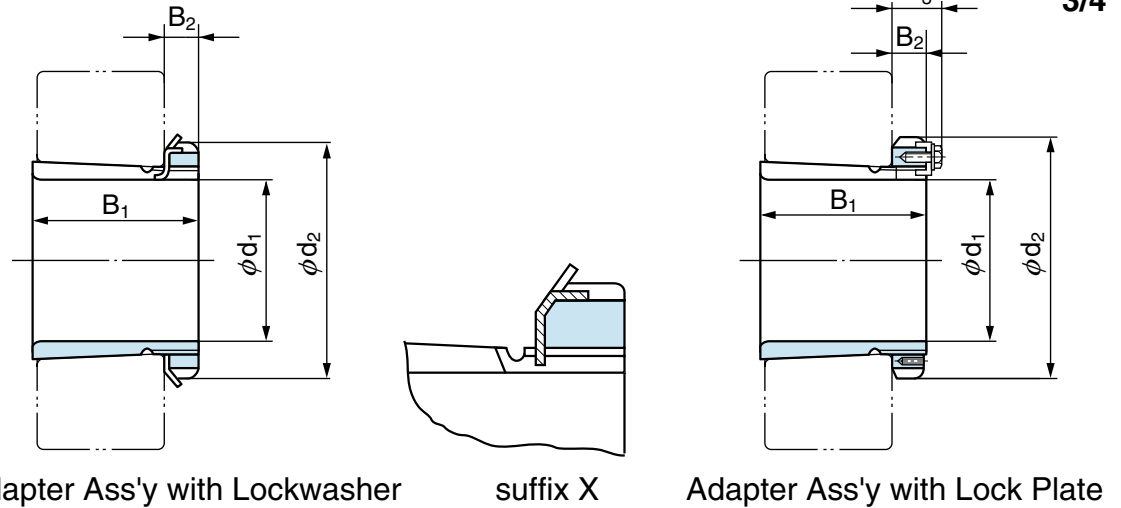
(2) The numbers in the table mean sleeves for H series. Sleeves for HE series have prefix AE instead of A.

Reference 1. Suffix X means narrow axial slot type. For this type sleeves, only lockwashers with straight inner tab can be used.

2. Inch bore type HS series is also available.

Adapter Assemblies

Series H23/HE23



Bearing bore No.	Dimensions (mm)						Mass ⁽¹⁾ (kg) (reference)	Adapter Ass'y No.		Part No.			
	d ₁		d ₂	B ₁	B ₂	B ₃		H	HE	Adapter sleeve ⁽²⁾	Locknut	Lock-washer	Lock Plate
	H	HE											
22	100	101.60	145	105	21	—	2.74	H2322X	HE2322X	A2322X	AN 22	AW 22X	—
24	110	107.95	155	112	22	—	3.20	H2324X	HE2324X	A2324X	AN 24	AW 24X	—
26	115	114.30	165	121	23	—	4.60	H2326	HE2326	A2326	AN 26	AW 26	—
28	125	127.00	180	131	24	—	5.52	H2328	HE2328	A2328	AN 28	AW 28	—
30	135	133.35	195	139	26	—	6.60	H2330	HE2330	A2330	AN 30	AW 30	—
32	140	139.70	210	147	28	—	9.15	H2332	HE2332	A2332	AN 32	AW 32	—
34	150	152.40	220	154	29	—	10.4	H2334	HE2334	A2334	AN 34	AW 34	—
36	160	165.10	230	161	30	—	11.3	H2336	HE2336	A2336	AN 36	AW 36	—
38	170	171.45	240	169	31	—	12.6	H2338	HE2338	A2338	AN 38	AW 38	—

Notes (1) The masses in the table are for H series.

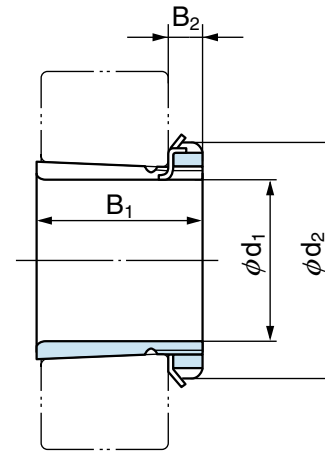
(2) The numbers in the table mean sleeves for H series. Sleeves for HE series have prefix AE instead of A.

Reference 1. Suffix X means narrow axial slot type. For this type sleeves, only lockwashers with straight inner tab can be used.

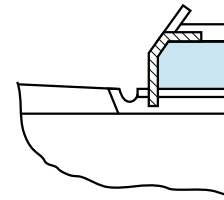
2. Inch bore type HS series is also available.

Adapter Assemblies

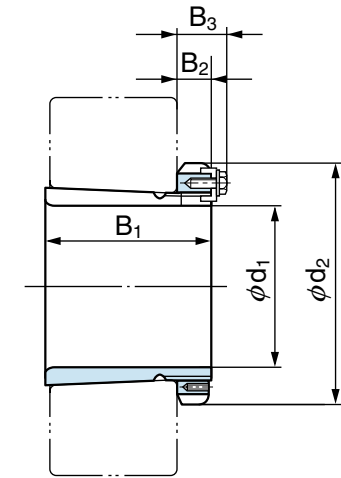
Series H23/HE23



Adapter Ass'y with Lockwasher



suffix X



Adapter Ass'y with Lock Plate

Bearing bore No.	Dimensions (mm)						Mass ⁽¹⁾ (kg) (reference)	Adapter Ass'y No.		Part No.			
	d ₁		d ₂	B ₁	B ₂	B ₃		H	HE	Adapter sleeve ⁽²⁾	Locknut	Lock-washer	Lock Plate
	H	HE											
40	180	177.80	250	176	32	—	13.9	H2340	HE2340	A2340	AN 40	AW 40	—
44	200	—	280	183	32	44	16.6	H2344	—	A2344	AN 44	—	AL 44
48	220	—	300	196	34	46	19.7	H2348	—	A2348	AN 48	—	AL 44
52	240	—	330	208	36	49	24.2	H2352	—	A2352	AN 52	—	AL 52
56	260	—	350	221	38	51	27.8	H2356	—	A2356	AN 56	—	AL 52

Notes (1) The masses in the table are for H series.

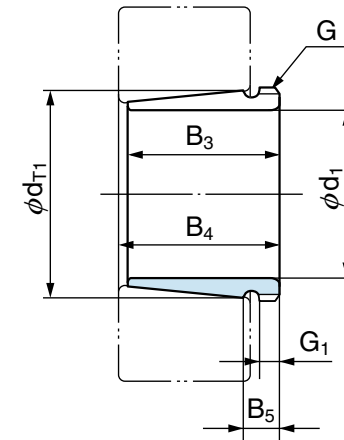
(2) The numbers in the table mean sleeves for H series. Sleeves for HE series have prefix AE instead of A.

Reference 1. Suffix X means narrow axial slot type. For this type sleeves, only lockwashers with straight inner tab can be used.

2. Inch bore type HS series is also available.

Withdrawal Sleeves

Series AH30/AHX30

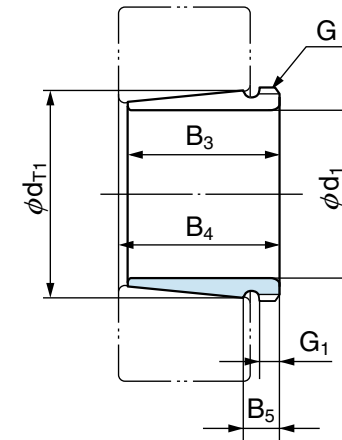


Bearing bore No.	Thread Nominal G	Dimensions (mm)						Mass (kg) (reference)	Withdrawal Sleeve No.	Locknut No.
		d_1	B_3	B_4	d_{T1}	B_5	G_1			
24	M 130 × 2	115	60	64	124.00	16	13	0.75	AHX 3024	AN 26
26	M 140 × 2	125	67	71	134.50	17	14	0.93	AHX 3026	AN 28
28	M 150 × 2	135	68	73	144.67	17	14	1.01	AHX 3028	AN 30
30	M 160 × 3	145	72	77	154.92	18	15	1.15	AHX 3030	AN 32
32	M 170 × 3	150	77	82	165.25	19	16	2.10	AH 3032	AN 34
34	M 180 × 3	160	85	90	175.83	20	17	2.50	AH 3034	AN 36
36	M 190 × 3	170	92	98	186.08	25	17	2.90	AH 3036	AN 38
38	Tr 205 × 4	180	96	102	196.50	24	18	3.40	AH 3038	HNL 41
40	Tr 215 × 4	190	102	108	206.92	25	19	3.80	AH 3040	HNL 43
44	Tr 235 × 4	200	111	117	227.58	26	20	7.40	AH 3044	HNL 47
48	Tr 260 × 4	220	116	123	248.00	27	21	8.80	AH 3048	HNL 52
52	Tr 280 × 4	240	128	135	268.83	29	23	10.7	AH 3052	HNL 56



