

SECTION 1

Handles MAK

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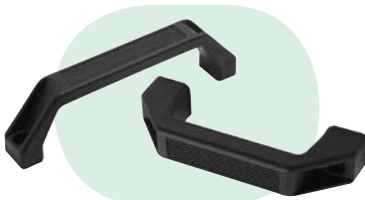
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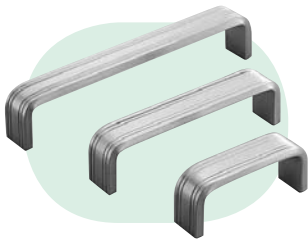
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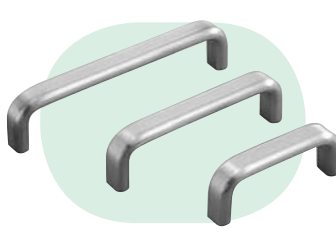
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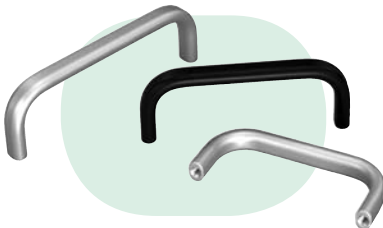
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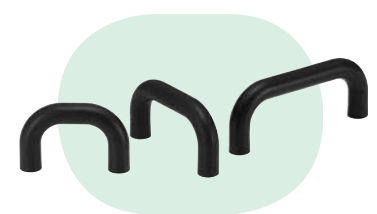
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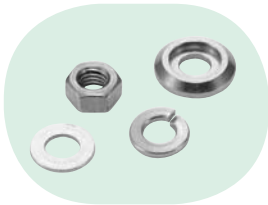
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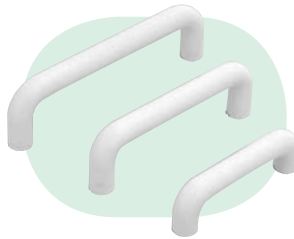
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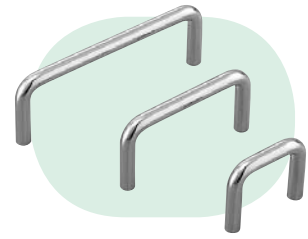
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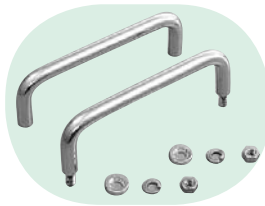
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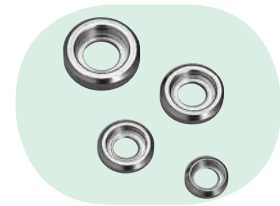
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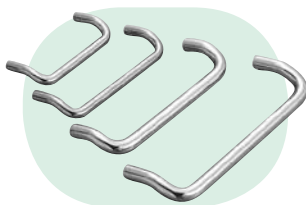
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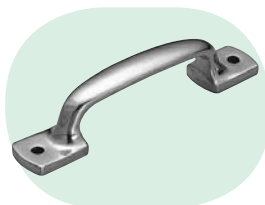
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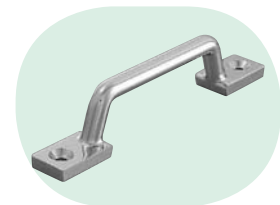
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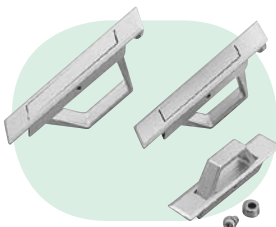
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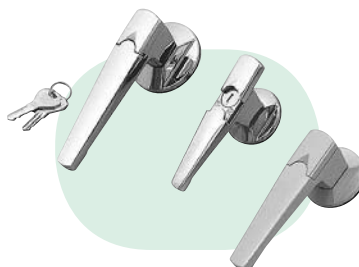
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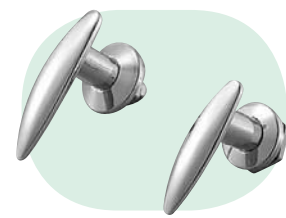
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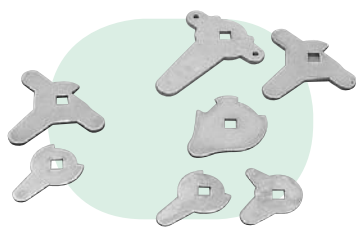


