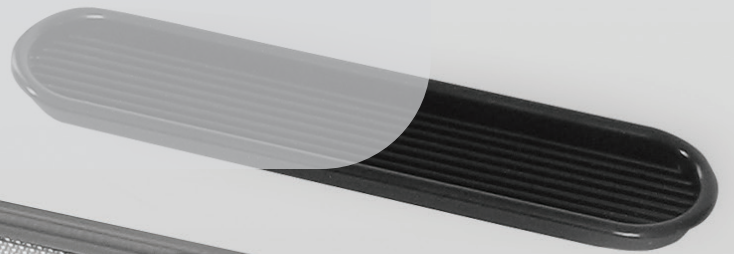
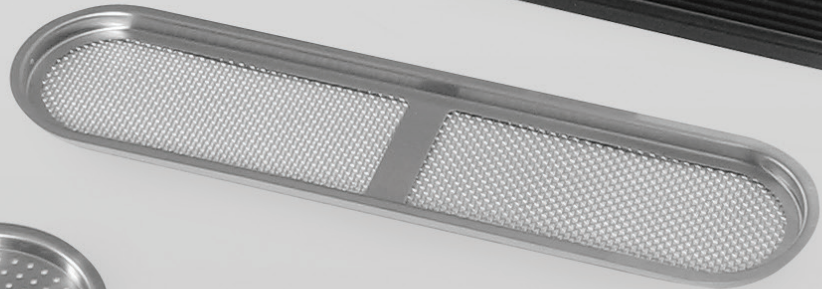




# MISCELLANEOUS

CABLE GROMMETS  
VENTILATORS  
BATHROOM ACCESSORIES  
MULTI-PURPOSE DOORS, LIDS  
TOWEL BARS, RACKS



## VENTILATORS

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	ASM	RoHS Compliant, STAINLESS 304 STEEL	672
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## CABLE GROMMETS

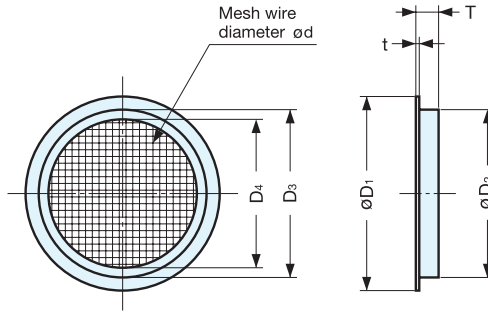
Picture	Item No.		Page
	S445, S51, S60, S76, S89	RoHS Compliant	679
	S165-76	RoHS Compliant	679
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BATHROOM ACCESSORIES				MULTI-PURPOSE DOORS, LIDS & GROMMETS			
Picture	Item No.		Page	Picture	Item No.		Page
	ZL-3201 (TOWEL BAR)		683		AZ-GD231-HL	 	689
	ZL-3202 (TOWEL BAR)		683		AZ-GD232-HL	 	689
	KB-T (TOWEL BAR)		684		AZ-GD	 	690
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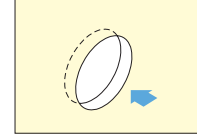
# VENTILATOR



**SAM**



- 0.4 mm mesh wire diameter.
- Affix with glue.



Installation

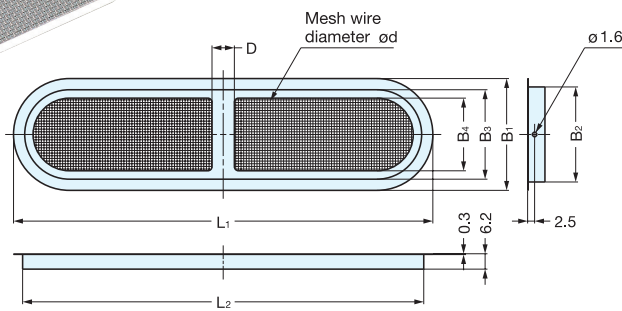
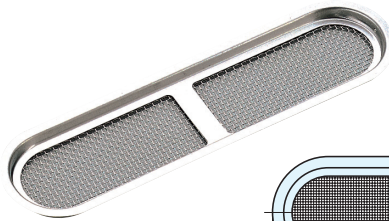
Material	Finish
304 Stainless Steel	Satin

Item No.	D <sub>1</sub>	D <sub>2</sub>	D <sub>3</sub>	D <sub>4</sub>	T	t	d	Weight (g)	Box (pcs)	Carton (pcs)
SAM- 37	36 ( 1-27/64" )	31.5 ( 1-1/4" )	30.0	25	5.2	0.3	0.4	4.5	70	1400
SAM- 45	46 ( 1-13/16" )	41.5 ( 1-41/64" )	40.0	35	5.2			6.0	60	1200
SAM- 60	60 ( 2-23/64" )	53.5 ( 2-7/64" )	52.0	46	6.5			9.5	50	1000
SAM- 85	85 ( 3-11/32" )	77.8 ( 3-1/16" )	76.5	68	7.0			16.5	30	600
SAM- 120	120 ( 4-23/32" )	110.5 ( 4-23/64" )	108.0	99	7.2	0.5		46.5	20	200

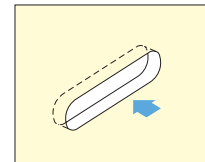
# VENTILATOR



**SAD**



- 0.4 mm mesh wire diameter.
- Affix with glue or tack.



Installation

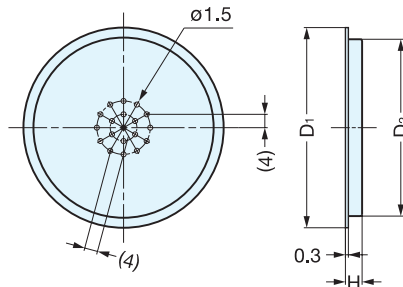
Material	Finish
304 Stainless Steel	Satin

Item No.	L <sub>1</sub>	B <sub>1</sub>	B <sub>3</sub>	B <sub>4</sub>	L <sub>2</sub>	B <sub>2</sub>	D	d	Weight (g)	Box (pcs)	Carton (pcs)
SAD-150	150.0 ( 5-29/32" )	40 ( 1-37/64" )	32	26	143.5	34	8	0.4	18.5	30	600
SAD-200	200.5 ( 7-57/64" )	50 ( 1-31/32" )	42	35	194.0	44	10		30.0		300

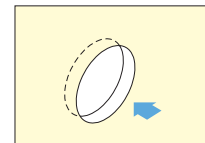
# VENTILATOR



**ASM**



- 1.5 mm (1/16") diameter holes.
- Affix with glue.



Installation

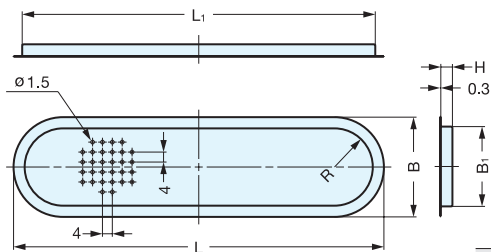
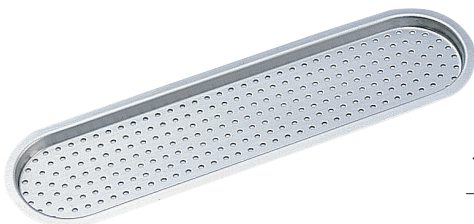
Material	Finish
304 Stainless Steel	Satin

Item No.	D <sub>1</sub>	D <sub>2</sub>	H	Holes	Weight (g)	Box (pcs)	Carton (pcs)
ASM-37	36 ( 1-27/64" )	31 ( 1-7/32" )	4.5	37	3.0	100	3600
ASM-45	46 ( 1-13/16" )	41 ( 1-39/64" )		59	5.0		
ASM-60	60 ( 2-23/64" )	53 ( 2-3/32" )	127	8.0			
ASM-85	85 ( 3-11/32" )	77 ( 3-1/32" )	5	271	13.5	50	1000

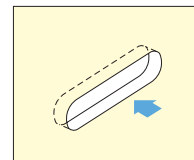
# VENTILATOR



ASD



- 1.5 mm (1/16") diameter holes.
- Affix with glue.



Installation

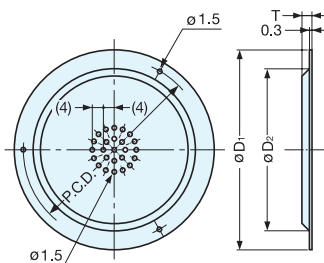
Material	Finish
304 Stainless Steel	Satin

Item No.	L	L <sub>1</sub>	H	B	B <sub>1</sub>	R	Holes	Weight (g)	Box (pcs)	Carton (pcs)
ASD-150	150 ( 5-29/32" )	143	5	40 ( 1-37/64" )	33.0	16	268	14.5	80	1920
ASD-200	200 ( 7-7/8" )	193		50 ( 1-31/32" )	42.8	21	450	23.0	40	960

# VENTILATOR



AST



- 1.5 mm (1/16") diameter holes.
- Supplied with tacks.

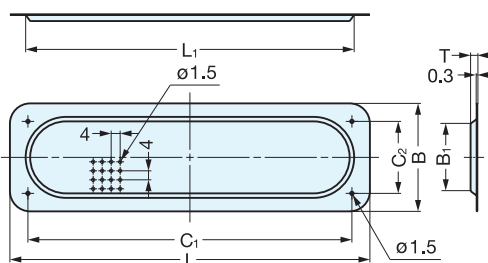
Material	Finish
304 Stainless Steel	Satin

Item No.	D <sub>1</sub>	D <sub>2</sub>	T	P.C.D.	Holes	Weight (g)	Box (pcs)	Carton (pcs)
AST-45	45 ( 1-25/32" )	34 ( 1-11/32" )	3	40	37	4	100	3600
AST-55	55 ( 2-5/32" )	44 ( 1-47/64" )		50	59	5		
AST-70	70 ( 2-3/4" )	55 ( 2-5/32" )		64	127	9		
AST-100	100 ( 3-15/16" )	81 ( 3-3/16" )	4	91	271	19	50	500

# VENTILATOR



AST-160, 210



- 1.5 mm (1/16") diameter holes.
- Supplied with tacks.

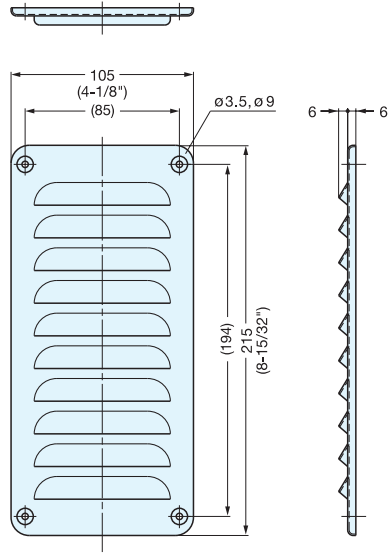
Material	Finish
304 Stainless Steel	Satin

Item No.	L	L <sub>1</sub>	B	B <sub>1</sub>	C <sub>1</sub>	C <sub>2</sub>	T	Holes	Weight (g)	Box (pcs)	Carton (pcs)
AST-160	160 ( 6-19/64" )	146	48 ( 1-57/64" )	36	144	32	3	268	18	50	1000
AST-210	210 ( 8-17/64" )	196	58 ( 2-9/32" )	46	194	42	4	450	28		200

VENTILATOR



1-1122

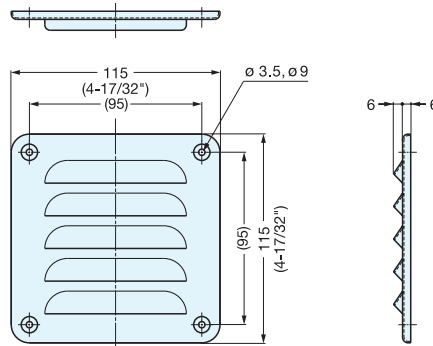


Item No.	Weight (g)	Box (pcs)	Carton (pcs)	Material	Finish
1-1122	165	10	100	316 Stainless Steel	Satin

VENTILATOR



1-1212

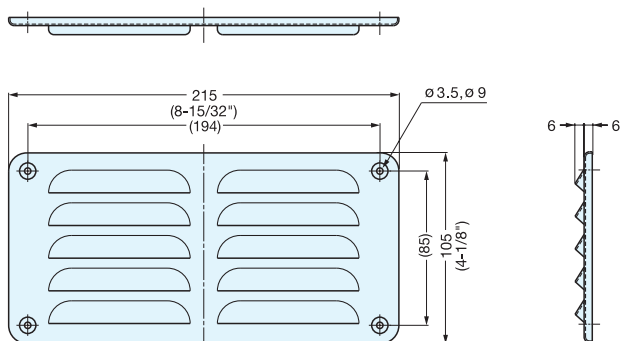


Item No.	Weight (g)	Box (pcs)	Carton (pcs)	Material	Finish
1-1212	165	10	100	316 Stainless Steel	Satin