Withdrawal Sleeves

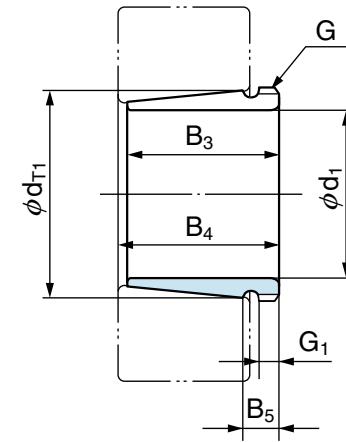
Series AH30/AHX30



Bearing bore No.	Thread Nominal G	Dimensions (mm)						Mass (kg) (reference)	Withdrawal Sleeve No.	Locknut No.
		d_1	B_3	B_4	d_{T1}	B_5	G_1			
56	Tr 300 × 4	260	131	139	289.08	30	24	12.0	AH 3056	HNL 60
60	Tr 320 × 5	280	145	153	310.08	32	26	14.4	AH 3060	HNL 64
64	Tr 345 × 5	300	149	157	330.33	33	27	16.0	AH 3064	HNL 69
68	Tr 365 × 5	320	162	171	351.42	34	28	19.5	AH 3068	HNL 73
72	Tr 385 × 5	340	167	176	371.67	36	30	21.0	AH 3072	HNL 77
76	Tr 410 × 5	360	170	180	391.92	37	31	23.5	AH 3076	HNL 82
80	Tr 430 × 5	380	183	193	412.83	39	33	27.2	AH 3080	HNL 86
84	Tr 450 × 5	400	186	196	433.00	40	34	29.1	AH 3084	HNL 90
88	Tr 470 × 5	420	194	205	453.67	41	35	32.1	AHX 3088	HNL 94
92	Tr 490 × 5	440	202	213	474.17	43	37	35.3	AHX 3092	HNL 98
96	Tr 520 × 6	460	205	217	494.42	44	38	40.0	AHX 3096	HNL104
/500	Tr 540 × 6	480	209	221	514.58	46	40	42.5	AHX 30/500	HNL108

Withdrawal Sleeves

Series AH31/AHX31

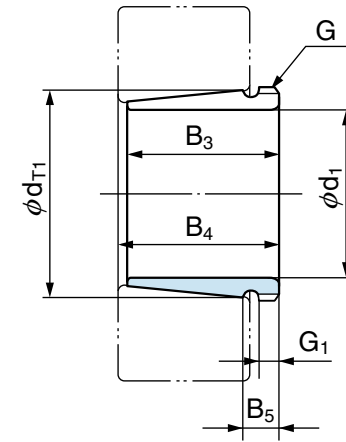


Bearing bore No.	Thread Nominal G	Dimensions (mm)						Mass (kg) (reference)	Withdrawal Sleeve No.	Locknut No.
		d_1	B_3	B_4	d_{T1}	B_5	G_1			
22	M 120 × 2	105	68	72	114.83	14	11	0.76	AHX 3122	AN 24
24	M 130 × 2	115	75	79	125.33	15	12	0.95	AHX 3124	AN 26
26	M 140 × 2	125	78	82	135.58	15	12	1.08	AHX 3126	AN 28
28	M 150 × 2	135	83	88	145.92	17	14	1.28	AHX 3128	AN 30
30	M 165 × 3	145	96	101	156.92	18	15	1.79	AHX 3130	AN 33
32	M 180 × 3	150	103	108	167.42	19	16	3.20	AH 3132	AN 36
34	M 190 × 3	160	104	109	177.50	19	16	3.50	AH 3134	AN 38
36	M 200 × 3	170	116	122	188.33	22	19	4.20	AH 3136	AN 40
38	Tr 210 × 4	180	125	131	198.75	26	20	4.90	AH 3138	HN 42
40	Tr 220 × 4	190	134	140	209.42	27	21	5.60	AH 3140	HN 44
44	Tr 240 × 4	200	145	151	230.17	29	23	10.4	AH 3144	HN 48
48	Tr 260 × 4	220	154	161	250.83	31	25	12.1	AH 3148	HN 52



Withdrawal Sleeves

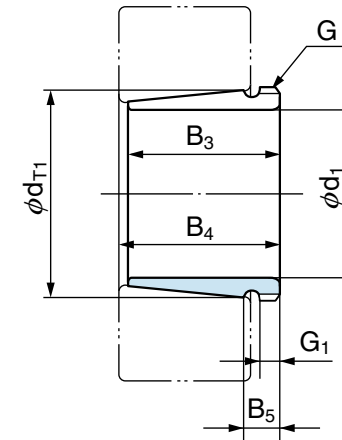
Series AH31/AHX31



Bearing bore No.	Thread Nominal G	Dimensions (mm)						Mass (kg) (reference)	Withdrawal Sleeve No.	Locknut No.
		d_1	B_3	B_4	d_{T1}	B_5	G_1			
52	Tr 290 × 4	240	172	179	272.25	32	26	16.2	AH 3152	HN 58
56	Tr 310 × 5	260	175	183	292.42	34	28	17.6	AH 3156	HN 62
60	Tr 330 × 5	280	192	200	313.67	36	30	21.0	AH 3160	HN 66
64	Tr 350 × 5	300	209	217	335.00	37	31	24.7	AH 3164	HN 70
68	Tr 370 × 5	320	225	234	356.25	39	33	29.0	AH 3168	HN 74
72	Tr 400 × 5	340	229	238	376.42	41	35	33.1	AH 3172	HN 80
76	Tr 420 × 5	360	232	242	396.67	42	36	35.8	AH 3176	HN 84
80	Tr 440 × 5	380	240	250	417.17	44	38	38.9	AH 3180	HN 88
84	Tr 460 × 5	400	266	276	439.17	46	40	46.0	AH 3184	HN 92
88	Tr 480 × 5	420	270	281	459.42	48	42	49.2	AHX 3188	HN 96
92	Tr 510 × 6	440	285	296	480.58	49	43	57.7	AHX 3192	HN 102
96	Tr 530 × 6	460	295	307	501.33	51	45	63.1	AHX 3196	HN 106
/500	Tr 550 × 6	480	313	325	522.67	53	47	70.9	AHX 31/500	HN 110

Withdrawal Sleeves

Series AH2

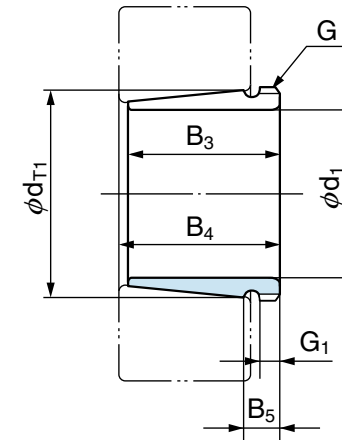


Bearing bore No.	Thread Nominal G	Dimensions (mm)						Mass (kg) (reference)	Withdrawal Sleeve No.	Locknut No.
		d_1	B_3	B_4	d_{T1}	B_5	G_1 (reference)			
08	M 45 × 1.5	35	25	27	41.50	9	6	0.094	AH 208	AN 09
09	M 50 × 1.5	40	26	29	46.67	9	6	0.104	AH 209	AN 10
10	M 55 × 2	45	28	31	51.15	10	7	0.130	AH 210	AN 11
11	M 60 × 2	50	29	32	56.83	10	7	0.167	AH 211	AN 12
12	M 65 × 2	55	32	35	62.00	11	8	0.175	AH 212	AN 13
13	M 75 × 2	60	32.5	36	67.08	11	8	0.242	AH 213	AN 15
14	M 80 × 2	65	33.5	37	72.17	11	8	0.255	AH 214	AN 16
15	M 85 × 2	70	34.5	38	77.25	11	8	0.280	AH 215	AN 17
16	M 90 × 2	75	35.5	39	82.33	11	8	0.306	AH 216	AN 18
17	M 95 × 2	80	38.5	42	87.50	12	9	0.353	AH 217	AN 19
18	M 100 × 2	85	40	44	92.67	12	9	0.427	AH 218	AN 20
19	M 105 × 2	90	43	47	97.83	13	10	0.486	AH 219	AN 21
20	M 110 × 2	95	45	49	103.00	13	10	0.525	AH 220	AN 22
21	M 115 × 2	100	47	51	108.08	14	11	0.580	AH 221	AN 23
22	M 120 × 2	105	50	54	113.33	14	11	0.647	AH 222	AN 24