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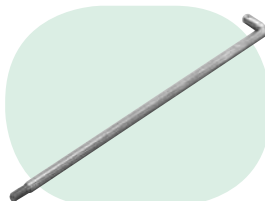
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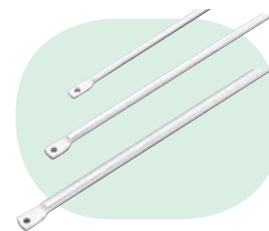
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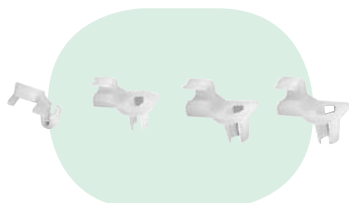
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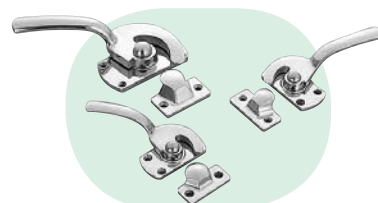
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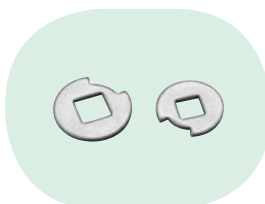
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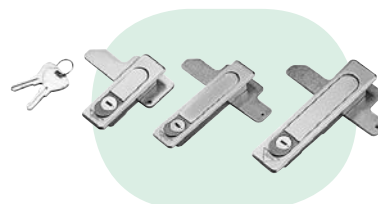
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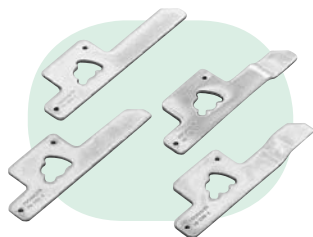
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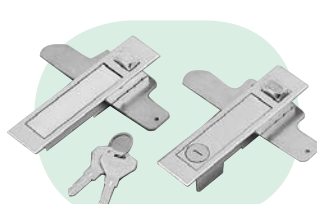
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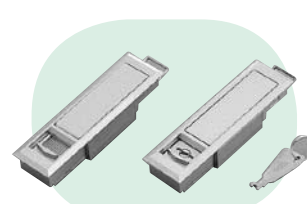
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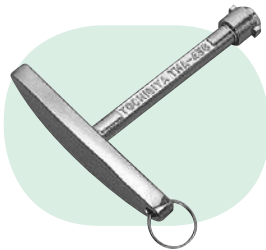
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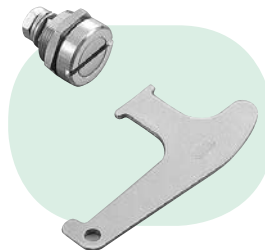
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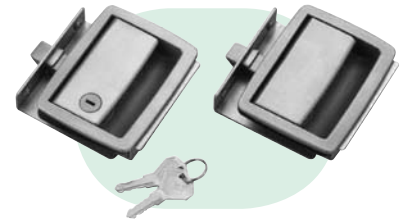
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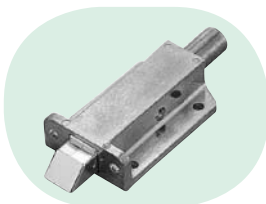
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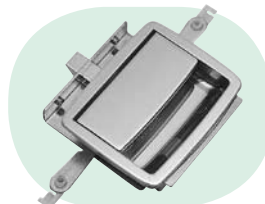
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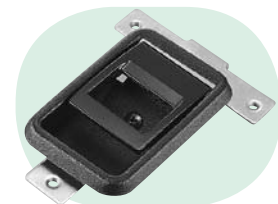
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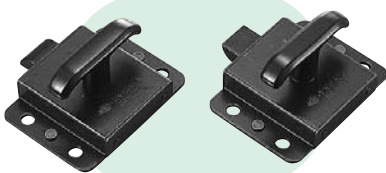
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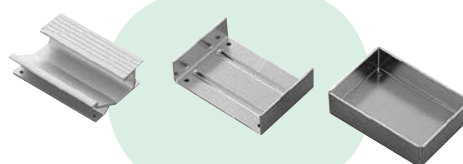
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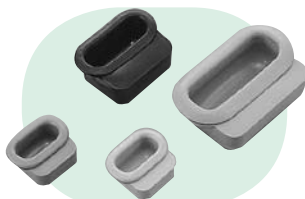
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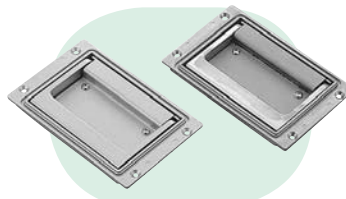
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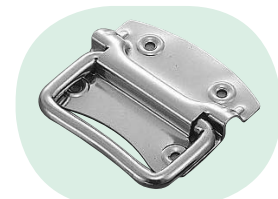
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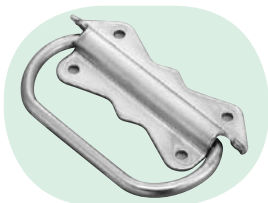