# VENTILATOR



1-2211



MISCELLANEOUS

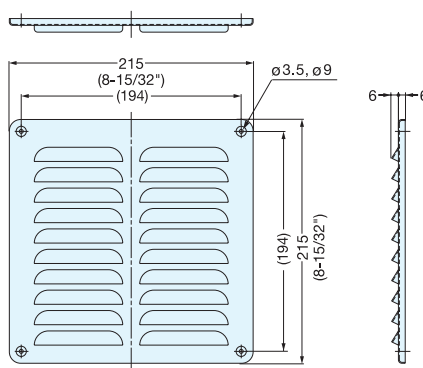
VENTILATORS

Item No.	Weight (g)	Box (pcs)	Carton (pcs)	Material	Finish
1-2211	165	10	100	316 Stainless Steel	Satin

# VENTILATOR



1-2222



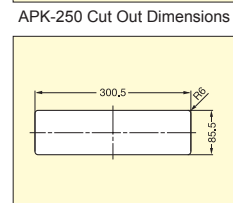
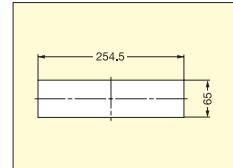
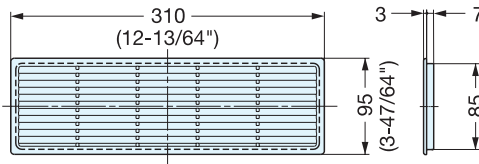
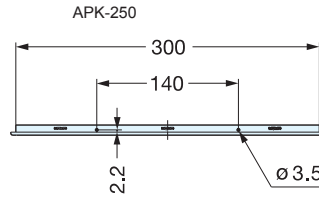
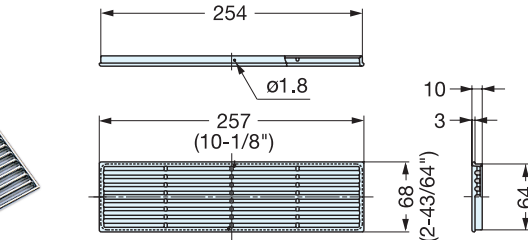
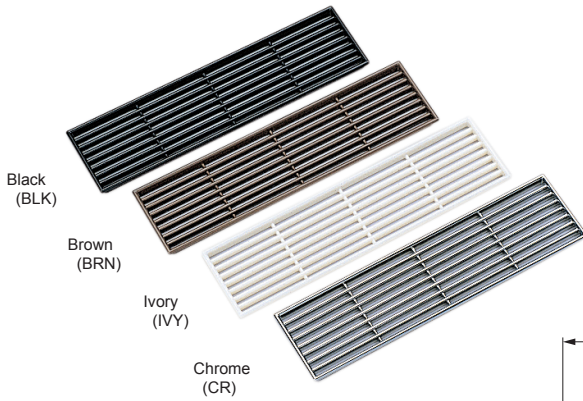
Item No.	Weight (g)	Box (pcs)	Carton (pcs)	Material	Finish
1-2222	295	10	100	316 Stainless Steel	Satin



# APK, APKL

# VENTILATOR

• ABS ventilator.



APK-250 Cut Out Dimensions

APKL-310 Cut Out Dimensions

Please specify the finish when ordering.

Item No.	Weight (g)	Box (pcs)	Carton (pcs)
APK -250	57	20	160
APKL -310	100	10	80

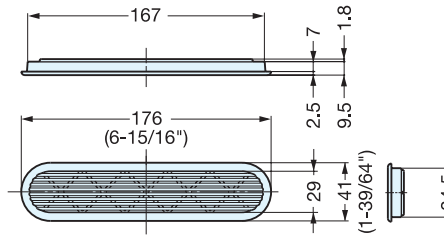
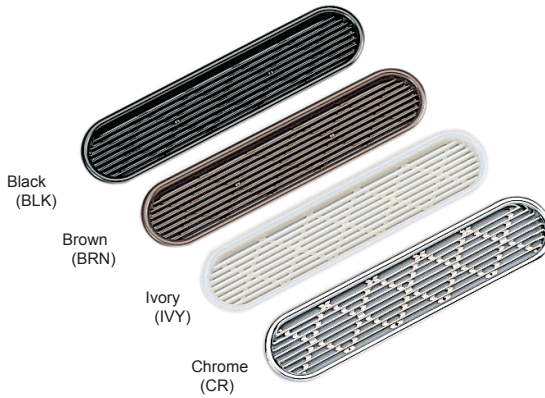
Material	Finish
ABS	Black (BLK), Brown (BRN), Ivory (IVY), Chrome (CR)-APK-250 type only

# VENTILATOR

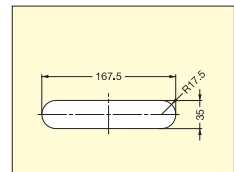


# APD, APDL

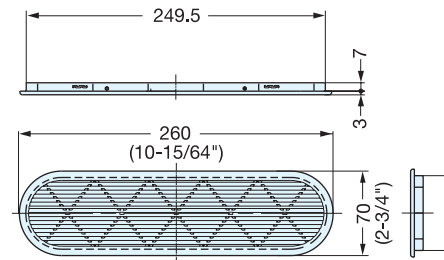
• ABS ventilator.



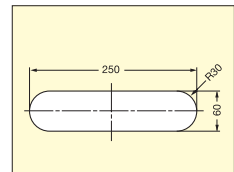
APD-170



APD-170 Cut Out Dimensions



APDL-260



APDL-260 Cut Out Dimensions

Please specify the finish when ordering.

Item No.	Weight (g)	Box (pcs)	Carton (pcs)
APD -170	22	40	320
APDL -260	60	10	80

Material	Finish
ABS	Black (BLK), Brown (BRN), Ivory (IVY), Chrome (CR)-APD-170 type only



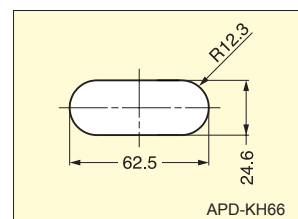
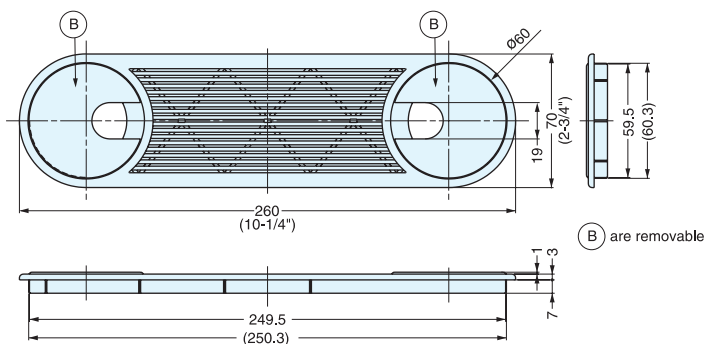
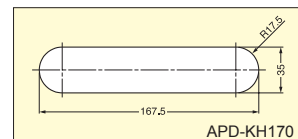
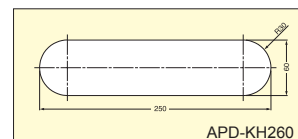
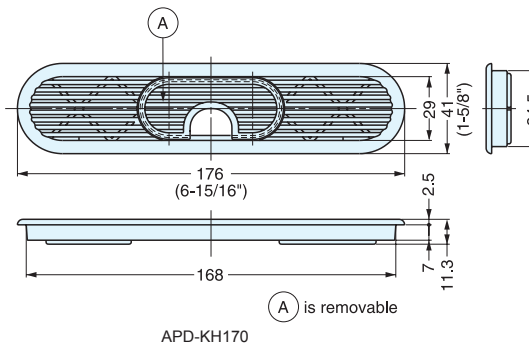
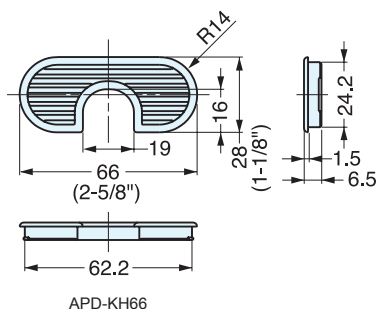
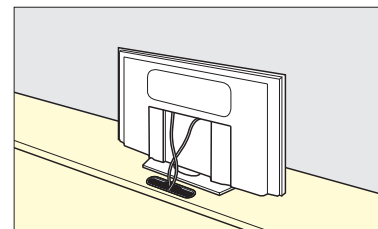
# VENTILATOR (W/CABLE GROMMETS)

# APD-KH

MISCELLANEOUS

VENTILATOR

- ABS ventilator.
- Removable grommet inserts for excellent cable management.



Cut Out Dimensions

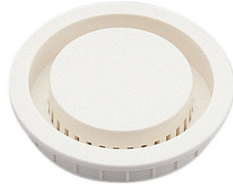
Item No.	Material	Finish	Weight (g)	Box (pcs)	Carton (pcs)
APD-KH66-CR	ABS	Chrome	3.7	100	500
APD-KH66-IV		Ivory	3.0		
APD-KH66-BL		Black			
APD-KH66-BR		Brown			
APD-KH66-WT		White			
APD-KH170-CR		Chrome	24.0	40	320
APD-KH170-IV		Ivory	20.0		
APD-KH170-BL		Black			
APD-KH170-BR		Brown			
APD-KH170-WT		White	55.0	10	80
APD-KH260-IV		Ivory			
APD-KH260-BL		Black			
APD-KH260-BR		Brown			

# VENTILATOR

# APM

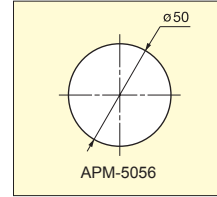


APM-5056/BRN

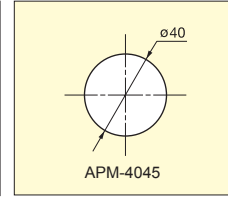


APM-5056/WHT

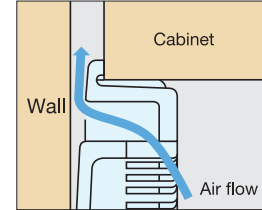
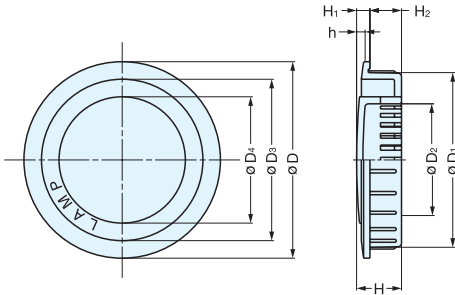
• Slits for ventilation cannot be seen from outside.



Bore Dimensions



APM-4045



Allows air flow even if the surface of the ventilator is directly on the wall.

Material	Finish
ABS	White (WHT), Brown (BRN)

Please specify the finish when ordering.

Item No.	D	D <sub>1</sub>	D <sub>2</sub>	D <sub>3</sub>	D <sub>4</sub>	H	H <sub>1</sub>	H <sub>2</sub>	h	Bore Dimension	Weight (g)	Box (pcs)	Carton (pcs)
APM-4045	45 ( 1-25/32" )	39.8 ( 1-9/16" )	24.6	36.2	28.2	10.3	3.3	7	1.6	40	5	150	900
APM-5056	56 ( 2-13/64" )	49.8 ( 1-31/32" )	32.0	46.0	36.0	12.8	3.8	9	1.8	50	9	100	600

# VENTILATOR

# APB



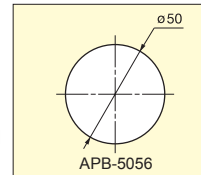
APB-5056/WHT



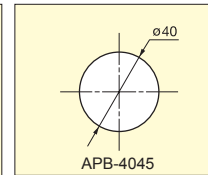
APB-4045/WHT



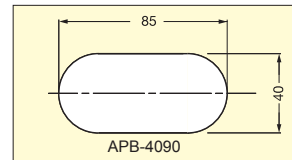
APB-4090/WHT



APB-5056

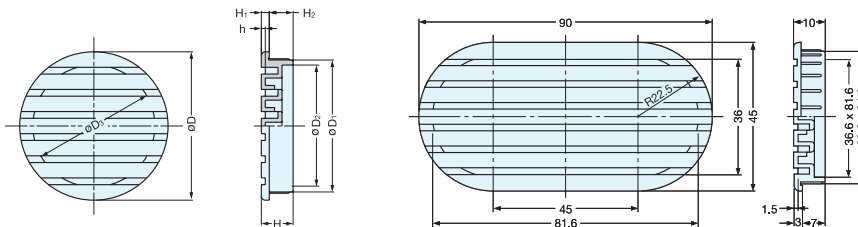


APB-4045



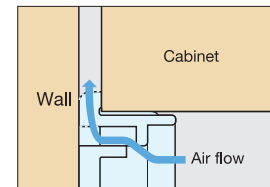
APB-4090

Bore Dimensions



APB-4045, APB-5056

APB-4090



Allows air flow even if the surface of the ventilator is directly on the wall.