Withdrawal Sleeves

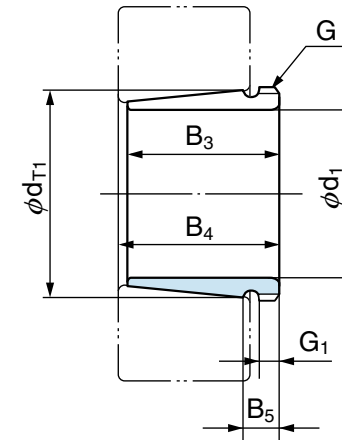
Series AH2



Bearing bore No.	Thread Nominal G	Dimensions (mm)						Mass (kg) (reference)	Withdrawal Sleeve No.	Locknut No.
		d ₁	B ₃	B ₄	d _{T1}	B ₅	G ₁ (reference)			
24	M 130 × 2	115	53	57	123.50	15	12	0.755	AH 224	AN 26
26	M 140 × 2	125	53	57	133.50	15	12	0.815	AH 226	AN 28
28	M 150 × 2	135	56	61	143.75	16	13	1.00	AH 228	AN 30
30	M 160 × 3	145	60	65	154.00	17	14	1.16	AH 230	AN 32
32	M 170 × 3	150	64	69	164.25	18	15	1.91	AH 232	AN 34
34	M 180 × 3	160	69	74	174.58	19	16	2.21	AH 234	AN 36
36	M 190 × 3	170	69	74	184.58	19	16	2.34	AH 236	AN 38
38	Tr 205 × 4	180	73	78	194.58	23	17	2.94	AH 238	HNL41
40	Tr 215 × 4	190	77	82	204.83	24	18	3.12	AH 240	HNL43
44	Tr 235 × 4	200	85	91	225.58	24	18	6.10	AH 244	HNL47
48	Tr 260 × 4	220	96	102	246.17	28	22	8.16	AH 248	HNL52
52	Tr 280 × 4	240	105	111	266.83	29	23	9.89	AH 252	HNL56
56	Tr 300 × 4	260	105	113	287.00	29	23	10.4	AH 256	HNL60

Withdrawal Sleeves

Series AH22/AH32/AHX32

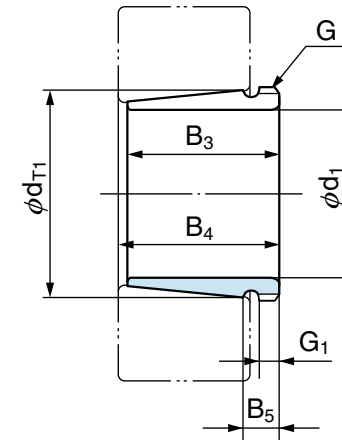


Bearing bore No.	Thread Nominal G	Dimensions (mm)						Mass (kg) (reference)	Withdrawal Sleeve No.	Locknut No.
		d_1	B_3	B_4	d_{T1}	B_5	G_1 (reference)			
36	M 200 × 3	170	105	110	187.50	20	17	3.70	AH 2236	AN 40
38	Tr 210 × 4	180	112	117	197.75	24	18	4.30	AH 2238	HN 42
40	Tr 220 × 4	190	118	123	208.17	25	19	4.70	AH 2240	HN 44
44	Tr 240 × 4	200	130	136	229.17	26	20	9.20	AH 2244	HN 48
48	Tr 260 × 4	220	144	150	250.25	27	21	11.1	AH 2248	HN 52
52	Tr 290 × 4	240	155	161	271.00	29	23	14.0	AH 2252	HN 58
56	Tr 310 × 5	260	155	163	291.08	30	24	15.2	AH 2256	HN 62
60	Tr 330 × 5	280	170	178	312.17	32	26	18.1	AH 2260	HN 66
64	Tr 350 × 5	300	180	190	333.08	33	27	20.2	AH 2264	HN 70



Withdrawal Sleeves

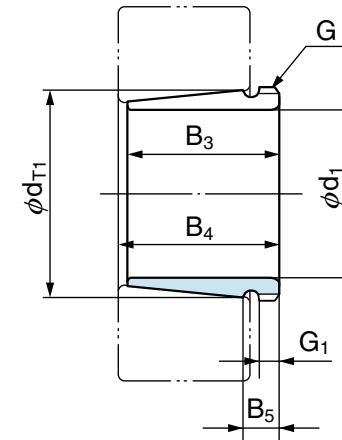
Series AH22/AH32/AHX32



Bearing bore No.	Thread Nominal G	Dimensions (mm)						Mass (kg) (reference)	Withdrawal Sleeve No.	Locknut No.
		d ₁	B ₃	B ₄	d _{T1}	B ₅	G ₁ (reference)			
18	M 100 × 2	85	63	67	94.50	13	10	0.576	AHX 3218	AN 20
19	M 105 × 2	90	67	71	99.75	14	11	0.680	AH 3219	AN 21
20	M 110 × 2	95	73	77	105.25	14	11	0.767	AHX 3220	AN 22
21	M 115 × 2	100	78	82	110.67	14	11	0.890	AH 3221	AN 23
22	M 125 × 2	105	82	86	116.00	14	11	1.04	AHX 3222	AN 25
24	M 135 × 2	115	90	94	126.50	16	13	1.30	AHX 3224	AN 27
26	M 145 × 2	125	98	102	137.00	18	15	1.60	AHX 3226	AN 29
28	M 155 × 3	135	104	109	147.58	18	15	1.90	AHX 3228	AN 31
30	M 165 × 3	145	114	119	158.25	20	17	2.30	AHX 3230	AN 33
32	M 180 × 3	150	124	130	168.92	23	20	4.09	AH 3232	AN 36
34	M 190 × 3	160	134	140	179.42	27	24	4.81	AH 3234	AN 38
36	M 200 × 3	170	140	146	189.92	27	24	5.31	AH 3236	AN 40
38	Tr 210 × 4	180	145	152	200.08	31	25	5.90	AH 3238	AN 42
40	Tr 220 × 4	190	153	160	210.75	31	25	6.67	AH 3240	AN 44

Withdrawal Sleeves

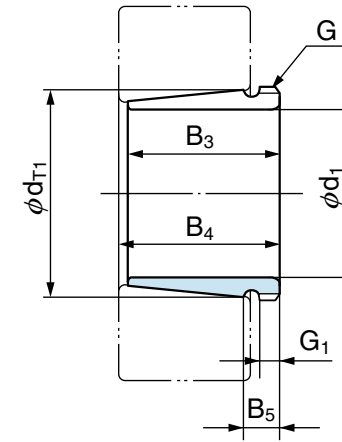
Series AH22/AH32/AHX32



Bearing bore No.	Thread Nominal G	Dimensions (mm)						Mass (kg) (reference)	Withdrawal Sleeve No.	Locknut No.
		d_1	B_3	B_4	d_{T1}	B_5	G_1 (reference)			
60	Tr 330 × 5	280	228	236	316.33	40	34	26.0	AH 3260	HN 66
64	Tr 350 × 5	300	246	254	337.67	42	36	30.6	AH 3264	HN 70
68	Tr 370 × 5	320	264	273	359.08	44	38	35.8	AH 3268	HN 74
72	Tr 400 × 5	340	274	283	379.75	46	40	41.6	AH 3272	HN 80
76	Tr 420 × 5	360	284	294	400.50	48	42	46.3	AH 3276	HN 84
80	Tr 440 × 5	380	302	312	421.83	50	44	52.5	AH 3280	HN 88
84	Tr 460 × 5	400	321	331	443.25	52	46	59.4	AH 3284	HN 92
88	Tr 480 × 5	420	330	341	463.92	54	48	64.7	AHX 3288	HN 96
92	Tr 510 × 6	440	349	360	485.33	56	50	75.6	AHX 3292	HN102
96	Tr 530 × 6	460	364	376	506.50	58	52	83.6	AHX 3296	HN106
/500	Tr 550 × 6	480	393	405	528.75	60	54	94.7	AHX 32/500	HN110

Withdrawal Sleeves

Series AH3/AHX3

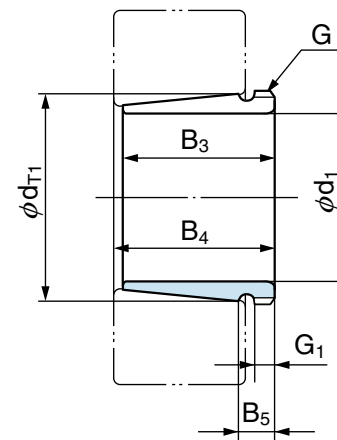


Bearing bore No.	Thread Nominal G	Dimensions (mm)						Mass (kg) (reference)	Withdrawal Sleeve No.	Locknut No.
		d_1	B_3	B_4	d_{T1}	B_5	G_1 (reference)			
08	M 45 × 1.5	35	29	32	41.92	9	6	0.096	AH 308	AN 09
09	M 50 × 1.5	40	31	34	47.08	9	6	0.109	AH 309	AN 10
10	M 55 × 2	45	35	38	52.33	10	7	0.137	AHX 310	AN 11
11	M 60 × 2	50	37	40	57.38	11.5	7	0.161	AHX 311	AN 12
12	M 65 × 2	55	40	43	62.38	14.5	8	0.189	AHX 312	AN 13
13	M 75 × 2	60	42	45	67.83	11	8	0.253	AH 313	AN 15
14	M 80 × 2	65	43	47	73.00	11	8	0.280	AH 314	AN 16
15	M 85 × 2	70	45	49	78.17	11	8	0.313	AH 315	AN 17
16	M 90 × 2	75	48	52	83.42	11	8	0.365	AH 316	AN 18
17	M 95 × 2	80	52	56	88.67	12	9	0.429	AHX 317	AN 19
18	M 100 × 2	85	53	57	93.75	12	9	0.461	AHX 318	AN 20
19	M 105 × 2	90	57	61	99.00	13	10	0.532	AHX 319	AN 21