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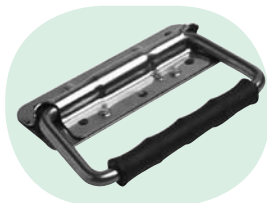


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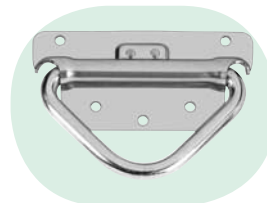
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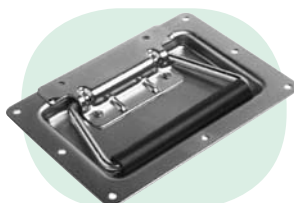
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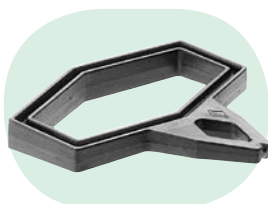
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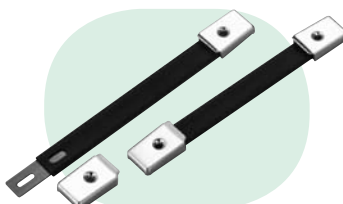
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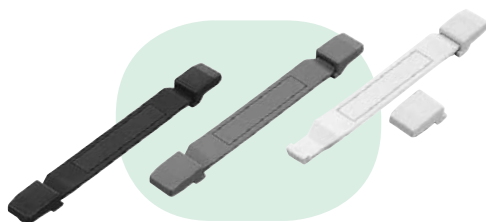
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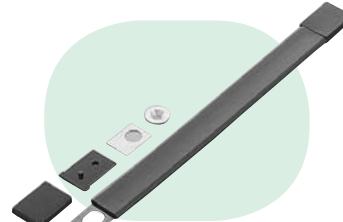
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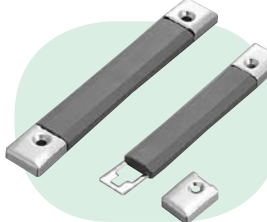
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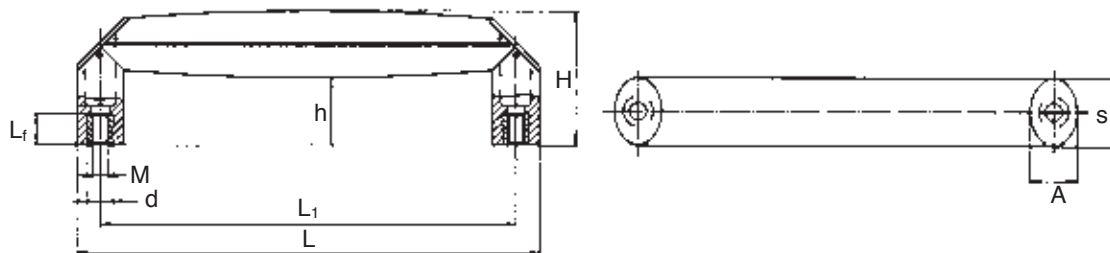