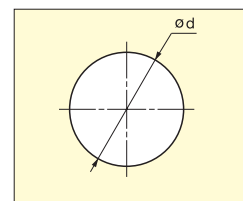
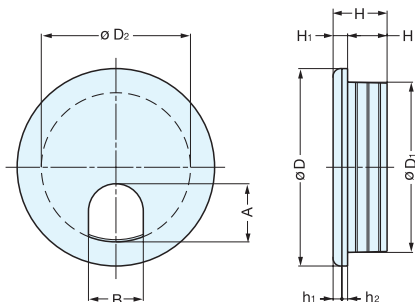
Material	Finish
ABS	White (WHT)

Item No.	D	D <sub>1</sub>	D <sub>2</sub>	D <sub>3</sub>	H	H <sub>1</sub>	H <sub>2</sub>	h	Bore Dimension	Weight (g)	Box (pcs)	Carton (pcs)
APB-4045	45 ( 1-25/32" )	39.8 ( 1-9/16" )	36.6	36.6	10	3	7	1.5	40	7	150	900
APB-5056	56 ( 2-13/64" )	49.8 ( 1-31/32" )	46.0	46.0	12		9		50	11	100	600
APB-4090	-	-	-	-	10		7		40 × 85	16	80	480

# CABLE GROMMET



S445, S51, S60, S76, S89



Bore Dimensions

Please specify the finish when ordering.

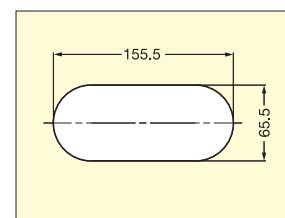
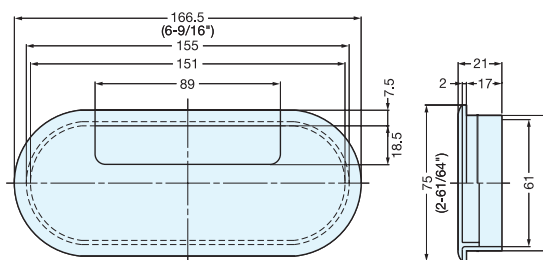
Material	Finish
ABS	White (WHT), Black (BLK)

Item No.	D	D <sub>1</sub>	D <sub>2</sub>	H	H <sub>1</sub>	H <sub>2</sub>	h <sub>1</sub>	h <sub>2</sub>	A	B	d	Weight (g)	Box (pcs)	Carton (pcs)
S445	45.0 (1-25/32")	38.8 (1-17/32")	34.0	19.7	3.3	16.4	2.0	1.3	16.7	12.5	38.5	8.7	100	1200
S51	51.0 ( 2" )	44.5 ( 1-3/4" )	39.7	19.9	3.6	16.3		1.6	19.0	15.5	44.2	11.1		800
S60	60.5 ( 2-3/8" )	48.8 ( 1-59/64" )	44.0	19.8		16.2			20.8	19.0	48.5	13.7		600
S76	76.5 ( 3-1/64" )	64.4 ( 2-17/32" )	59.0	20.3	4.2	16.1	2.6	1.5	21.5	21.5	64.2	21.8	50	350
S89	89.4 ( 3-33/64" )	76.5 ( 3-1/64" )	71.4	20.6	4.1	16.5			25.0	22.0	76.5	30.3		250

# CABLE GROMMET



S165-76



Bore Dimensions

Please specify the finish when ordering.

Item No.	Weight (g)	Box (pcs)	Carton (pcs)	Material	Finish
S165-76	47.7	150	1500	ABS	White (WHT), Black (BLK)

# CABLE GROMMET



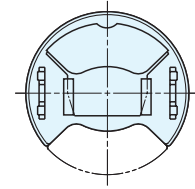
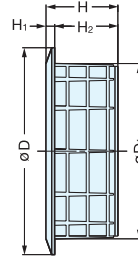
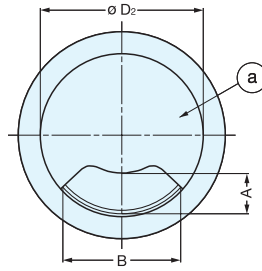
V60, V80



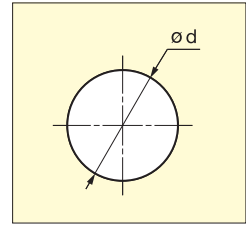
V60/WHT



V60/BLK



Backside of Cap (a)  
(When lid open)



Bore Dimensions

Material	Finish
Plastic	White (WHT), Black (BLK)

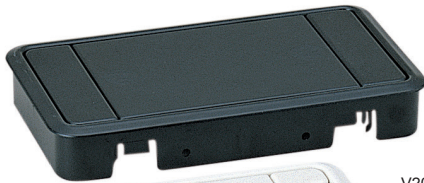
Please specify the finish when ordering.

Item No.	D	D <sub>1</sub>	D <sub>2</sub>	H	H <sub>1</sub>	H <sub>2</sub>	A	B	d	Weight (g)	Box (pcs)	Carton (pcs)
V60	72 ( 2-27/32" )	61.0 ( 2-13/32" )	56.7	25	3	22	14	41	60.5	26.7	90	900
V80	92 ( 3-5/8" )	80.5 ( 3-11/64" )	77.0					50	80.0	37.9	88	880

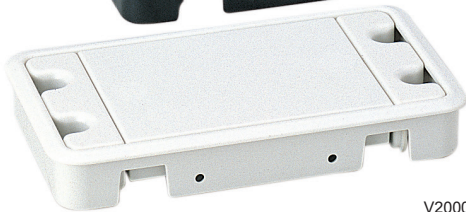
# CABLE GROMMET



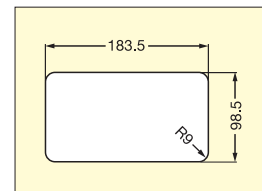
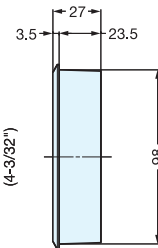
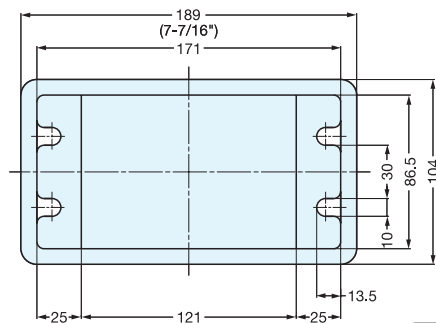
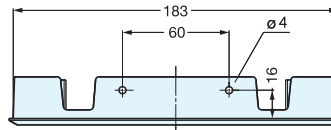
V2000



V2000/BLK



V2000/WHT



Bore Dimensions

Please specify the finish when ordering.

Item No.	Weight (g)	Box (pcs)	Carton (pcs)	Material	Finish
V2000	102	33	330	Plastic	White (WHT), Black (BLK)

# CABLE GROMMET

# LSU, LS

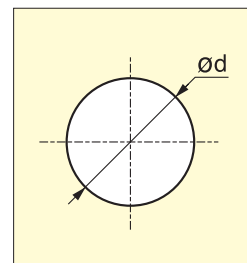
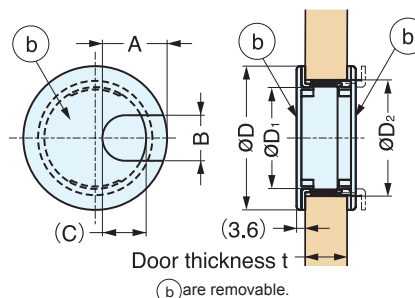
• Double-sided grommets.



LS60WHT



LS60BLK



Bore Dimensions

Item No.	Finish	Material	D	D <sub>1</sub>	D <sub>2</sub>	A	B	C	t	d	Weight (g)	Box (pcs)	Carton (pcs)
LSU60WT	White	ABS	60 ( 2-3/8" )	42.5 ( 1-43/64" )	48.5	27	19	18.0	12~18 (1/2"~3/4")	48.5	19	20	160
LSU60BL	Black												
LS60WT	White								18~24 (3/4"~1")				
LS60BL	Black												
LS76WT	White		76 ( 3" )	58.2 ( 2-19/64" )	64.2	34	22	25.1	25~40 (1"~1-9/16")	64.2	25	12	96
LS76BL	Black												

# CABLE GROMMET

# CHC

• Choose from 1/2" (12 mm) or 19/32" (15 mm) grommets, perfect for phone, fax, or LAN data cables.

Weight: CHC-18 8.3 g  
CHC-22 14.5 g



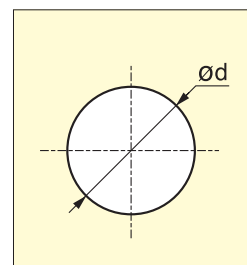
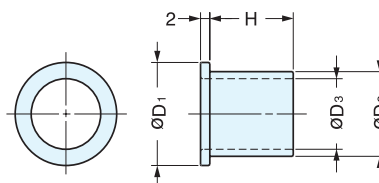
CHC-22/GB  
(Antique Brass)



CHC-18/NI  
(Nickel)



CHC-18/GA  
(Gold)



Bore Dimensions

Item No.	Material	Finish	H	D <sub>1</sub>	D <sub>2</sub>	D <sub>3</sub>	d	Box (pcs)
CHC-18/NI	Brass	Satin Nickel	16 ( 5/8" )	18 ( 11/16" )	14 ( 9/16" )	12 ( 1/2" )	14.5 ( 9/16" )	120
CHC-18/GA		Gold						
CHC-18/GB		Antique Brass						
CHC-22/NI		Satin Nickel						
CHC-22/GA		Gold	18 ( 11/16" )	22 ( 7/8" )	18 ( 11/16" )	15 ( 19/32" )	18.5 ( 11/16" )	60
CHC-22/GB		Antique Brass						

# CABLE GROMMET

# LN72D



LN72D/WT



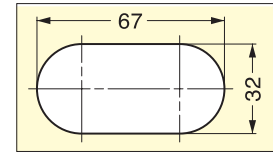
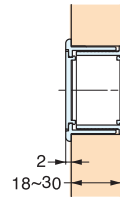
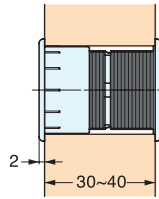
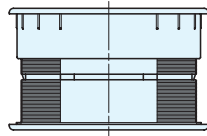
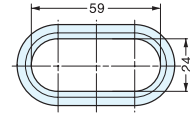
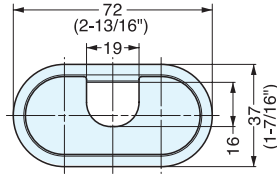
LN72D/BL



Cover

Grommet

- Double-sided adjustable grommet
- For panel thickness 1-3/16" to 1-9/16" (30 to 40 mm); also for 11/16" to 1-9/16" (18 to 30 mm) by snapping off edge.
- Cover can be removed to increase the grommet opening.



Bore Dimensions

Item No.	Color	Material	Weight (g)	Box (pcs)	Carton (pcs)
LN72D/WT	White	ABS	19	40	320
LN72D/BL	Black				

# CABLE GROMMET

# LN72S

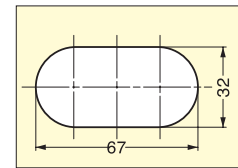
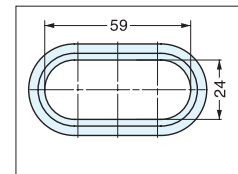
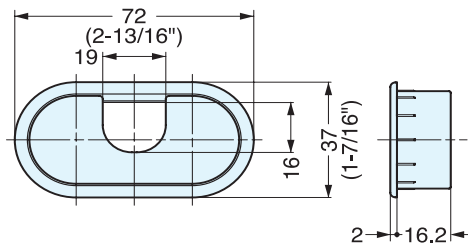


LN72S/WT



LN72S/BL

- Cover can be removed to increase the grommet opening.



Bore Dimensions

Item No.	Color	Material	Weight (g)	Box (pcs)	Carton (pcs)
LN72S/WT	White	ABS	8	40	320
LN72S/BL	Black				

# Zwei L Towel Bar

STAINLESS  
316  
STEEL

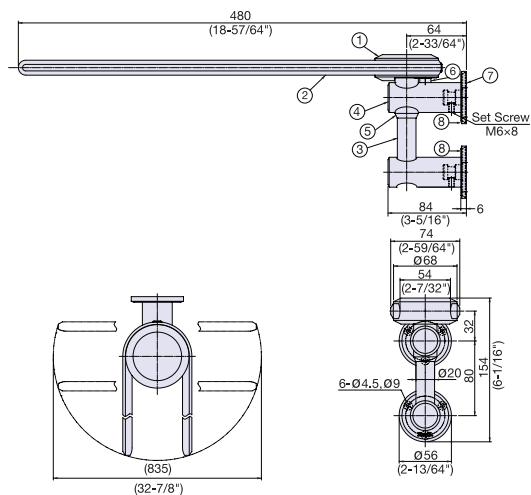
ZL-3201

MISCELLANEOUS

Zwei L TOWEL BARS



• Supplied with stainless steel wood screw (4.1 x 32), anchor plug and 3 mm allen key.