Withdrawal Sleeves

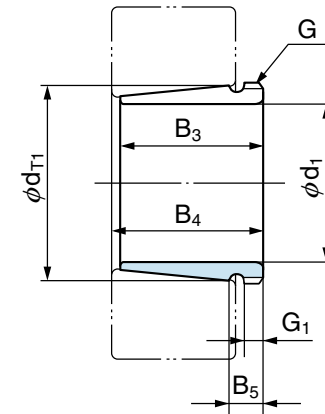
Series AH3/AHX3



Bearing bore No.	Thread Nominal G	Dimensions (mm)						Mass (kg) (reference)	Withdrawal Sleeve No.	Locknut No.
		d_1	B_3	B_4	d_{T1}	B_5	G_1 (reference)			
20	M 110 × 2	95	59	63	104.17	13	10	0.582	AHX 320	AN 22
21	M 115 × 2	100	62	66	109.25	15	12	0.600	AHX 321	AN 23
22	M 120 × 2	105	63	67	114.33	15	12	0.663	AHX 322	AN 24
24	M 130 × 2	115	69	73	124.75	16	13	0.875	AHX 324	AN 26
26	M 140 × 2	125	74	78	135.08	17	14	1.03	AHX 326	AN 28
28	M 150 × 2	135	77	82	145.42	17	14	1.15	AHX 328	AN 30
30	M 165 × 3	145	83	88	155.83	18	15	1.55	AHX 330	AN 33
32	M 180 × 3	150	88	93	166.17	19	16	2.73	AH 332	AN 36
34	M 190 × 3	160	93	98	176.50	20	17	3.19	AH 334	AN 38

Withdrawal Sleeves

Series AH23/AHX23

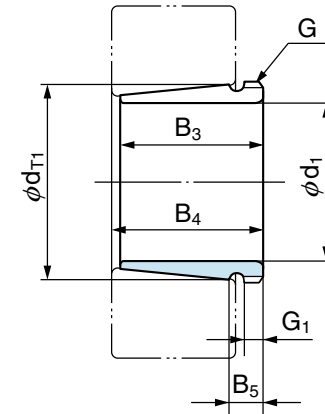


Bearing bore No.	Thread Nominal G	Dimensions (mm)						Mass (kg) (reference)	Withdrawal Sleeve No.	Locknut No.
		d_1	B_3	B_4	d_{T1}	B_5	G_1 (reference)			
08	M 45 × 1.5	35	40	43	42.75	10	7	0.128	AH 2308	AN 09
09	M 50 × 1.5	40	44	47	48.00	11	7	0.164	AH 2309	AN 10
10	M 55 × 2	45	50	53	53.17	15	9	0.209	AHX 2310	AN 11
11	M 60 × 2	50	54	57	58.42	16	10	0.253	AHX 2311	AN 12
12	M 65 × 2	55	58	61	63.63	17.5	11	0.297	AHX 2312	AN 13
13	M 75 × 2	60	61	64	69.08	15	12	0.395	AH 2313	AN 15
14	M 80 × 2	65	64	68	74.42	15	12	0.466	AHX 2314	AN 16
15	M 85 × 2	70	68	72	79.75	15	12	0.534	AHX 2315	AN 17
16	M 90 × 2	75	71	75	85.00	15	12	0.597	AHX 2316	AN 18
17	M 95 × 2	80	74	78	90.17	16	13	0.670	AHX 2317	AN 19
18	M 100 × 2	85	79	83	95.50	17	14	0.779	AHX 2318	AN 20
19	M 105 × 2	90	85	89	100.83	19	16	0.886	AHX 2319	AN 21
20	M 110 × 2	95	90	94	106.25	19	16	0.988	AHX 2320	AN 22
21	—	—	—	—	—	—	—	—	—	—
22	M 125 × 2	105	98	102	116.92	19	16	1.35	AHX 2322	AN 25



Withdrawal Sleeves

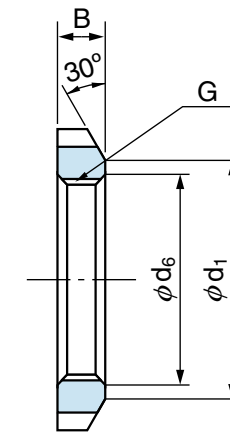
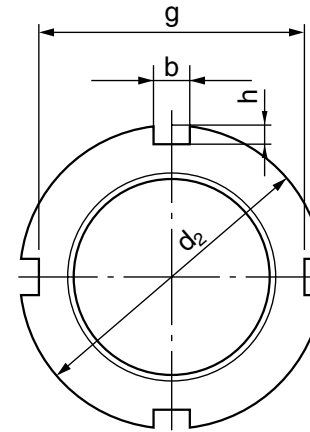
Series AH23/AHX23



Bearing bore No.	Thread Nominal G	Dimensions (mm)						Mass (kg) (reference)	Withdrawal Sleeve No.	Locknut No.
		d_1	B_3	B_4	d_{T1}	B_5	G_1 (reference)			
24	M 135 × 2	115	105	109	127.42	20	17	1.60	AHX 2324	AN 27
26	M 145 × 2	125	115	119	138.08	22	19	2.00	AHX 2326	AN 29
28	M 155 × 3	135	125	130	148.92	23	20	2.33	AHX 2328	AN 31
30	M 165 × 3	145	135	140	159.42	27	24	2.82	AHX 2330	AN 33
32	M 180 × 3	150	140	146	169.92	27	24	4.70	AH 2332	AN 36
34	M 190 × 3	160	146	152	180.42	27	24	5.30	AH 2334	AN 38
36	M 200 × 3	170	154	160	190.92	29	26	5.90	AH 2336	AN 40
38	Tr 210 × 4	180	160	167	201.25	32	26	6.50	AH 2338	HN 42
40	Tr 220 × 4	190	170	177	211.75	36	30	7.50	AH 2340	HN 44
44	Tr 240 × 4	200	181	189	232.75	36	30	13.4	AH 2344	HN 48
48	Tr 260 × 4	220	189	197	253.42	36	30	15.5	AH 2348	HN 52
52	Tr 290 × 4	240	205	213	274.75	36	30	20.0	AH 2352	HN 58
56	Tr 310 × 5	260	212	220	295.33	36	30	21.5	AH 2356	HN 62

Locknuts

Series AN

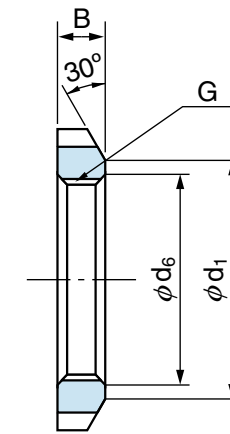
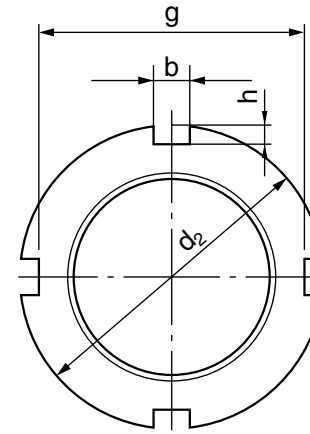


No.	Thread Nominal G	Dimensions (mm)							Mass (kg) (reference)	Lockwasher No.
		d_1	d_2	B	b	h	g	d_6		
AN 02	M 15 × 1	21	25	5	4	2	21	15.5	0.010	AW 02
AN 03	M 17 × 1	24	28	5	4	2	24	17.5	0.013	AW 03
AN 04	M 20 × 1	26	32	6	4	2	28	20.5	0.019	AW 04
AN 05	M 25 × 1.5	32	38	7	5	2	34	25.8	0.025	AW 05
AN 06	M 30 × 1.5	38	45	7	5	2	41	30.8	0.043	AW 06
AN 07	M 35 × 1.5	44	52	8	5	2	48	35.8	0.053	AW 07
AN 08	M 40 × 1.5	50	58	9	6	2.5	53	40.8	0.085	AW 08
AN 09	M 45 × 1.5	56	65	10	6	2.5	60	45.8	0.119	AW 09
AN 10	M 50 × 1.5	61	70	11	6	2.5	65	50.8	0.148	AW 10
AN 11	M 55 × 2	67	75	11	7	3	69	56	0.158	AW 11
AN 12	M 60 × 2	73	80	11	7	3	74	61	0.174	AW 12
AN 13	M 65 × 2	79	85	12	7	3	79	66	0.203	AW 13



Locknuts

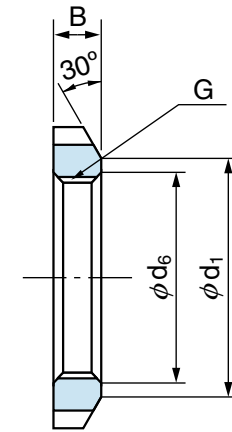
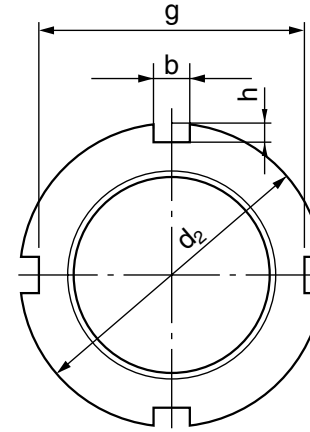
Series AN