Fig. 1

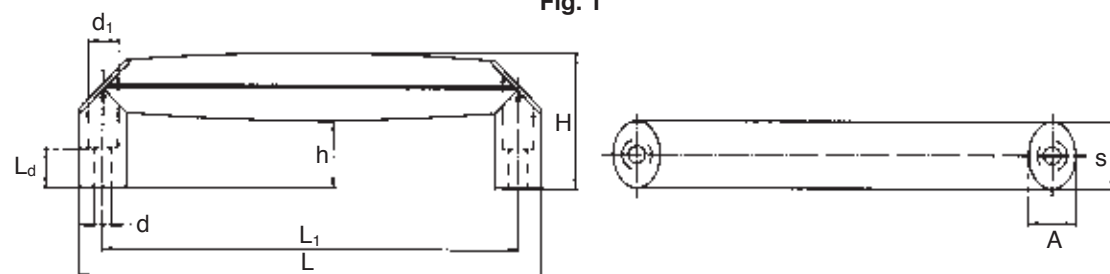


Fig. 2

Fig. 1 • HANDLE – Nylon 6, Anthracite Gray
• THREADED INSERTS – Brass, Nickel Plated

Catalog Number	L ₁	L	M	L _f	d
MAKX1FM6301	106.5	123.2	M6	11	9
MAKX1FM6302	145.5	162.2			
MAKX1FM6303	185.2	201	M8		
Catalog Number	H	h	A	s	Weight g
MAKX1FM6301	48	24	17	24	64
MAKX1FM6302					81
MAKX1FM6303					84

Fig. 2 • HANDLE – Nylon 6, Anthracite Gray • THROUGH HOLES

Catalog Number	L ₁	L	d	L _d	d ₁
MAKX1FM6304	106.5	123.2	6.4	14	11
MAKX1FM6305	145.5	162.2			
MAKX1FM6306	185.2	201			
Catalog Number	H	h	A	s	Weight g
MAKX1FM6304	48	24	17	24	57
MAKX1FM6305					75
MAKX1FM6306					94