Item No.	Weight (g)	Box (pcs)
ZL-3201	-	1

No.	Part Name	Material	Finish
①	Bracket	316 Stainless Steel	Zwei L
②	Arm		Mirror
③	Pin		Zwei L
④	Post	Polyacetal	Black
⑤	Bushing		Black
⑥	Swivel Stopper		Black
⑦	Base Plate	316 Stainless Steel	Plain
⑧	Cover	316 Stainless Steel	Zwei L

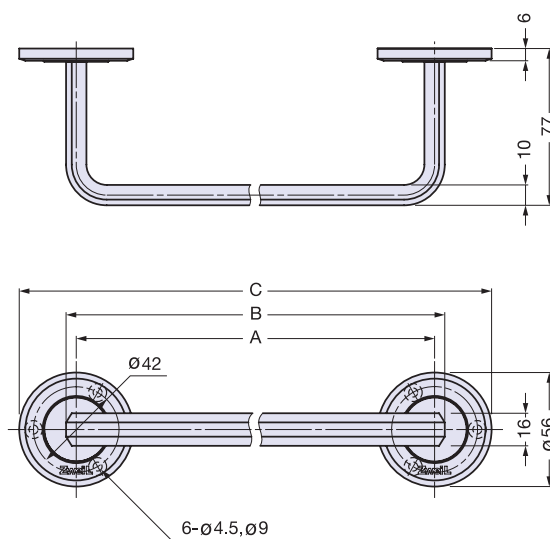
# Zwei L Towel Bar

STAINLESS  
316  
STEEL

ZL-3202



• Supplied with stainless steel wood screws (4.1 x 25) and concrete anchor (for wood screw 4.1, ø6 mm hole).



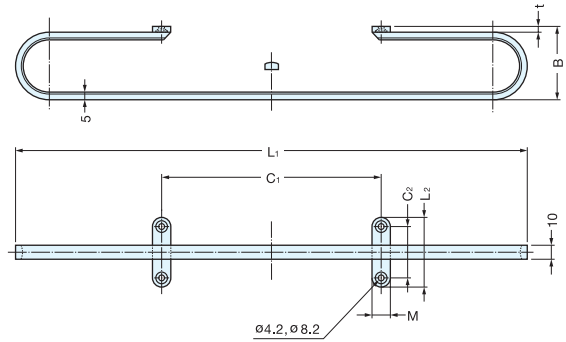
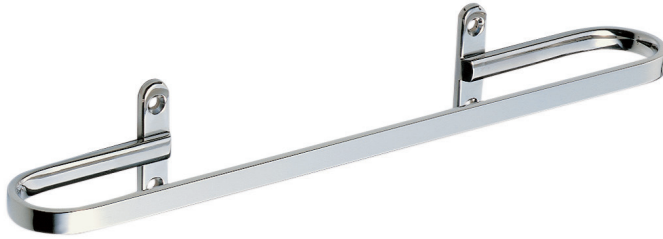
Item No.	Material	Finish/Color	A	B	C
ZL-3202-480	316 Stainless Steel	Zwei L	480	490	536 ( 21-7/64" )
ZL-3202-640			640	650	696 ( 27-13/32" )

# TOWEL BAR



## KB-T

• Supplied with 4 x 20 stainless steel wood screws.



Material	Finish
303 Stainless Steel	Mirror

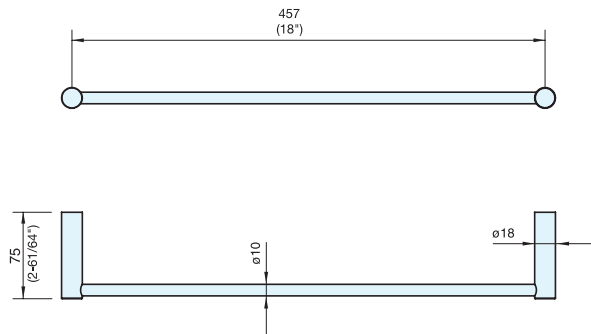
Item No.	B	C <sub>1</sub>	C <sub>2</sub>	L <sub>1</sub>	L <sub>2</sub>	M	t	Weight (g)	Box (pcs)	Carton (pcs)
KB-T-350	50	150	35	350 (13-25/32")	48	13	4	240	1	10
KB-T-450		250		450 (17-23/32")				275		

# TOWEL BAR



## DSR-01/18

• Supplied with screws, brackets, plastic expansion anchors and allen key.



Item No.	Weight (g)	Box (pcs)	Carton (pcs)	Material	Finish
DSR-01/18	580	1	10	303/304 Stainless Steel	Satin

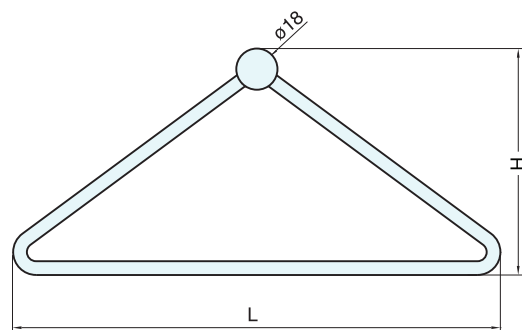
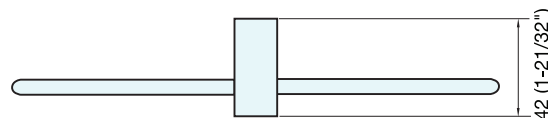
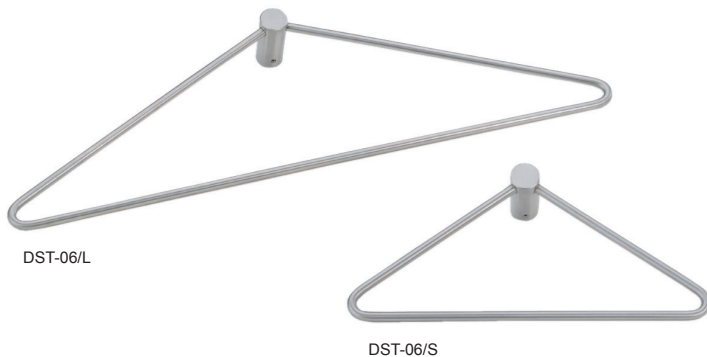


# TOWEL BAR



**DST-06**

• Supplied with screw, bracket, plastic expansion anchor and allen key.



MISCELLANEOUS

TOWEL BARS

Item No.	L	H	Weight (g)	Box (pcs)	Carton (pcs)
DST-06/S	213 ( 8-25/64" )	108 ( 4-1/4" )	173	1	10
DST-06/L	390 ( 15- 3/8" )	125 ( 4-15/16" )	241		

Material	Finish
303/304 Stainless Steel	Satin

# TOWEL BAR

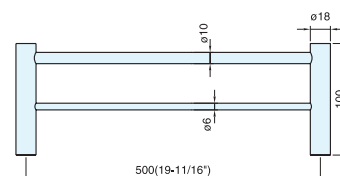


**DSR-02**

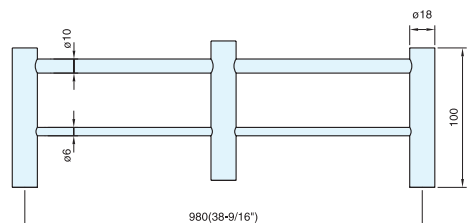
• Supplied with screws, brackets, plastic expansion anchors and allen key.



DSR-02/50



DSR-02/98



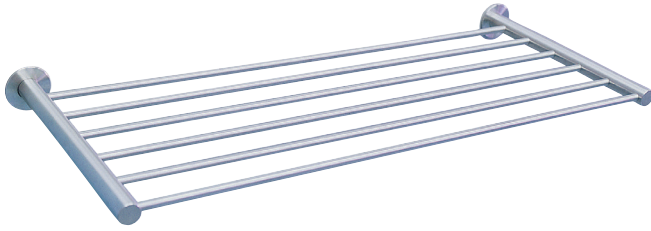
Item No.	Weight (g)	Box (pcs)	Carton (pcs)
DSR-02/50	777	1	10
DSR-02/98	1352		

Material	Finish
303/304 Stainless Steel	Satin

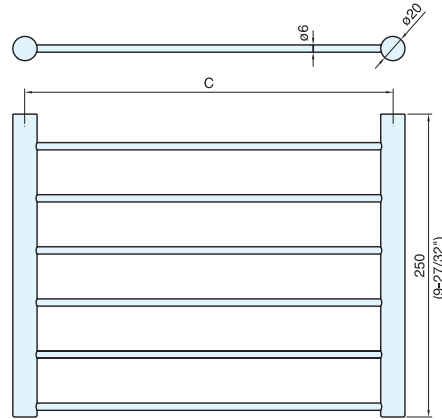
# TOWEL RACK



## DSR-08



- Supplied with screws, brackets, plastic expansion anchors and allen key.



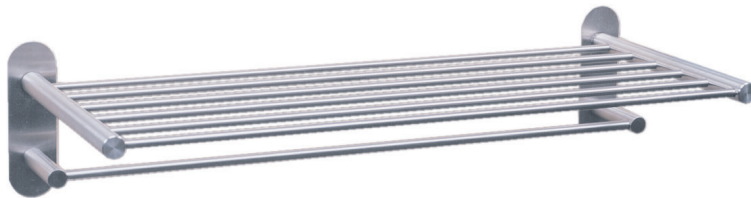
Item No.	C	Weight (g)	Box (pcs)	Carton (pcs)
DSR-08/45	450 (17-3/4")	1423	1	10
DSR-08/60	600 (23-5/8")	1778		

Material	Finish
303/304 Stainless Steel	Satin

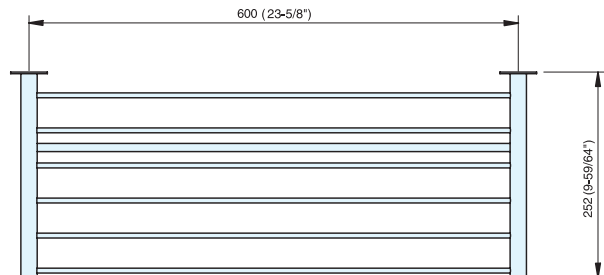
# TOWEL RACK



## DSD-80



- Supplied with screws, brackets, plastic expansion anchors and allen key.



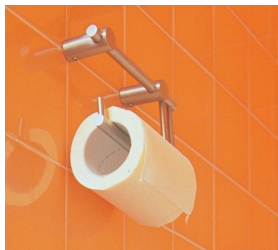
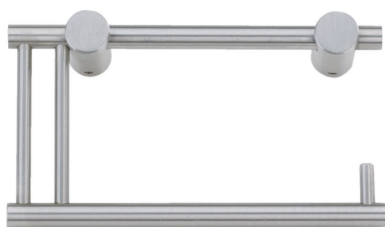
Item No.	Weight (g)	Box (pcs)	Carton (pcs)
DSD-80	2700	1	10

Material	Finish
303/304 Stainless Steel	Satin

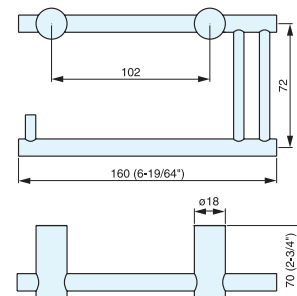
## TOILET PAPER HOLDER



DSB-01



- Supplied with screws, brackets, plastic expansion anchors and allen key.



Item No.	Weight (g)	Box (pcs)	Carton (pcs)
DSB-01	456	1	10

Material	Finish
303/304 Stainless Steel	Satin

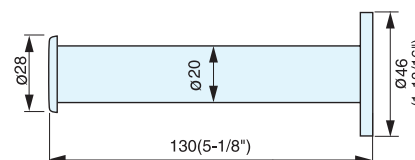
## TOILET PAPER HOLDER



DSB-03



- Toilet paper holder for side-wall mount.
- Supplied with screw and plastic expansion anchor.



Item No.	Weight (g)	Box (pcs)	Carton (pcs)
DSB-03	201	5	50

Material	Finish
303/304 Stainless Steel	Satin

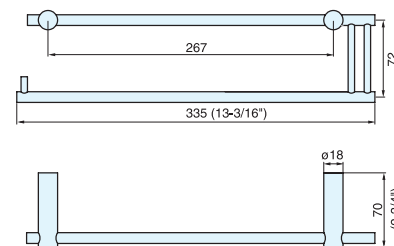
## PAPER TOWEL HOLDER



DSB-04



- Paper towel holder, also can be used as towel bar.
- Supplied with screws, brackets, plastic expansion anchors and allen key.