No.	Thread Nominal G	Dimensions (mm)							Mass (kg) (reference)	Lockwasher No.
		d ₁	d ₂	B	b	h	g	d ₆		
AN 14	M 70 × 2	85	92	12	8	3.5	85	71	0.242	AW 14
AN 15	M 75 × 2	90	98	13	8	3.5	91	76	0.287	AW 15
AN 16	M 80 × 2	95	105	15	8	3.5	98	81	0.397	AW 16
AN 17	M 85 × 2	102	110	16	8	3.5	103	86	0.451	AW 17
AN 18	M 90 × 2	108	120	16	10	4	112	91	0.556	AW 18
AN 19	M 95 × 2	113	125	17	10	4	117	96	0.658	AW 19
AN 20	M 100 × 2	120	130	18	10	4	122	101	0.698	AW 20
AN 21	M 105 × 2	126	140	18	12	5	130	106	0.845	AW 21
AN 22	M 110 × 2	133	145	19	12	5	135	111	0.965	AW 22
AN 23	M 115 × 2	137	150	19	12	5	140	116	1.01	AW 23
AN 24	M 120 × 2	138	155	20	12	5	145	121	1.08	AW 24
AN 25	M 125 × 2	148	160	21	12	5	150	126	1.19	AW 25

Locknuts

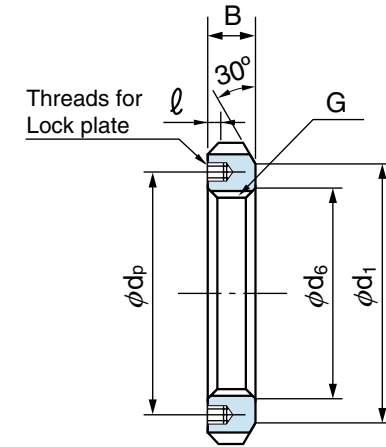
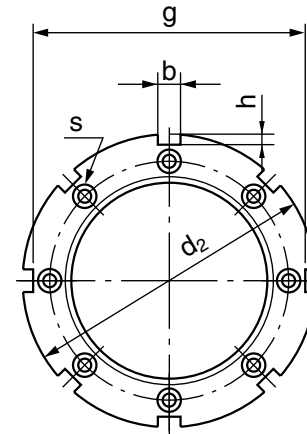
Series AN



No.	Thread Nominal G	Dimensions (mm)							Mass (kg) (reference)	Lockwasher No.
		d_1	d_2	B	b	h	g	d_6		
AN 26	M 130 × 2	149	165	21	12	5	155	131	1.25	AW 26
AN 27	M 135 × 2	160	175	22	14	6	163	136	1.55	AW 27
AN 28	M 140 × 2	160	180	22	14	6	168	141	1.56	AW 28
AN 29	M 145 × 2	171	190	24	14	6	178	146	2.00	AW 29
AN 30	M 150 × 2	171	195	24	14	6	183	151	2.03	AW 30
AN 31	M 155 × 3	182	200	25	16	7	186	156.5	2.21	AW 31
AN 32	M 160 × 3	182	210	25	16	7	196	161.5	2.59	AW 32
AN 33	M 165 × 3	193	210	26	16	7	196	166.5	2.43	AW 33
AN 34	M 170 × 3	193	220	26	16	7	206	171.5	2.80	AW 34
AN 36	M 180 × 3	203	230	27	18	8	214	181.5	3.07	AW 36
AN 38	M 190 × 3	214	240	28	18	8	224	191.5	3.39	AW 38
AN 40	M 200 × 3	226	250	29	18	8	234	201.5	3.69	AW 40

Withdrawal Sleeves

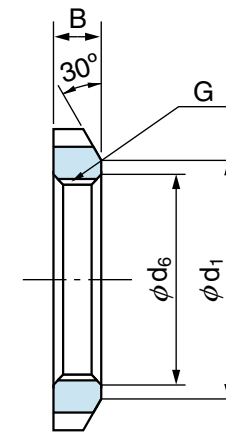
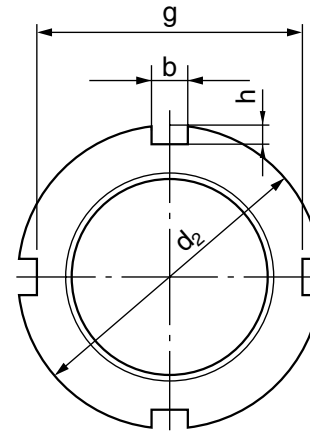
Series AN



No.	Thread Nominal G	Dimensions (mm)										Mass (kg) dp (reference)	Lock plate No.
		d ₁	d ₂	B	b	h	g	d ₆	r	s			
AN 44	Tr 220 × 4	250	280	32	20	10	260	222	15	M 8 × 1.25	238	5.20	AL 44
AN 48	Tr 240 × 4	270	300	34	20	10	280	242	15	M 8 × 1.25	258	5.95	AL 44
AN 52	Tr 260 × 4	300	330	36	24	12	306	262	18	M 10 × 1.5	281	8.05	AL 52
AN 56	Tr 280 × 4	320	350	38	24	12	326	282	18	M 10 × 1.5	301	9.05	AL 52
AN 60	Tr 300 × 4	340	380	40	24	12	356	302	18	M 10 × 1.5	326	11.8	AL 60
AN 64	Tr 320 × 5	360	400	42	24	12	376	322.5	18	M 10 × 1.5	345	13.1	AL 64
AN 68	Tr 340 × 5	400	440	55	28	15	410	342.5	21	M 12 × 1.75	372	23.1	AL 68
AN 72	Tr 360 × 5	420	460	58	28	15	430	362.5	21	M 12 × 1.75	392	25.1	AL 68
AN 76	Tr 380 × 5	450	490	60	32	18	454	382.5	21	M 12 × 1.75	414	30.9	AL 76
AN 80	Tr 400 × 5	470	520	62	32	18	484	402.5	27	M 16 × 2	439	36.9	AL 80
AN 84	Tr 420 × 5	490	540	70	32	18	504	422.5	27	M 16 × 2	459	43.5	AL 80
AN 88	Tr 440 × 5	510	560	70	36	20	520	442.5	27	M 16 × 2	477	45.3	AL 88
AN 92	Tr 460 × 5	540	580	75	36	20	540	462.5	27	M 16 × 2	497	50.4	AL 88
AN 96	Tr 480 × 5	560	620	75	36	20	580	482.5	27	M 16 × 2	527	62.2	AL 96
AN 100	Tr 500 × 5	580	630	80	40	23	584	502.5	27	M 16 × 2	539	63.3	AL 100

Locknuts

Series ANL

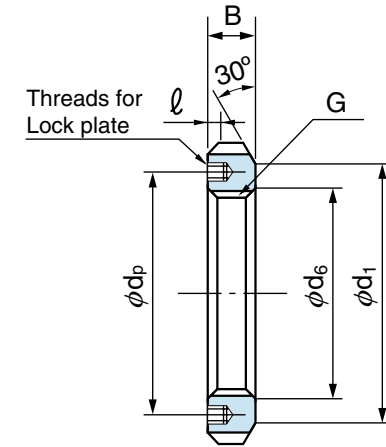
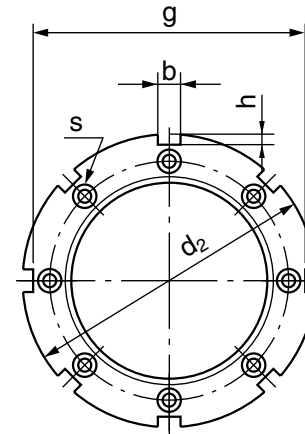


No.	Thread Nominal G	Dimensions (mm)							Mass (kg) (reference)	Lockwasher No.
		d_1	d_2	B	b	h	g	d_6		
ANL 24	M 120 × 2	133	145	20	12	5	135	121	0.780	AWL 24
ANL 26	M 130 × 2	143	155	21	12	5	145	131	0.880	AWL 26
ANL 28	M 140 × 2	151	165	22	14	6	153	141	0.990	AWL 28
ANL 30	M 150 × 2	164	180	24	14	6	168	151	1.38	AWL 30
ANL 32	M 160 × 3	174	190	25	16	7	176	161.5	1.56	AWL 32
ANL 34	M 170 × 3	184	200	26	16	7	186	171.5	1.72	AWL 34
ANL 36	M 180 × 3	192	210	27	18	8	194	181.5	1.95	AWL 36
ANL 38	M 190 × 3	202	220	28	18	8	204	191.5	2.08	AWL 38
ANL 40	M 200 × 3	218	240	29	18	8	224	201.5	2.98	AWL 40