HANDLES, BOW-TYPE

RoHS
COMPLIANT

1

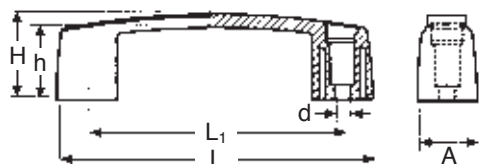


Fig. 1

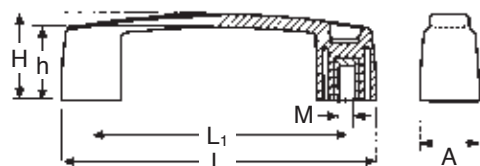


Fig. 2

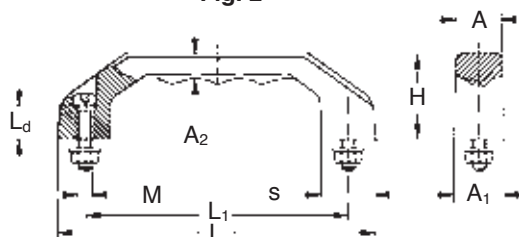


Fig. 3

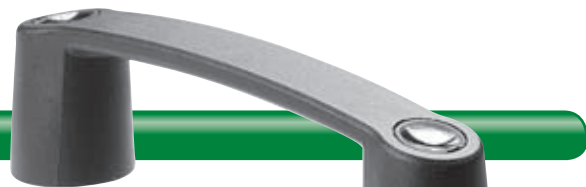


Fig. 1



Fig. 2

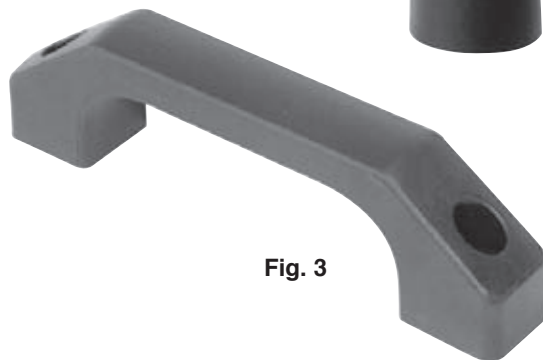


Fig. 3

Fig. 1 • **HANDLE** – Nylon 6, Glass Filled, Black • **THROUGH HOLES**

Catalog Number	L ₁	L	d	H	h	A	Weight g
MAKX2FM1220	94	120	6.5	35	29	17	31
MAKX2FM1221	117	145		40	34	19	47
MAKX2FM1222	132	163	8.5	45	38	20	57
MAKX2FM1223	180	213		50	43	22	86

Fig. 2 • **HANDLE** – Nylon 6, Glass Filled, Black • **THREADED INSERTS** – Steel, Zinc Plated

Catalog Number	L ₁	L	M	H	h	A	Weight g
MAKX2FM1230	94	120	M6	35	29	17	48
MAKX2FM1231	117	145		40	34	19	79
MAKX2FM1232	132	163	M8	45	38	20	90
MAKX2FM1233	180	213		50	43	22	157

Fig. 3 • **HANDLE** – Nylon 6, Glass Filled, Black • **THROUGH HOLES**

Catalog Number	L ₁	L	M	L _d	H	A	A ₁	A ₂	s	Weight g
MAKX2FM1240	120	146	M6	15	39	20.5	23	10.5	24	63
MAKX2FM1241	140	170		16	45	24	27	12	28	125
MAKX2FM1242	160	194	M8	20	52	27.5	31	13.5	32	169

NOTE: Supplied without mounting hardware.

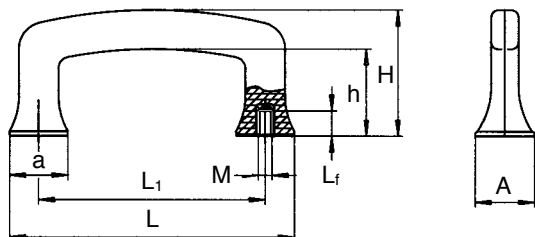


Fig. 1

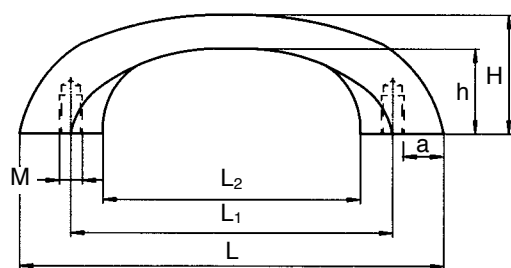


Fig. 2



Fig. 1

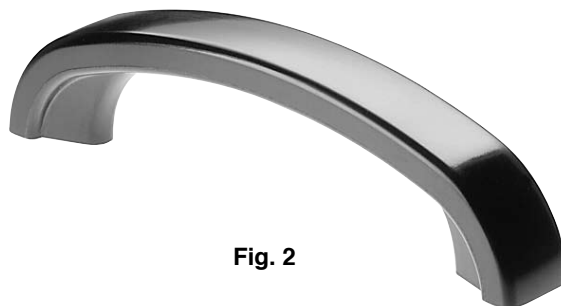


Fig. 2

Fig. 1 • HANDLE – Bakelite, Black • THREADED INSERTS – Brass

Catalog Number	L ₁	L	M	L _f	H	h	A	a	Weight g
MAKX3FM1201	99.5	125	M6	11	55	38	11	11	67
MAKX3FM1202	132	158	M5		49	32			85