Item No.	Weight (g)	Box (pcs)	Carton (pcs)
DSB-04	669	1	10

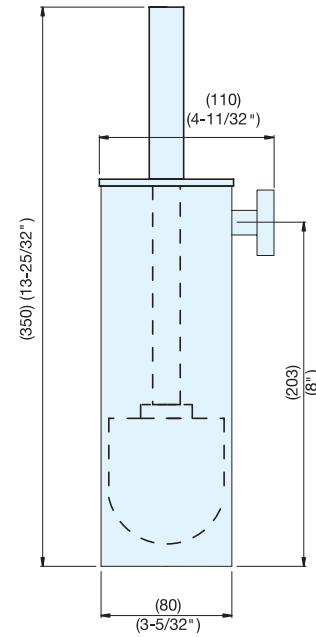
Material	Finish
303/304 Stainless Steel	Satin

# TOILET BRUSH/HOLDER



**DSB-09**

- Removable plastic basket for easy cleaning.
- Supplied with screws, brackets, plastic expansion anchors and allen key.



Item No.	Weight (g)	Box (pcs)	Carton (pcs)
DSB-09	748	1	10

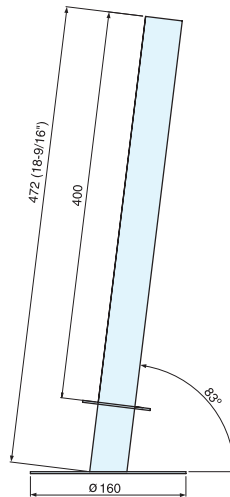
Material	Finish
303/304 Stainless Steel	Satin

# TOILET PAPER HOLDER



**DSB-07**

- Toilet paper stand ideal to keep stock organized.



Item No.	Weight (g)	Box (pcs)	Carton (pcs)
DSB-07	1009	1	10

Material	Finish
304 Stainless Steel	Satin

# MULTI-PURPOSE LID W/DAMPER



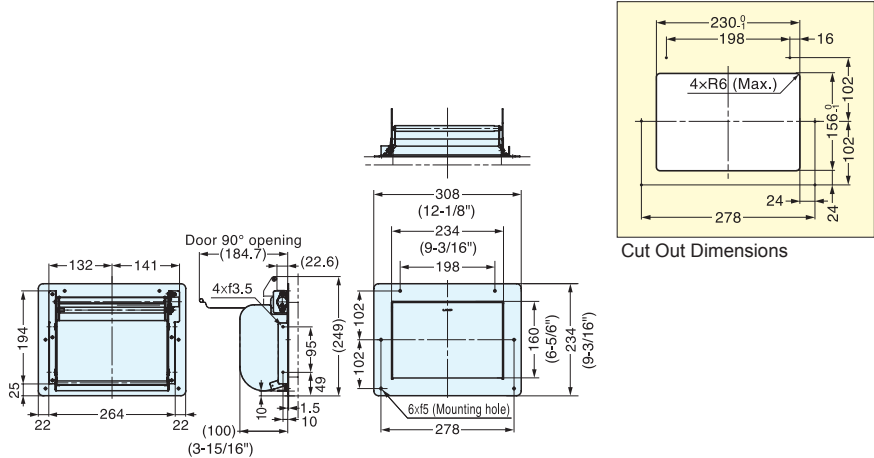
# AZ-GD231-HL



- Installed from the inside of the waste box for clean appearance.
- With damper to keep the lid from slamming shut.
- Integrated with anti-pinching plates.
- Corrosion resistant.
- Guide sold separately (AZ-SLP)



[Application Example]



Item No.	L	H	D	Weight (g)	Box (pcs)	Carton (pcs)	Material	Finish
AZ-GD231-HL	308 (12-1/8")	234 (9-3/16")	100 (3-15/16")	1486	1	10	304 Stainless Steel	Satin

# MULTI-PURPOSE LID W/DAMPER



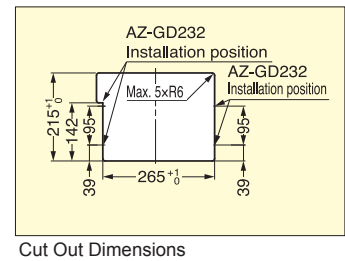
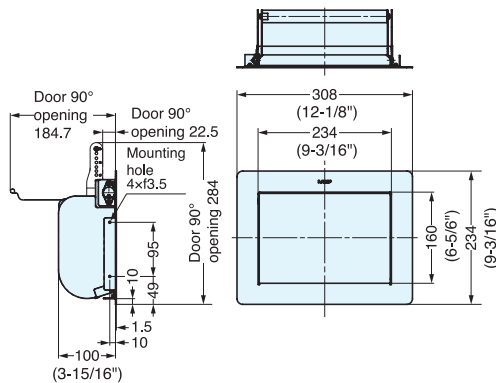
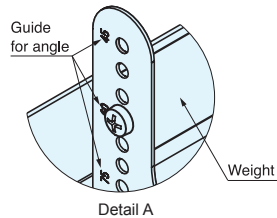
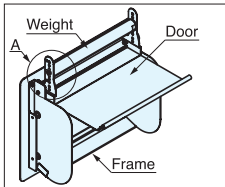
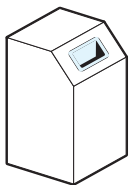
# AZ-GD232-HL



- Able to install the lid up to 45°.
- Inclined mount.
- Easy to adjust angle by changing the weight position.
- Integrated anti-pinching plates.
- Corrosion resistant.
- Guide sold separately.

[Installation]

[How to Adjust Angle]



Item No.	L	H	D	Weight (g)	Box (pcs)	Carton (pcs)	Material	Finish
AZ-GD232-HL	308 (12-1/8")	234 (9-3/16")	100 (3-15/16")	2200	1	10	304 Stainless Steel	Satin

MULTI-PURPOSE LID W/DAMPER



AZ-GD

MISCELLANEOUS



AZ-GD180-HL



AZ-GD230-HL

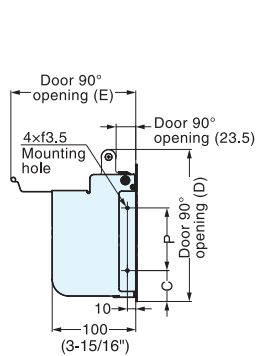
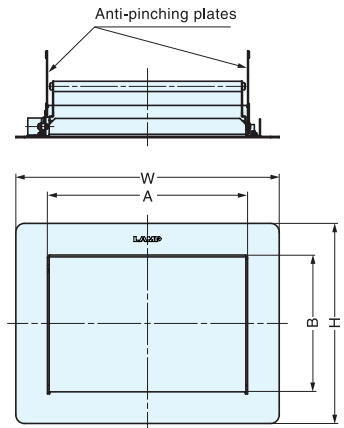


AZ-GD310-HL

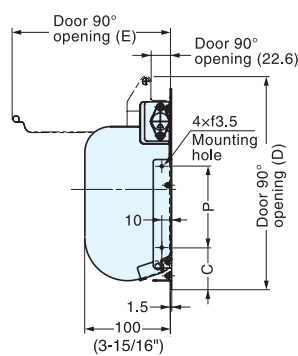


AZ-GD400-HL  
(Slim Frame Type)

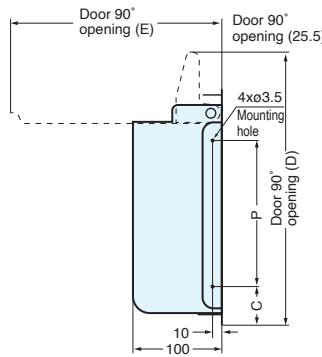
- Built in damper to keep the lid from slamming shut.
- Integrated anti-pinching plates.
- Vertical use only.
- Corrosion resistant.
- Guide sold separately.



AZ-GD180-HL

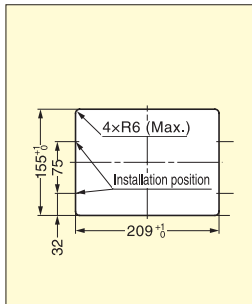


AZ-GD230-HL  
AZ-GD310-HL

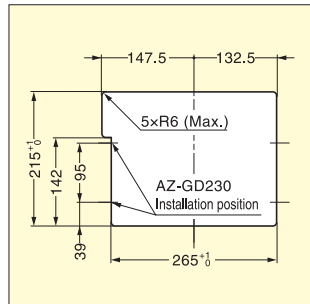


AZ-GD400-HL

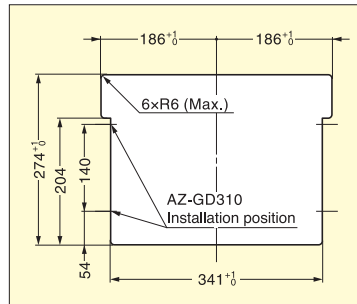
Cut Out Dimensions



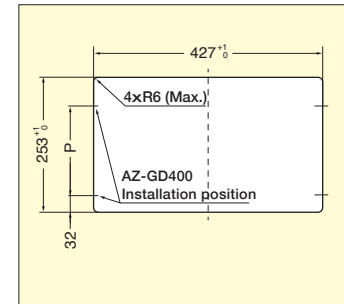
AZ-GD180-HL



AZ-GD230-HL



AZ-GD310-HL



AZ-GD400-HL

Material	Finish
304 Stainless Steel	Satin

Item No.	A	B	W	H	C	D	E	P	Weight (g)	Box (pcs)	Carton (pcs)
AZ-GD180-HL	182 ( 7-11/64" )	128 ( 5-3/64" )	218 ( 8-37/64" )	164 ( 6-29/64" )	37	182	149.5	75	1042	1	10
AZ-GD230-HL	234 ( 9-7/32" )	160 ( 6-19/64" )	308 ( 12-1/8" )	234 ( 9-7/32" )	49	249	184.7	95	1486		
AZ-GD310-HL	310 ( 12-13/64" )	220 ( 8-21/32" )	384 ( 15-1/8" )	294 ( 11-37/64" )	64	310	244.7	140	2236		
AZ-GD400-HL	400 ( 15-3/4" )	220 ( 8-21/32" )	450 ( 17 23/32" )	270 ( 10-5/8" )	44	312	240.0	167	2236		

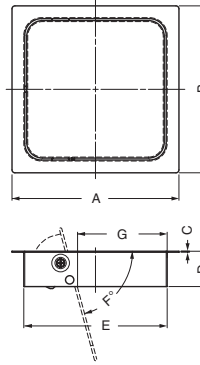
MULTI-PURPOSE LID W/DAMPER



# MULTI-PURPOSE LID (W/DAMPER)



# AD-KH



- Features damper to keep lid from slamming shut.
- Made of stainless steel for corrosion resistance.
- Wide opening.
- Balance weight restores lid to horizontal position.
- Operating temperature: 32°F~104°F.

6-11/16" (170 mm)



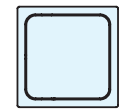
AD-KH015-HL

8-11/16" (220 mm)

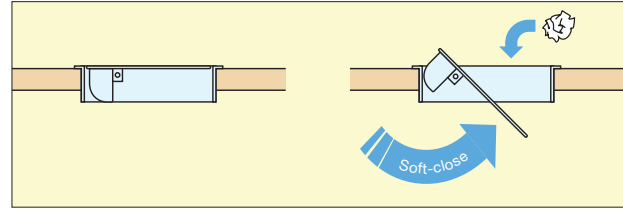
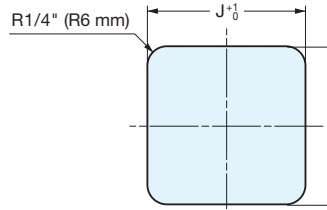


AD-KH020-HL

11-13/16" (300 mm)



AD-KH028-HL



Item No.	Material	Finish	A	B	C	D	E	F	G	H	J	Weight (g)
AD-KH015-HL	304 Stainless Steel	Satin	6-11/16" (170 mm)	6-11/16" (170 mm)	1/16" (1.2 mm)	1-7/16" (36 mm)	5-3/4" (146 mm)	80°	3-11/16" (93 mm)	5-13/16" (147 mm)	5-13/16" (147 mm)	970
AD-KH020-HL			8-11/16" (220 mm)	8-11/16" (220 mm)	1/16" (1.2 mm)	2" (50 mm)	7-3/4" (196 mm)	77°	5" (127 mm)	7-3/4" (197 mm)	7-3/4" (197 mm)	1400
AD-KH028-HL			11-13/16" (300 mm)	11-13/16" (300 mm)	1/16" (1.2 mm)	2-13/16" (72 mm)	10-7/8" (276 mm)	80°	7-1/2" (191 mm)	10-15/16" (277 mm)	10-15/16" (277 mm)	2700

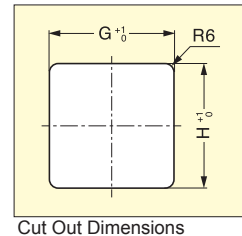
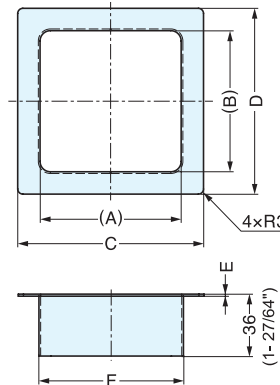
# MULTI-PURPOSE GROMMET



# AN-KH



- Corrosion resistant.
- Ideal for small dustbin applications.