Withdrawal Sleeves

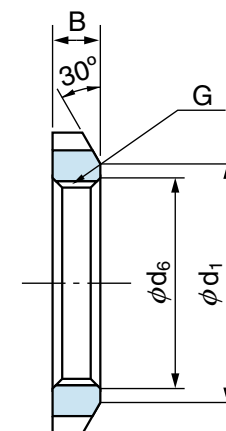
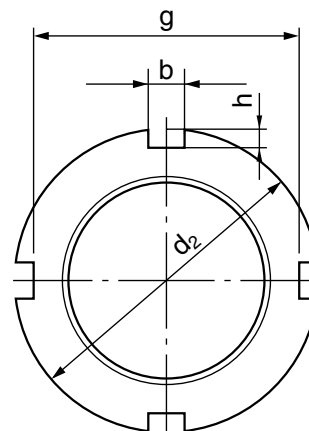
Series ANL



No.	Thread Nominal G	Dimensions (mm)										Mass (kg) dp (reference)	Lock plate No.
		d ₁	d ₂	B	b	h	g	d ₆	r	s			
ANL 44	Tr 220 × 4	242	260	30	20	9	242	222	12	M 6 × 1	229	3.09	ALL 44
ANL 48	Tr 240 × 4	270	290	34	20	10	270	242	15	M 8 × 1.25	253	5.16	ALL 48
ANL 52	Tr 260 × 4	290	310	34	20	10	290	262	15	M 8 × 1.25	273	5.67	ALL 48
ANL 56	Tr 280 × 4	310	330	38	24	10	310	282	15	M 8 × 1.25	293	6.78	ALL 56
ANL 60	Tr 300 × 4	336	360	42	24	12	336	302	15	M 8 × 1.25	316	9.62	ALL 60
ANL 64	Tr 320 × 5	356	380	42	24	12	356	322.5	15	M 8 × 1.25	335	9.94	ALL 64
ANL 68	Tr 340 × 5	376	400	45	24	12	376	342.5	15	M 8 × 1.25	355	11.7	ALL 64
ANL 72	Tr 360 × 5	394	420	45	28	13	394	362.5	15	M 8 × 1.25	374	12.0	ALL 72
ANL 76	Tr 380 × 5	422	450	48	28	14	422	382.5	18	M 10 × 1.5	398	14.9	ALL 76
ANL 80	Tr 400 × 5	442	470	52	28	14	442	402.5	18	M 10 × 1.5	418	16.9	ALL 76
ANL 84	Tr 420 × 5	462	490	52	32	14	462	422.5	18	M 10 × 1.5	438	17.4	ALL 84
ANL 88	Tr 440 × 5	490	520	60	32	15	490	442.5	21	M 12 × 1.75	462	26.2	ALL 88
ANL 92	Tr 460 × 5	510	540	60	32	15	510	462.5	21	M 12 × 1.75	482	29.6	ALL 88
ANL 96	Tr 480 × 5	530	560	60	36	15	530	482.5	21	M 12 × 1.75	502	28.3	ALL 96
ANL100	Tr 500 × 5	550	580	68	36	15	550	502.5	21	M 12 × 1.75	522	33.6	ALL 96

Nuts

Series HN/HNL

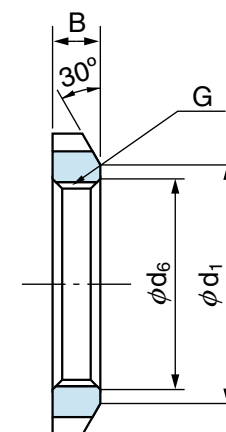
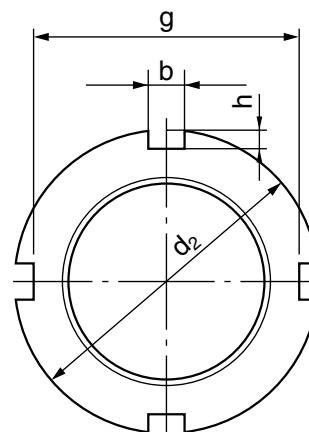


No.	Thread Nominal G	Dimensions (mm)							Mass (kg) (reference)
		d ₁	d ₂	B	b	h	g	d ₆	
HN 42	Tr 210 × 4	238	270	30	20	10	250	212	4.75
HN 44	Tr 220 × 4	250	280	32	20	10	260	222	5.35
HN 48	Tr 240 × 4	270	300	34	20	10	280	242	6.20
HN 52	Tr 260 × 4	300	330	36	24	12	306	262	8.55
HN 58	Tr 290 × 4	330	370	40	24	12	346	292	11.8
HN 62	Tr 310 × 5	350	390	42	24	12	366	312.5	13.4
HN 66	Tr 330 × 5	380	420	52	28	15	390	332.5	20.4
HN 70	Tr 350 × 5	410	450	55	28	15	420	352.5	25.2
HN 74	Tr 370 × 5	430	470	58	28	15	440	372.5	28.2
HN 80	Tr 400 × 5	470	520	62	32	18	484	402.5	40.0
HN 84	Tr 420 × 5	490	540	70	32	18	504	422.5	46.9
HN 88	Tr 440 × 5	510	560	70	36	20	520	442.5	48.5
HN 92	Tr 460 × 5	540	580	75	36	20	540	462.5	55.0
HN 96	Tr 480 × 5	560	620	75	36	20	580	482.5	67.0
HN 102	Tr 510 × 6	590	650	80	40	23	604	513	69.0
HN 106	Tr 530 × 6	610	670	80	40	23	624	533	78.0
HN 110	Tr 550 × 6	640	700	80	40	23	654	553	92.5



Nuts

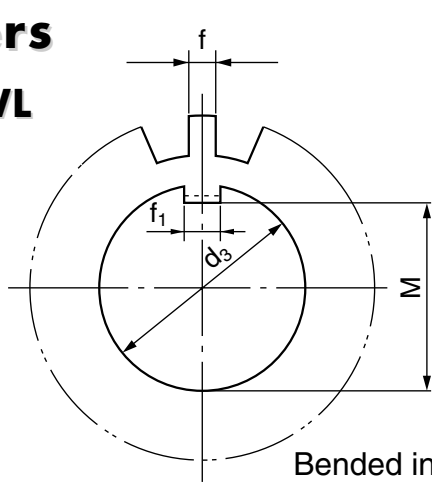
Series HN/HNL



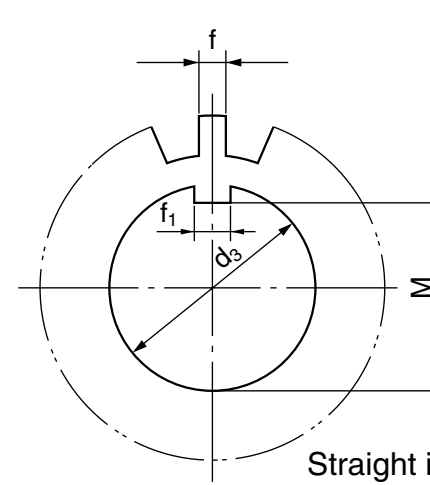
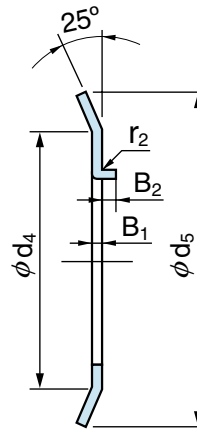
No.	Thread Nominal G	Dimensions (mm)							Mass (kg) (reference)
		d_1	d_2	B	b	h	g	d_6	
HNL 41	Tr 205 × 4	232	250	30	18	8	234	207	3.43
HNL 43	Tr 215 × 4	242	260	30	20	9	242	217	3.72
HNL 47	Tr 235 × 4	262	280	34	20	9	262	237	4.60
HNL 52	Tr 260 × 4	290	310	34	20	10	290	262	5.80
HNL 56	Tr 280 × 4	310	330	38	24	10	310	282	6.72
HNL 60	Tr 300 × 4	336	360	42	24	12	336	302	9.60
HNL 64	Tr 320 × 5	356	380	42	24	12	356	322.5	10.3
HNL 69	Tr 345 × 5	384	410	45	28	13	384	347.5	11.5
HNL 73	Tr 365 × 5	404	430	48	28	13	404	367.5	14.2
HNL 77	Tr 385 × 5	422	450	48	28	14	422	387.5	15.0
HNL 82	Tr 410 × 5	452	480	52	32	14	452	412.5	19.0
HNL 86	Tr 430 × 5	472	500	52	32	14	472	432.5	19.8
HNL 90	Tr 450 × 5	490	520	60	32	15	490	452.5	23.8
HNL 94	Tr 470 × 5	510	540	60	32	15	510	472.5	25.0
HNL 98	Tr 490 × 5	550	580	60	36	15	550	492.5	34.0
HNL104	Tr 520 × 6	570	600	68	36	15	570	523	37.0
HNL108	Tr 540 × 6	590	630	68	40	20	590	543	43.5