Fig. 2 • HANDLE – Bakelite, Black • THREADED HOLES WITHOUT INSERTS

Catalog Number	L ₁	L	L ₂	M	H	h	a	Weight g
MAKX3FM1204	85	112	75		31	22	19	22
MAKX3FM1205	125	148	102	M6	36	27	23	46
MAKX3FM1206	160	186	138		41	30	24	67

Fig. 1 • HANDLE – Bakelite, Reinforced, Black • THREADED INSERTS – Brass

Catalog Number	L ₁	L	M	L _f	H	h	A	a	Weight g
MAKX3FM1297	99.5	125	M6	11	55	38	11	11	67

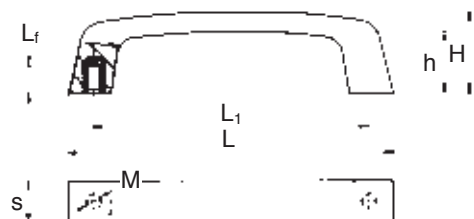


Fig. 1

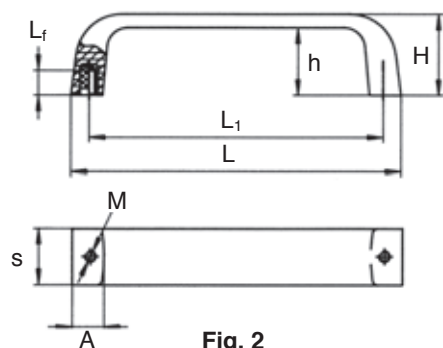


Fig. 2

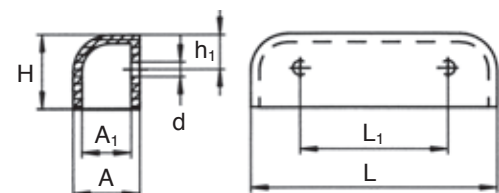


Fig. 3

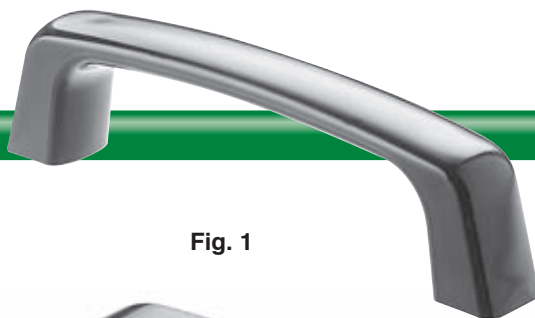


Fig. 1

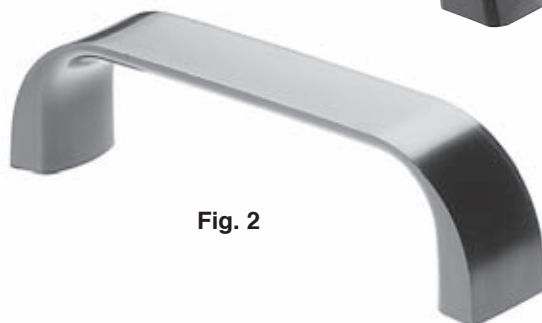


Fig. 2

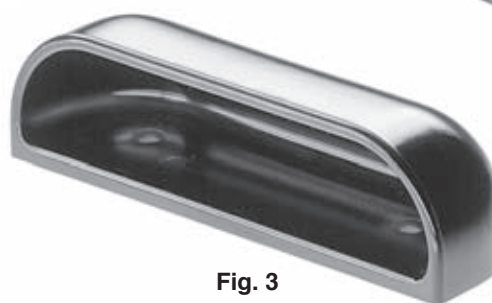


Fig. 3

Fig. 1 • BOW-TYPE HANDLE – ABS, Black • THREADED INSERTS – Steel, Zinc Plated

Catalog Number	L ₁	L	M	L _f	H	h	A	s	Weight g
MAKX4FM1213	110	130	M6	15	33	25	17	17	32