Cut Out Dimensions

Material	Finish
304 Stainless Steel	Satin

Item No.	Old Item No.	A	B	C	D	E	F	G	H	Weight (g)	Box (pcs)	Carton (pcs)
AN-KH005-HL	-	56 (2-13/64")	56 (2-13/64")	82 (3-15/64")	82 (3-15/64")	1.2	58	59	59	87	1	150
AN-KH008-HL	AN-KH001	82 (3-15/64")	82 (3-15/64")	108 (4-1/4")	108 (4-1/4")		84	85	85	126		10
AN-KH015-HL	AN-KH017	144 (5-43/64")	144 (5-43/64")	170 (6-11/16")	170 (6-11/16")		146	147	147	217		

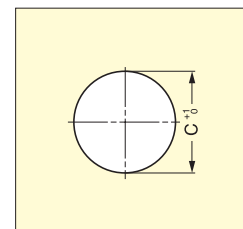
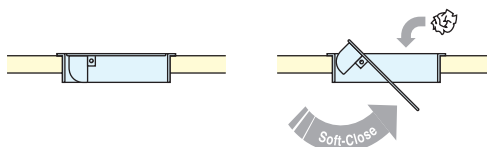


# MULTI-PURPOSE LID (SOFT CLOSE)

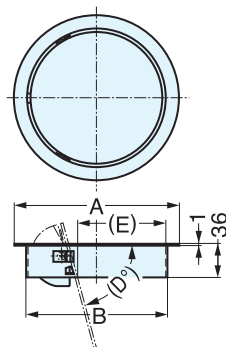


## AD-GD

- Soft and slow closing movement with a built-in damper mechanism.
- Horizontal use only.



Cut Out Dimensions



Material	Finish
304 Stainless Steel	Satin
303 Stainless Steel	
Polyacetal	
Steel	
CRC	
NBR (Rubber)	

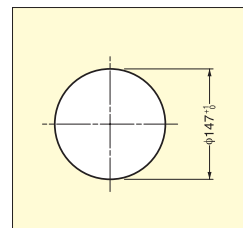
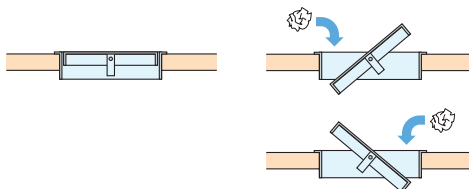
Item No.	Old Item No.	A	B	C	D	E	Weight (g)	Box (pcs)	Carton (pcs)
AD-GD011-HL	AD-DH011-HL	136 (5-23/64")	106 (4-11/64")	107 (4-7/32")	87 (3-27/64")	62 (2-7/16")	460	1	10
AD-GD015-HL	AD-DH017-HL	170 (6-11/16")	146 (5-3/4")	147 (5-25/32")	75 (2-61/64")	90 (3-35/64")	1000		

# MULTI-PURPOSE LID

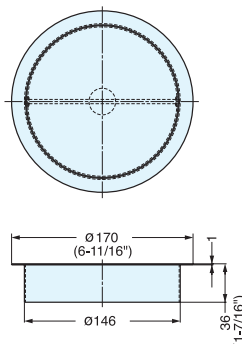


## AD-DH015-HL

- Self-leveling lid.
- Horizontal use only.



Cut Out Dimensions

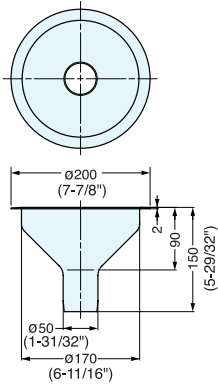


Item No.	Weight (g)	Box (pcs)	Carton (pcs)	Material	Finish
AD-DH015-HL	554	1	10	304 Stainless Steel	Satin

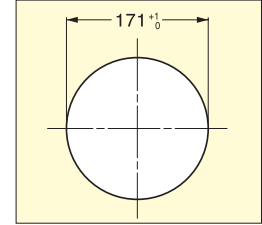
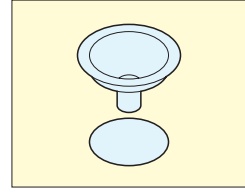
# DRAIN SPOUT



# AN-DH020



- Wide 6-11/16" diameter drain spout for use in food service environments.
- Lip outer diameter 7-7/8".
- Stainless steel construction for easy cleaning.
- 2" diameter tubing can be attached to the spout.



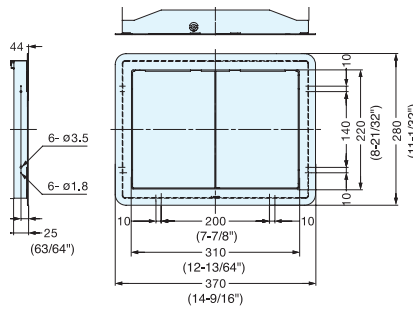
Cut Out Dimensions

Item No.	Weight (g)	Box (pcs)	Carton (pcs)	Material	Finish
AN-DH020	490	1	10	304 Stainless Steel	Polished Mirror/Satin

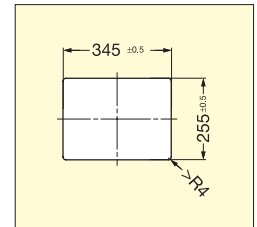
# MULTI-PURPOSE LID (DOUBLE DOOR)



# AZ-DD310/HL



- Synchronized doors allow for easy opening.
- 304 Stainless Steel lid and frame.



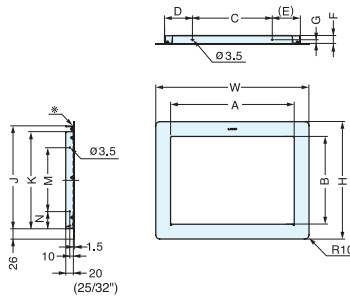
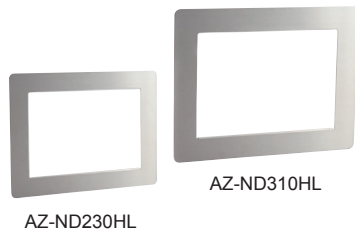
Cut Out Dimensions

Item No.	Weight (kg)	Box (pcs)	Carton (pcs)	Material	Finish
AZ-DD310/HL	2.2	1	10	304 Stainless Steel	Satin

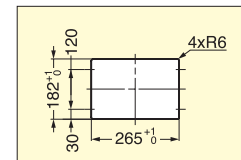
# MULTI-PURPOSE LID (SQUARE BEZEL)



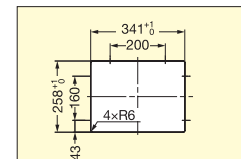
# AZ-ND



- Corrosion resistant.
- 304 Stainless Steel



AZ-ND230HL Cut Out Dimensions



AZ-ND310HL Cut Out Dimensions

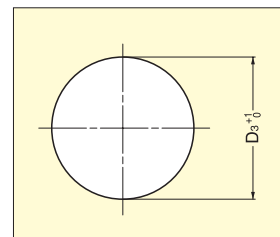
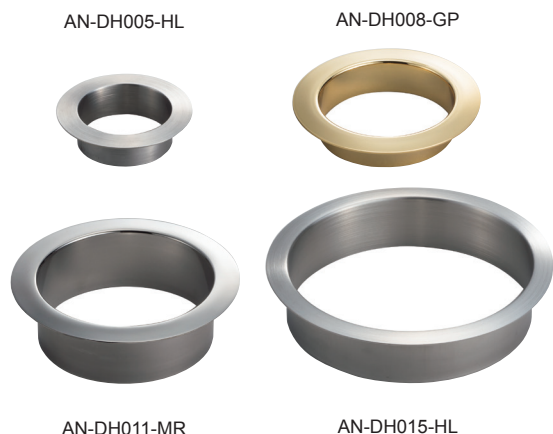
Item No.	Material	Finish	A	B	W	H				
AZ-ND230	Stainless Steel (SUS304)	Satin	234 ( 9-7/32" )	160 (6-19/64")	308 (12-1/8")	234 ( 9-7/32" )				
AZ-ND310HL			310 (12-13/64")	220 (8-21/32")	384 (15-1/8")	394 (15-33/64")				
Item No.	C	D	E	F	G	J	K	M	N	Weight (kg)
AZ-ND230HL	-	-	-	-	-	-	170	120	30	0.72
AZ-ND310HL	200	70	70	20	10	257	243	160	43	1.05

# MULTI-PURPOSE GROMMET



## AN-DH, AN-LH

- Corrosion resistant.
- Wide range of sizes and finishes.

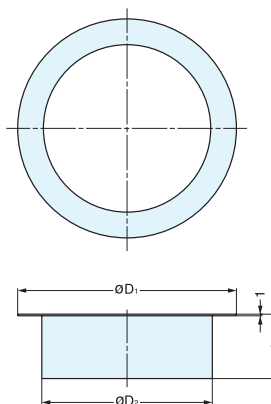
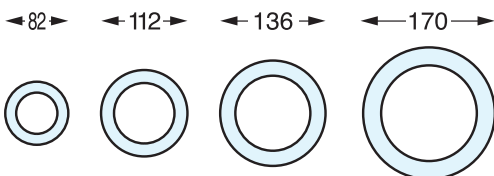


Cut Out Dimensions



AN-DH:Deep Type

AN-LH:Shallow Type



MISCELLANEOUS

MULTI-PURPOSE GROMMET

Item No.	Old Item No.	A	D <sub>1</sub>	D <sub>2</sub>	D <sub>3</sub>	Material	Finish	Weight (g)
AN-DH005-GP	-	36	82 (3-15/64")	58 (2-9/32")	59 (2-21/64")	Stainless Steel (SUS 304)	Gold	66
AN-DH005-MR	-						Mirror	
AN-DH005-HL	-						Satin	
AN-DH008-GP	AN-DH001-GP	40	112 (4-13/32")	82 (3-15/64")	83 (3-17/64")		Gold	107
AN-DH008-MR	AN-DH001-MR						Mirror	
AN-DH008-HL	AN-DH001-HL						Satin	
AN-DH011-GP	-	40	136 (5-23/64")	106 (4-11/64")	107 (4-7/32")		Gold	137
AN-DH011-MR	-						Mirror	
AN-DH011-HL	-						Satin	
AN-DH015-GP	-	36	170 (6-11/16")	146 (5-3/4")	147 (5-25/32")	Gold	182	
AN-DH015-MR	-					Mirror		
AN-DH015-HL	-					Satin		

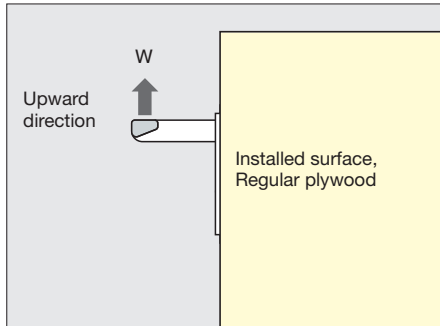
Item No.	Old Item No.	A	D <sub>1</sub>	D <sub>2</sub>	D <sub>3</sub>	Material	Finish	Weight (g)
AN-LH005-GP	-	22	82 (3-15/64")	58 (2-9/32")	59 (2-21/64")	Stainless Steel (SUS 304)	Gold	50
AN-LH005-MR	-						Mirror	
AN-LH005-HL	-						Satin	
AN-LH008-GP	AN-LH001-GP	22	112 (4-13/32")	82 (3-15/64")	83 (3-17/64")		Gold	77
AN-LH008-MR	AN-LH001-MR						Mirror	
AN-LH008-HL	AN-LH001-HL						Satin	
AN-LH011-GP	-	22	136 (5-23/64")	106 (4-11/64")	107 (4-7/32")		Gold	92
AN-LH011-MR	-						Mirror	
AN-LH011-HL	-						Satin	
AN-LH015-GP	-	22	170 (6-11/16")	146 (5-3/4")	147 (5-25/32")	Gold	122	
AN-LH015-MR	-					Mirror		
AN-LH015-HL	-					Satin		

## TEST METHODS

### About Test Methods

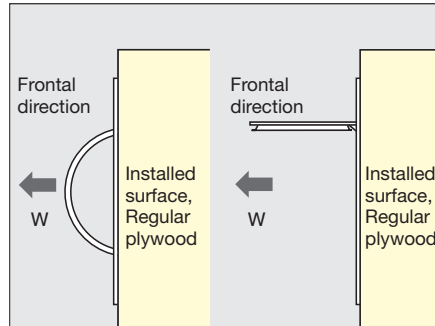
Various values about products with Test logo, such as the load capacity, hanging load capacity, catch force and retaining force, are determined by the tests performed by our company as described below. Values are to provide guidance for the safe use of our products. Product without Test logo may not be based on these criteria in some cases.