Lockwashers

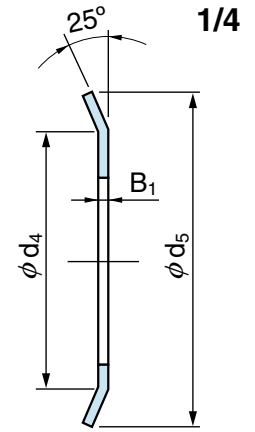
Series AW/AWL



Bended inner tab type



Straight inner tab type



No.		Dimensions (mm)										No. of Teeth	Mass of (kg/100pcs) (reference)	Locknut No.
Bended inner tab	Straight inner tab	d ₃	d ₄	d ₅	f ₁	M	B ₁	Bended inner tab		f				
								B ₂	r ₂					
AW 02	AW 02X	15	21	28	4	13.5	1	2.5	1	4	13	0.253	AN 02	
AW 03	AW 03X	17	24	32	4	15.5	1	2.5	1	4	13	0.313	AN 03	
AW 04	AW 04X	20	26	36	4	18.5	1	2.5	1	4	13	0.350	AN 04	
AW 05	AW 05X	25	32	42	5	23	1.2	2.5	1	5	13	0.640	AN 05	
AW 06	AW 06X	30	38	49	5	27.5	1.2	2.5	1	5	13	0.780	AN 06	
AW 07	AW 07X	35	44	57	6	32.5	1.2	2.5	1	5	15	1.04	AN 07	
AW 08	AW 08X	40	50	62	6	37.5	1.2	2.5	1	6	15	1.23	AN 08	
AW 09	AW 09X	45	56	69	6	42.5	1.2	2.5	1	6	17	1.52	AN 09	
AW 10	AW 10X	50	61	74	6	47.5	1.2	2.5	1	6	17	1.60	AN 10	
AW 11	AW 11X	55	67	81	8	52.5	1.2	4	1	7	17	1.96	AN 11	
AW 12	AW 12X	60	73	86	8	57.5	1.5	4	1.2	7	17	2.53	AN 12	
AW 13	AW 13X	65	79	92	8	62.5	1.5	4	1.2	7	19	2.90	AN 13	

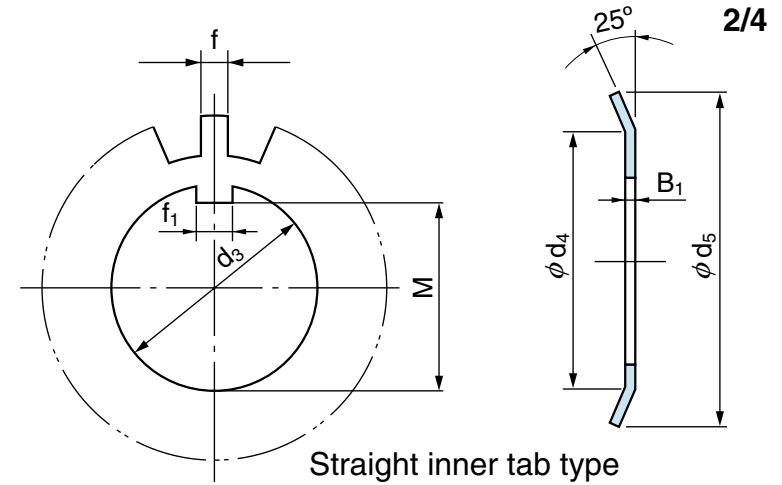
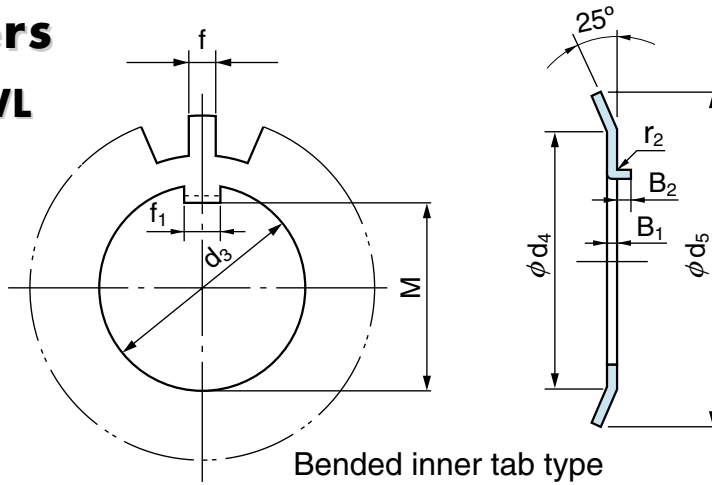
Note The straight inner tab type is used for the narrow slot type adapter ass'y (suffix X).

For the wide slot type adapter ass'y, either of lockwashers with bended inner tab or straight inner tab can be used.



Lockwashers

Series AW/AWL



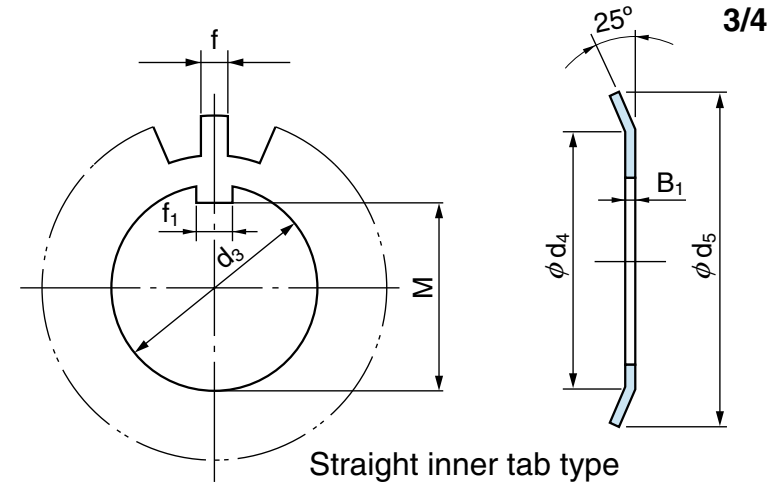
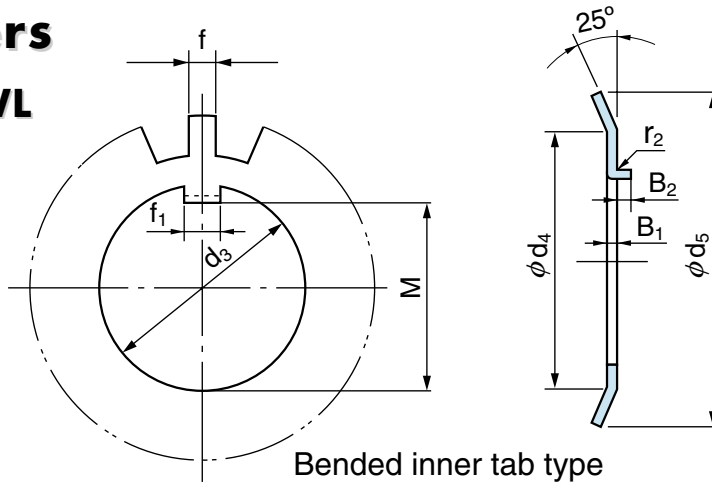
No.		Dimensions (mm)										No. of Teeth	Mass (kg/100pcs) (reference)	Locknut No.
Bended inner tab	Straight inner tab	d ₃	d ₄	d ₅	f ₁	M	B ₁	Bended inner tab		f				
								B ₂	r ₂					
AW 14	AW 14X	70	85	98	8	66.5	1.5	4	1.2	8	19	3.34	AN 14	
AW 15	AW 15X	75	90	104	8	71.5	1.5	4	1.2	8	19	3.56	AN 15	
AW 16	AW 16X	80	95	112	10	76.5	1.8	4	1.2	8	19	4.64	AN 16	
AW 17	AW 17X	85	102	119	10	81.5	1.8	4	1.2	8	19	5.24	AN 17	
AW 18	AW 18X	90	108	126	10	86.5	1.8	4	1.2	10	19	6.23	AN 18	
AW 19	AW 19X	95	113	133	10	91.5	1.8	4	1.2	10	19	6.70	AN 19	
AW 20	AW 20X	100	120	142	12	96.5	1.8	6	1.2	10	19	7.65	AN 20	
AW 21	AW 21X	105	126	145	12	100.5	1.8	6	1.2	12	19	8.26	AN 21	
AW 22	AW 22X	110	133	154	12	105.5	1.8	6	1.2	12	19	9.40	AN 22	
AW 23	AW 23X	115	137	159	12	110.5	2	6	1.5	12	19	10.8	AN 23	
AW 24	AW 24X	120	138	164	14	115	2	6	1.5	12	19	10.5	AN 24	
AW 25	AW 25X	125	148	170	14	120	2	6	1.5	12	19	11.8	AN 25	

Note The straight inner tab type is used for the narrow slot type adapter ass'y (suffix X).

For the wide slot type adapter ass'y, either of lockwashers with bended inner tab or straight inner tab can be used.