Fig. 2 • BOW-TYPE HANDLE – Nylon 6, Black • THREADED INSERTS – Brass

Catalog Number	L ₁	L	M	L _f	H	h	A	s	Weight g
MAKX4FM1214	130	146	M5	11	36	30	14	24	38

Fig. 3 • SHELL HANDLE – Bakelite, Black • TWO REINFORCED HOLES

Catalog Number	L ₁	L	d	H	h ₁	A	A ₁	Weight g
MAKX4FM1301	60	100	6	30	15	27	20	34

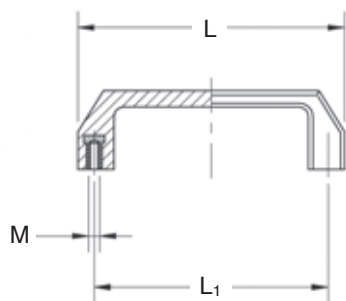


Fig. 1

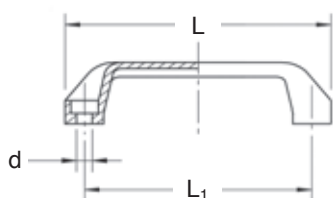


Fig. 2

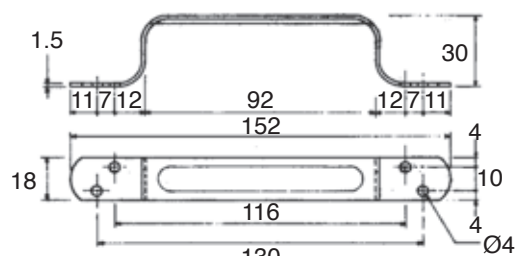


Fig. 3



Fig. 1



**PATTERN
(A)**

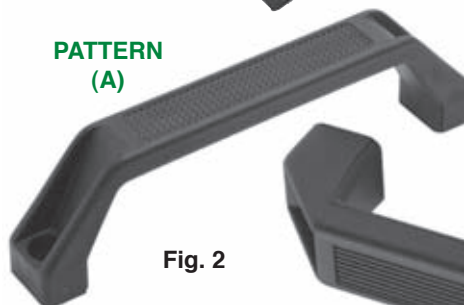


Fig. 2



**PATTERN
(B)**



Fig. 3

Fig. 1 • HANDLE – Techno Polymer f.r., Black Matt Finish • **THREADED INSERT** – Brass

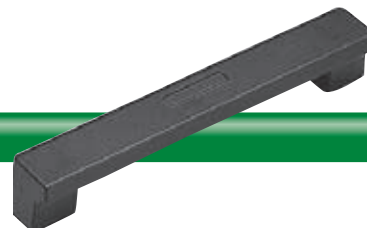
Catalog Number	L ₁	L	M	Height
MAKY4FM201H05	105	120	M5	37
MAKY4FM201H10			M6	
MAKY4FM201H15	117	135	M6	37
MAKY4FM201H20			M8	

Fig. 2 • HANDLE – Techno Polymer f.r., Black Matt Finish • **THROUGH HOLE**

Catalog Number	Pattern	L ₁	L	d	Height
MAKY4FM201K05	A	117	135	9	42
MAKY4FM201K10	B	130	160	8.5	50
MAKY4FM201K15	A	175	195	9	42