#### TEST 1 LOAD CAPACITY TEST (TEST 1)



The load capacity is measured when the force ( $W$ ) is gently applied in the direction of the arrow under the condition indicated by the figure.

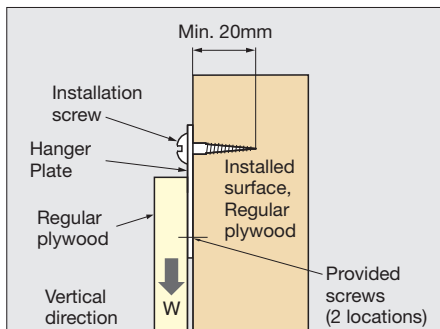
#### TEST 2 LOAD CAPACITY TEST (TEST 2)



The load capacity is measured when the force ( $W$ ) is gently applied in the direction of the arrow under the condition indicated by the figure. Product may fail or distort if the force is applied

in a direction other than the frontal direction. Please do not use on application other than in the pull direction.

#### TEST 3 HANGING-LOAD CAPACITY TEST (TEST 3)

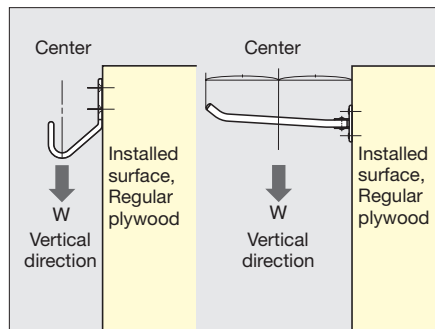


The hanging-load capacity is measured when the force ( $W$ ) is gently applied in the direction of the arrow under the condition indicated by the figure. This value will vary according to the

diameter / length of the screw(s) used and strength of the installed surface.

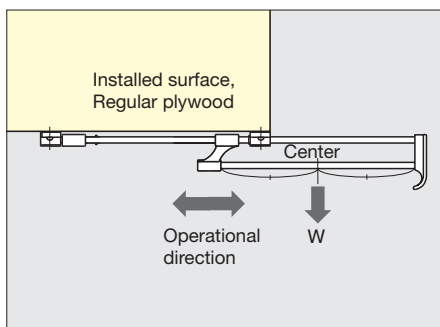
Hanging load of 10kg (22 lbs), in case of using round-head wood screw 3.8 x 25.

#### TEST 4 HANGING-LOAD CAPACITY TEST (TEST 4)



The hanging-load capacity is measured when the force ( $W$ ) is gently applied at the center of the product in the direction of the arrow under the condition indicated by the figure.

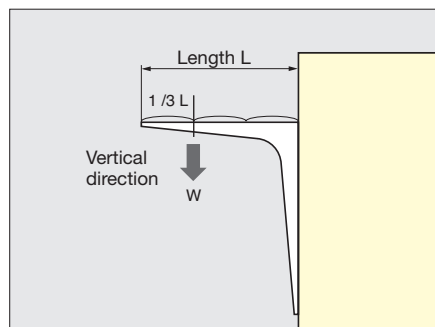
#### TEST 5 MAXIMUM HANGING-LOAD TEST (TEST 5)



The maximum hanging-load capacity is measured when the force ( $W$ ) is gently applied in the direction of the arrow and operated under the condition indicated by the figure.

If the load is concentrated at the front tip of the hanger, the front tip may sag or the movement may become heavy.

#### TEST 6 LOAD CAPACITY TEST (TEST 6)

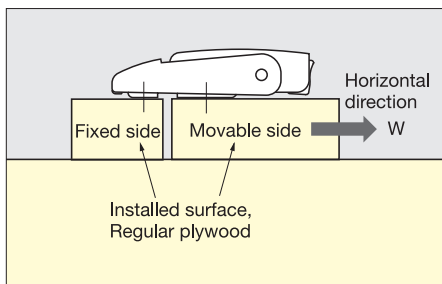


The load capacity is measured when the force ( $W$ ) is gently applied in the direction of the arrow under the condition indicated by the figure. (This is based on the force ( $W$ ) applied at the center

of the shelf board with its length  $4/3$  times longer than the shelf bracket or angle bracket.)

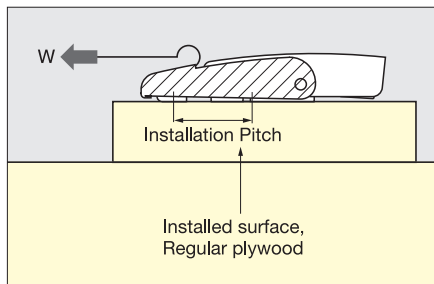
TEST METHODS

TEST 7 LOAD CAPACITY TEST (TEST 7)



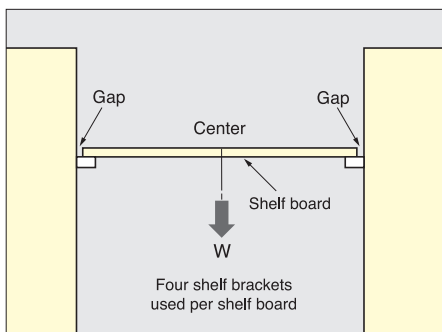
The load capacity is measured when the force (W) is gently applied in the direction of the arrow under the condition indicated by the figure.

TEST 8 CLAMPING FORCE TEST UNDER STANDARD INSTALLATION (TEST 8)



The capacity of the clamping force under standard installation is measured when the force (W) is gently applied in the direction of the arrow under the condition indicated by the figure, and when the shaded portion begins to slide.

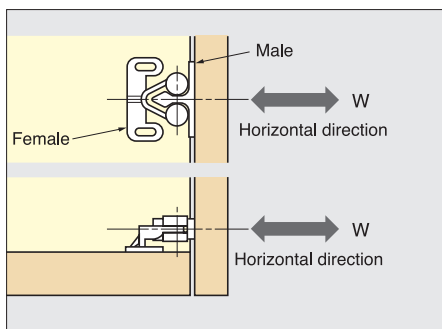
TEST 9 LOAD CAPACITY TEST (TEST 9)



The load capacity is measured when the force (W) is gently applied in the direction of the arrow under the condition indicated by the figure. Follow the conditions below to prevent the shelf bracket or shelf board from falling off.

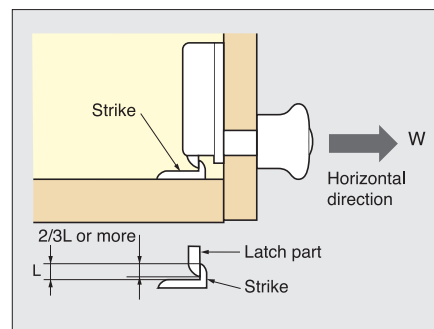
- 1: The total gap between the shelf board and side board shall be 1mm or less.
- 2: Use shelf board which has sufficient durability.

TEST 10 CATCH FORCE TEST (TEST 10)



The catch force is measured when the force (W) is gently applied in the direction of the arrow under the condition indicated by the figure. Note: Misalignment of the male and female parts may cause the catch force to decrease or parts failure.

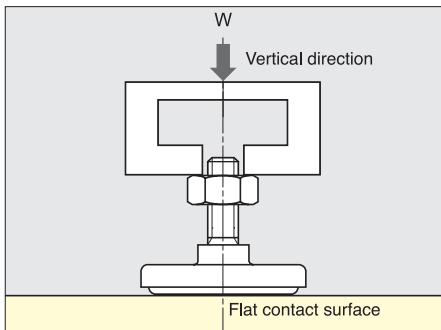
TEST 11 RETAINING FORCE TEST (TEST 11)



The retaining force is measured when the force (W) is gently applied in the direction of the arrow under the condition indicated by the figure. Note: Latch and strike must be engaged at least 2/3L or more. (See the figure.)

## TEST METHODS

### TEST 12 LOAD CAPACITY TEST (TEST 12)



The load capacity is measured when the force (W) is applied in the direction of the arrow under the condition indicated in the figure. Product may break or distort if the contact surface is not flat.

### TEST 13 LOAD CAPACITY OF CASTER (TEST 13)

The load capacity is based on a flat steel floor surface. Following is the safety factor which should be taken into consideration in case of using four casters:

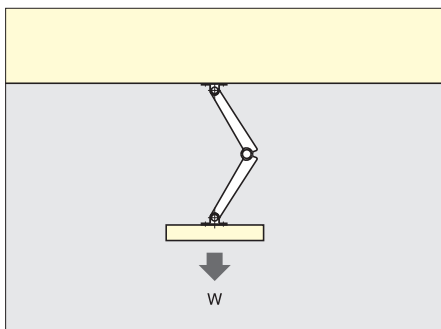


**Proper load kg (lbs) = Load capacity value kg (lbs) x 4 (each) x 0.75**

The safety factor will vary depending on the conditions of use such as the rolling surface, rolling speed, etc.

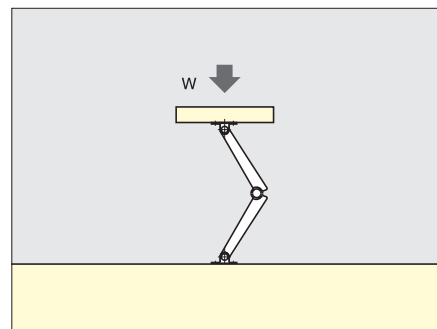
When using under adverse conditions, please test the casters in the intended application.

### TEST 14 PULL LOAD TEST (TEST 14)



The pull load capacity is measured when the force (W) is gently applied in the direction of the arrow under the condition indicated by the figure.

### TEST 15 COMPRESSION LOAD TEST (TEST 15)



The compression load capacity is measured when the force (W) is gently applied in the direction of the arrow under the condition indicated by the figure.

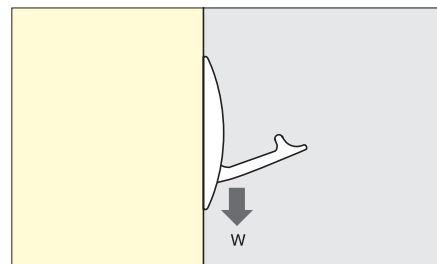
### TEST 16 PERMISSIBLE LOAD OF FASTENER (TEST 16)

The permissible load is based on the following safety factor:

$$\text{Permissible load kg (lbs)} = \text{Ultimate Load} \div 3$$

The safety factor will vary depending on the conditions of use. When used under adverse conditions, please test the fastener in intended application.

### TEST 17 HOOK LOAD CAPACITY TEST (TEST 17)



The load capacity is measured when the force (W) is gently applied in the direction of the arrow under the condition indicated by the figure.

The load capacity is based on the following safety factor:

$$\text{Load capacity kg (lbs)} = \text{Ultimate Load} \div 3$$

However, the safety factor will vary depending on the conditions of use. When used under adverse conditions, please test the hook in intended application.

## MATERIALS

Material	Type	Characteristics
430 Stainless Steel	Ferretic	18% Chromium (Cr) added to steel. Commonly used because of its excellent formability and cost performance. Low corrosion resistance compared to 304 grade.
304 Stainless Steel	Austenitic	Most common grade which contains 18% chromium and 8% nickel, also called 18/8 stainless steel. Low carbon content, excellent formability and weldability with good corrosion resistance.
316 Stainless Steel	Austenitic	Nickel (Ni) and Molybdenum (Mo) added to maximize corrosion resistance. Better acid and pitting resistance than 304 grade. Also has high strength at high temperature.
Zinc Alloy	-	This is an alloy having zinc (Zn) as main component along with other materials such as aluminum (Al), copper (Cu), magnesium (Mg), iron (Fe), etc. This alloy is widely used along with aluminum alloy for die-casting. Zinc alloy facilitates the manufacturing of product with high dimensional accuracy, beautiful cast surface, and it can be plated for superior corrosion resistance. Zinc Alloy also has superior mechanical characteristics such as high tensile strength, compressive strength, hardness, bend (flexural) strength, modulus of elasticity, etc. Also zinc alloy can be plated with good corrosion resistance.
Aluminum Alloy	-	This is an alloy having aluminum (Al) as a main component along with other materials such as copper (Cu), silicon (Si), iron (Fe), magnesium (Mg), zinc (Zn), etc. Aluminum alloy is the most widely used material today for die-casting. This alloy facilitates the manufacturing of lightweight product having appropriate mechanical characteristics and corrosion resistance. Also it has good physical characteristics such as fine thermal conductivity, and also the characteristics do not change at low temperature.
Brass	-	Brass is an alloy having copper (Cu) and zinc (Zn) as the main components. It has yellow (or golden) color and good cutting characteristics. This alloy is easy to fabricate and is often used for the body of locks, hinges, handles, etc.