Lockwashers

Series AW/AWL



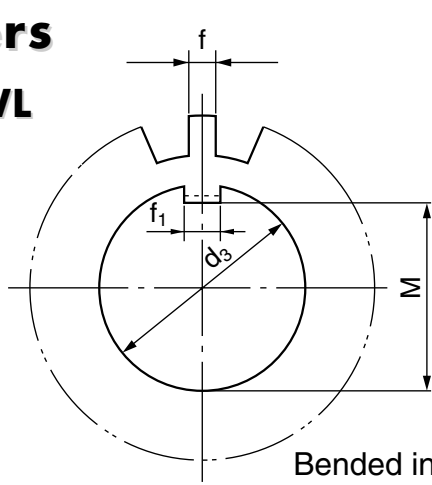
No.		Dimensions (mm)										No. of Teeth	Mass of (kg/100pcs) (reference)	Locknut No.
Bended inner tab	Straight inner tab	d ₃	d ₄	d ₅	f ₁	M	B ₁	Bended inner tab		f				
								B ₂	r ₂					
AW 26	AW 26X	130	149	175	14	125	2	6	1.5	12	19	11.3	AN 26	
AW 27	AW 27X	135	160	185	14	130	2	6	1.5	14	19	14.4	AN 27	
AW 28	AW 28X	140	160	192	16	135	2	8	1.5	14	19	14.2	AN 28	
AW 29	AW 29X	145	171	202	16	140	2	8	1.5	14	19	16.8	AN 29	
AW 30	AW 30X	150	171	205	16	145	2	8	1.5	14	19	15.5	AN 30	
AW 31	AW 31X	155	182	212	16	147.5	2.5	8	1.5	16	19	20.9	AN 31	
AW 32	AW 32X	160	182	217	18	154	2.5	8	1.5	16	19	22.2	AN 32	
AW 33	AW 33X	165	193	222	18	157.5	2.5	8	1.5	16	19	24.1	AN 33	
AW 34	AW 34X	170	193	232	18	164	2.5	8	1.5	16	19	24.7	AN 34	
AW 36	AW 36X	180	203	242	20	174	2.5	8	1.5	18	19	26.8	AN 36	
AW 38	AW 38X	190	214	252	20	184	2.5	8	1.5	18	19	27.8	AN 38	
AW 40	AW 40X	200	226	262	20	194	2.5	8	1.5	18	19	29.3	AN 40	

Note The straight inner tab type is used for the narrow slot type adapter ass'y (suffix X).

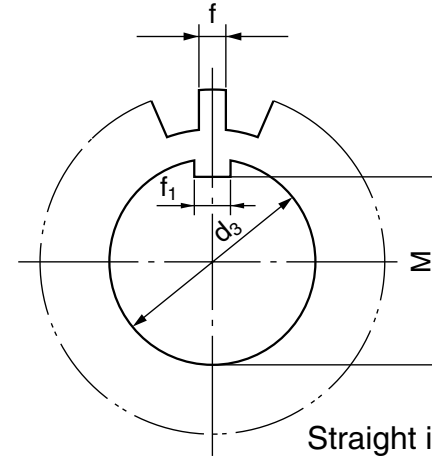
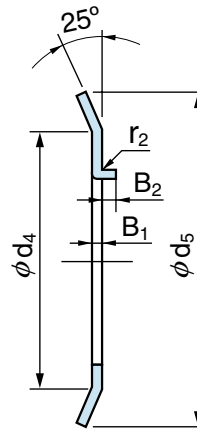
For the wide slot type adapter ass'y, either of lockwashers with bended inner tab or straight inner tab can be used.

Lockwashers

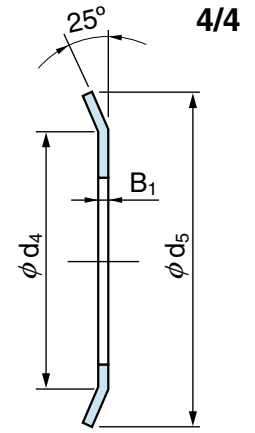
Series AW/AWL



Bended inner tab type



Straight inner tab type



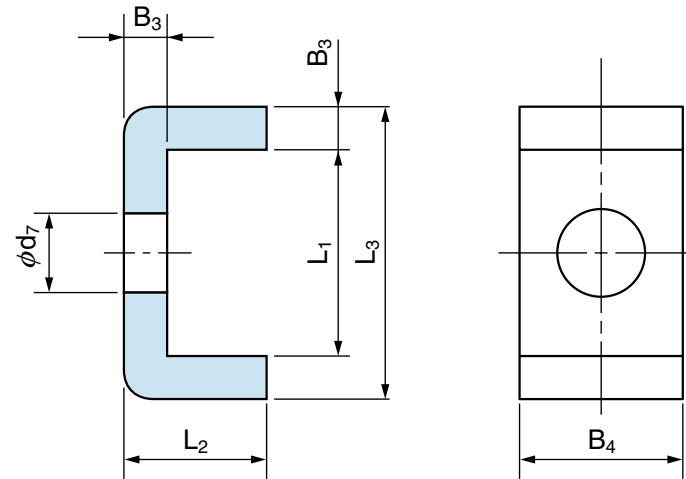
No.		Dimensions (mm)									No. of Teeth	Mass of (kg/100pcs) (reference)	Locknut No.
Bended inner tab	Straight inner tab	d ₃	d ₄	d ₅	f ₁	M	B ₁	Bended inner tab		f			
								B ₂	r ₂				
AWL 24	AWL 24X	120	133	155	14	115	2	6	1.5	12	19	7.70	ANL 24
AWL 26	AWL 26X	130	143	165	14	125	2	6	1.5	12	19	8.70	ANL 26
AWL 28	AWL 28X	140	151	175	16	135	2	8	1.5	14	19	10.9	ANL 28
AWL 30	AWL 30X	150	164	190	16	145	2	8	1.5	14	19	11.3	ANL 30
AWL 32	AWL 32X	160	174	200	18	154	2.5	8	1.5	16	19	16.2	ANL 32
AWL 34	AWL 34X	170	184	210	18	164	2.5	8	1.5	16	19	19.0	ANL 34
AWL 36	AWL 36X	180	192	220	20	174	2.5	8	1.5	18	19	18.0	ANL 36
AWL 38	AWL 38X	190	202	230	20	184	2.5	8	1.5	18	19	20.5	ANL 38
AWL 40	AWL 40X	200	218	250	20	194	2.5	8	1.5	18	19	21.4	ANL 40

Note The straight inner tab type is used for the narrow slot type adapter ass'y (suffix X).

For the wide slot type adapter ass'y, either of lockwashers with bended inner tab or straight inner tab can be used.

Lock Plates

Series AL/ALL

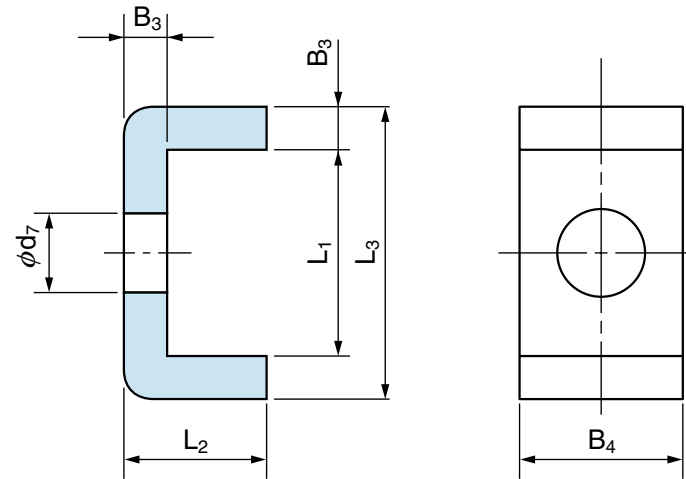


No.	Dimensions (mm)						Mass (kg/100pcs) (reference)	Nut No.
	B_3	B_4	L_2	d_7	L_1	L_3		
AL 44	4	20	12	9	22.5	30.5	2.60	AN44 , AN48
AL 52	4	24	12	12	25.5	33.5	3.39	AN52 , AN56
AL 60	4	24	12	12	30.5	38.5	3.79	AN60
AL 64	5	24	15	12	31	41	5.35	AN64
AL 68	5	28	15	14	38	48	6.65	AN68 , AN72
AL 76	5	32	15	14	40	50	7.96	AN76
AL 80	5	32	15	18	45	55	8.20	AN80 , AN84
AL 88	5	36	15	18	43	53	9.00	AN88 , AN92
AL 96	5	36	15	18	53	63	10.4	AN96
AL 100	5	40	15	18	45	55	10.5	AN100



Lock Plates

Series AL/ALL



No.	Dimensions (mm)						Mass (kg/100pcs) (reference)	Nut No.
	B_3	B_4	L_2	d_7	L_1	L_3		
ALL 44	4	20	12	7	13.5	21.5	2.12	ANL 44
ALL 48	4	20	12	9	17.5	25.5	2.29	ANL 48, ANL 52
ALL 56	4	24	12	9	17.5	25.5	2.92	ANL 56
ALL 60	4	24	12	9	20.5	28.5	3.16	ANL 60
ALL 64	5	24	15	9	21	31	4.56	ANL 64, ANL 68
ALL 72	5	28	15	9	20	30	5.03	ANL 72
ALL 76	5	28	15	12	24	34	5.28	ANL 76, ANL 80
ALL 84	5	32	15	12	24	34	6.11	ANL 84
ALL 88	5	32	15	14	28	38	6.45	ANL 88, ANL 92
ALL 96	5	36	15	14	28	38	7.29	ANL 96, ANL 100