Material	Acronym	Characteristics
ABS Resin	ABS	<b>Thermal plastic developed to enhance the impact resistance of polystyrene. ABS can be plated.</b>
Polyamide	PA	<b>Very resistant to wear and abrasion suitable for parts like gears and bearings. Also has good chemical and oil resistance.</b>
Polypropylene	PP	<b>Strong against organic solvent. Difficult for adhesion and painting. Resistant to bending stress ideal for bending applications.</b>
Polyacetal	POM	<b>Superior abrasion resistance. Good tensile/bending strength and elasticity.</b>
Polyethylene	PE	<b>Low material cost. Excellent formability usable for various application. Has very low water absorption rate, suitable for water resistant purpose.</b>
Polycarbonate	PC	<b>High impact resistance and good dimensional stability for high precision. Also has high transparency.</b>

## SURFACE TREATMENT

Name	Characteristics
Zinc Plating	Zinc plating is commonly used on steel to prevent oxidation. Chromate is generally applied over zinc to enhance corrosion resistance.
Chromate Conversion Coating	Major coating mainly applied on parts after zinc plated or cadmium plated. Parts are immersed in a solution mainly consisting of chromic acid or heavy chromic acid to create the coating. This is used to improve corrosion resistance and appearance of metals, metal coloration, and is also used as a pre-treatment for painting. Various chromate coatings are developed such as yellow chromate (rainbow color), clear chromate, black chromate, green chromate, etc.
Chrome Plating	Common electroplating for various industrial purposes. Reflective finish can be achieved by polishing. High hardness and good corrosion resistance along with thermal resistance, abrasion resistance and good adhesion characteristics. Generally used as final finish for various decorative parts and products due to its uniquely deep coloration.
Nickel Plating	Nickel is commonly used for decorative and anti-corrosion purpose because of its stability against air or humidity compared to iron. However, since the surface of the nickel plating will slightly discolor through exposure to air, chrome is often used after nickel to keep the finish/color. Nickel plating has moderate hardness / corrosion-resistance and widely used on industrial application.
Alumite or Anodizing (Anodic Oxidation Film Processing)	Also called the “anodic oxidation film processing”. This process thickens and toughens natural oxide layer on metal, commonly applied to aluminum for corrosion resistance and dyeing. In aluminum anodizing, aluminum object serves as the anode (the positive electrode) when electrolyzed in the sulfuric acid. This will create a layer of porous oxide film which has high electric insulation and abrasion resistance. The film is normally transparent when it is thin, although it becomes dull as the thickness increases. The pores produced by anodizing are closed by a process called sealing, which is done by high-pressurized or boiling-hot deionized water. This process fills the pores and creates a thin layer that is corrosion resistant, suitable for various aluminum parts / products.

## \* Hexavalent-Chromium (CR6) Free

Sugatsune is strictly controlling the use of chemicals that would adversely impact the environment. We are designing and developing products with minimum use of materials which has adverse environmental impact. Hexavalent chromium compound is especially known for its adverse effects on the human body. We are eagerly substituting this Hexavalent-chromium (CR6) with the less toxic substance Trivalent-chromium (CR3).



## Inch to Metric Conversion table

## Metric to Inch Conversion

	1"	2"	3"	4"	5"	6"	7"	8"	9"	10"	11"	12"	
0/0	0.0	25.4	50.8	76.2	101.6	127.0	152.4	177.8	203.2	228.6	254.0	279.4	304.8
1/64	0.4	25.8	51.2	76.6	102.0	127.4	152.8	178.2	203.6	229.0	254.4	279.8	305.2
1/32	0.8	26.2	51.6	77.0	102.4	127.8	153.2	178.6	204.0	229.4	254.8	280.2	305.6
3/64	1.2	26.6	52.0	77.4	102.8	128.2	153.6	179.0	204.4	229.8	255.2	280.6	306.0
1/16	1.6	27.0	52.4	77.8	103.2	128.6	154.0	179.4	204.8	230.2	255.6	281.0	306.4
5/64	2.0	27.4	52.8	78.2	103.6	129.0	154.4	179.8	205.2	230.6	256.0	281.4	306.8
3/32	2.4	27.8	53.2	78.6	104.0	129.4	154.8	180.2	205.6	231.0	256.4	281.8	307.2
7/64	2.8	28.2	53.6	79.0	104.4	129.8	155.2	180.6	206.0	231.4	256.8	282.2	307.6
1/8	3.2	28.6	54.0	79.4	104.8	130.2	155.6	181.0	206.4	231.8	257.2	282.6	308.0
9/64	3.6	29.0	54.4	79.8	105.2	130.6	156.0	181.4	206.8	232.2	257.6	283.0	308.4
5/32	4.0	29.4	54.8	80.2	105.6	131.0	156.4	181.8	207.2	232.6	258.0	283.4	308.8
11/64	4.4	29.8	55.2	80.6	106.0	131.4	156.8	182.2	207.6	233.0	258.4	283.8	309.2
3/16	4.8	30.2	55.6	81.0	106.4	131.8	157.2	182.6	208.0	233.4	258.8	284.2	309.6
13/64	5.2	30.6	56.0	81.4	106.8	132.2	157.6	183.0	208.4	233.8	259.2	284.6	310.0
7/32	5.6	31.0	56.4	81.8	107.2	132.6	158.0	183.4	208.8	234.2	259.6	285.0	310.4
15/64	6.0	31.4	56.8	82.2	107.6	133.0	158.4	183.8	209.2	234.6	260.0	285.4	310.8
1/4	6.4	31.8	57.2	82.6	108.0	133.4	158.8	184.2	209.6	235.0	260.4	285.8	311.2
17/64	6.7	32.1	57.5	82.9	108.3	133.7	159.1	184.5	209.9	235.3	260.7	286.1	311.5
9/32	7.1	32.5	57.9	83.3	108.7	134.1	159.5	184.9	210.3	235.7	261.1	286.5	311.9
19/64	7.5	32.9	58.3	83.7	109.1	134.5	159.9	185.3	210.7	236.1	261.5	286.9	312.3
5/16	7.9	33.3	58.7	84.1	109.5	134.9	160.3	185.7	211.1	236.5	261.9	287.3	312.7
21/64	8.3	33.7	59.1	84.5	109.9	135.3	160.7	186.1	211.5	236.9	262.3	287.7	313.1
11/32	8.7	34.1	59.5	84.9	110.3	135.7	161.1	186.5	211.9	237.3	262.7	288.1	313.5
23/64	9.1	34.5	59.9	85.3	110.7	136.1	161.5	186.9	212.3	237.7	263.1	288.5	313.9
3/8	9.5	34.9	60.3	85.7	111.1	136.5	161.9	187.3	212.7	238.1	263.5	288.9	314.3
25/64	9.9	35.3	60.7	86.1	111.5	136.9	162.3	187.7	213.1	238.5	263.9	289.3	314.7
13/32	10.3	35.7	61.1	86.5	111.9	137.3	162.7	188.1	213.5	238.9	264.3	289.7	315.1
27/64	10.7	36.1	61.5	86.9	112.3	137.7	163.1	188.5	213.9	239.3	264.7	290.1	315.5
7/16	11.1	36.5	61.9	87.3	112.7	138.1	163.5	188.9	214.3	239.7	265.1	290.5	315.9
29/64	11.5	36.9	62.3	87.7	113.1	138.5	163.9	189.3	214.7	240.1	265.5	290.9	316.3
15/32	11.9	37.3	62.7	88.1	113.5	138.9	164.3	189.7	215.1	240.5	265.9	291.3	316.7
31/64	12.3	37.7	63.1	88.5	113.9	139.3	164.7	190.1	215.5	240.9	266.3	291.7	317.1
1/2	12.7	38.1	63.5	88.9	114.3	139.7	165.1	190.5	215.9	241.3	266.7	292.1	317.5
33/64	13.1	38.5	63.9	89.3	114.7	140.1	165.5	190.9	216.3	241.7	267.1	292.5	317.9
17/32	13.5	38.9	64.3	89.7	115.1	140.5	165.9	191.3	216.7	242.1	267.5	292.9	318.3
35/64	13.9	39.3	64.7	90.1	115.5	140.9	166.3	191.7	217.1	242.5	267.9	293.3	318.7
9/16	14.3	39.7	65.1	90.5	115.9	141.3	166.7	192.1	217.5	242.9	268.3	293.7	319.1
37/64	14.7	40.1	65.5	90.9	116.3	141.7	167.1	192.5	217.9	243.3	268.7	294.1	319.5
19/32	15.1	40.5	65.9	91.3	116.7	142.1	167.5	192.9	218.3	243.7	269.1	294.5	319.9
39/64	15.5	40.9	66.3	91.7	117.1	142.5	167.9	193.3	218.7	244.1	269.5	294.9	320.3
5/8	15.9	41.3	66.7	92.1	117.5	142.9	168.3	193.7	219.1	244.5	269.9	295.3	320.7
41/64	16.3	41.7	67.1	92.5	117.9	143.3	168.7	194.1	219.5	244.9	270.3	295.7	321.1
21/32	16.7	42.1	67.5	92.9	118.3	143.7	169.1	194.5	219.9	245.3	270.7	296.1	321.5
43/64	17.1	42.5	67.9	93.3	118.7	144.1	169.5	194.9	220.3	245.7	271.1	296.5	321.9
11/16	17.5	42.9	68.3	93.7	119.1	144.5	169.9	195.3	220.7	246.1	271.5	296.9	322.3
45/64	17.9	43.3	68.7	94.1	119.5	144.9	170.3	195.7	221.1	246.5	271.9	297.3	322.7
23/32	18.3	43.7	69.1	94.5	119.9	145.3	170.7	196.1	221.5	246.9	272.3	297.7	323.1
47/64	18.7	44.1	69.5	94.9	120.3	145.7	171.1	196.5	221.9	247.3	272.7	298.1	323.5
3/4	19.1	44.5	69.9	95.2	120.7	146.1	171.5	196.9	222.3	247.7	273.1	298.5	323.9
49/64	19.4	44.8	70.2	95.6	121.0	146.4	171.8	197.2	222.6	248.0	273.4	298.8	324.2
25/32	19.8	45.2	70.6	96.0	121.4	146.8	172.2	197.6	223.0	248.4	273.8	299.2	324.6
51/64	20.2	45.6	71.0	96.4	121.8	147.2	172.6	198.0	223.4	248.8	274.2	299.6	325.0
13/16	20.6	46.0	71.4	96.8	122.2	147.6	173.0	198.4	223.8	249.2	274.6	300.0	325.4
53/64	21.0	46.4	71.8	97.2	122.6	148.0	173.4	198.8	224.2	249.6	275.0	300.4	325.8
27/32	21.4	46.8	72.2	97.6	123.0	148.4	173.8	199.2	224.6	250.0	275.4	300.8	326.2
55/64	21.8	47.2	72.6	98.0	123.4	148.8	174.2	199.6	225.0	250.4	275.8	301.2	326.6
7/8	22.2	47.6	73.0	98.4	123.8	149.2	174.6	200.0	225.4	250.8	276.2	301.6	327.0
57/64	22.6	48.0	73.4	98.8	124.2	149.6	175.0	200.4	225.8	251.2	276.6	302.0	327.4
29/32	23.0	48.4	73.8	99.2	124.6	150.0	175.4	200.8	226.2	251.6	277.0	302.4	327.8
59/64	23.4	48.8	74.2	99.6	125.0	150.4	175.8	201.2	226.6	252.0	277.4	302.8	328.2
15/16	23.8	49.2	74.6	100.0	125.4	150.8	176.2	201.6	227.0	252.4	277.8	303.2	328.6
61/64	24.2	49.6	75.0	100.4	125.8	151.2	176.6	202.0	227.4	252.8	278.2	303.6	329.0
31/32	24.6	50.0	75.4	100.8	126.2	151.6	177.0	202.4	227.8	253.2	278.6	304.0	329.4
63/64	25.0	50.4	75.8	101.2	126.6	152.0	177.4	202.8	228.2	253.6	279.0	304.4	329.8

mm	Inches
0.1	0.0039
0.2	0.0079
0.3	0.0118
0.4	0.0157
0.5	0.0197
0.6	0.0236
0.7	0.0276
0.8	0.0315
0.9	0.0354
1	0.0394
2	0.0787
3	0.1181
4	0.1575
5	0.1969
6	0.2362
7	0.2756
8	0.3150
9	0.3543
10	0.3937
11	0.4331
12	0.4724
13	0.5118
14	0.5512
15	0.5906
16	0.6299
17	0.6693
18	0.7087
19	0.7480
20	0.7874
21	0.8268
22	0.8661
23	0.9055
24	0.9449
25	0.9843
26	1.0236
27	1.0630
28	1.1024
29	1.1417
30	1.1811
31	1.2205
32	1.2598
33	1.2992
34	1.3386
35	1.3780
36	1.4173
37	1.4567
38	1.4961
39	1.5354
40	1.5748
41	1.6142
42	1.6535
43	1.6929
44	1.7323
45	1.7717
46	1.8110
47	1.8504
48	1.8898
49	1.9291
50	1.9685
51	2.0079
52	2.0472
53	2.0866
54	2.1260
55	2.1654