Fig. 3 • HANDLE – Steel, Zinc Plated

Catalog Number
MAKY4FM604015JB

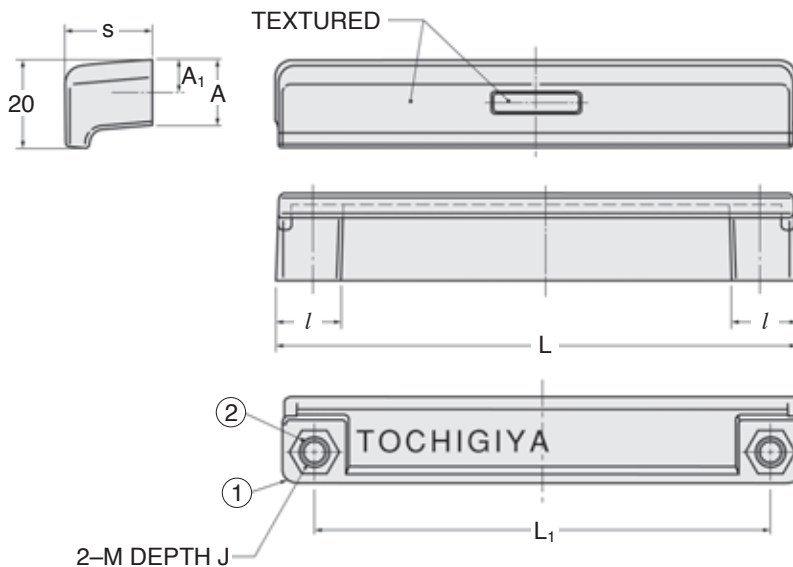


• **APPLICATIONS**

Measuring instruments /
Telecommunication devices

• **CHARACTERISTICS**

Made of plastic material which
has excellent salt-resistance and
dielectric strength.



THE FIGURE SHOWS **MAKT05M2THA312-1**.

THE SHAPE OF **MAKT05M1THA312-2** IS
SLIGHTLY DIFFERENT FROM THIS FIGURE.

• **PARTS LIST**

No.	Part Name	Material	Finish	Qty.
1	Grip	ABS	Black	1
2	Insert	Brass	Degreased	2

• **PULLS**

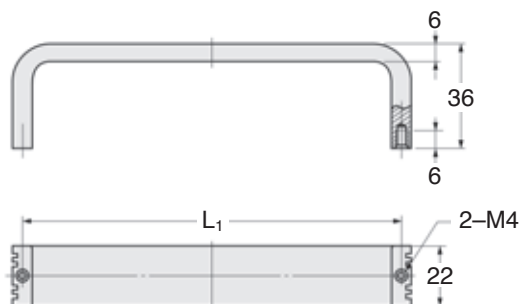
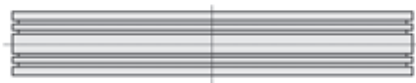
Catalog Number	L	L ₁	l	M	A ₁	A	s	J	Net Weight g
MAKT05M1THA312-2	88	75	13	M5	7	13	17	10	24
MAKT05M2THA312-1	121	106	15	M6	7.5	15	20	13	36

NOTE: Not to be used in extreme temperature.

HANDLES, GRAB

RoHS
COMPLIANT

1



• HANDLES – Stainless Steel, Brushed Finish

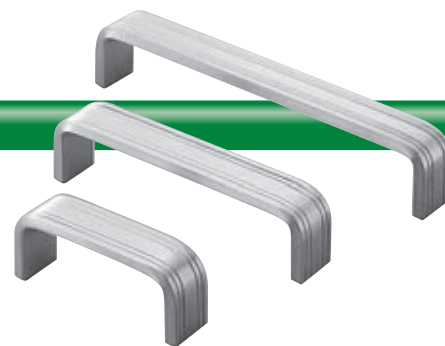
Catalog Number	L ₁	Net Weight g
MAKT06MTHA226-1	80	127.4
MAKT06MTHA226-2	130	175.2
MAKT06MTHA226-3	180	223.3
MAKT06MTHA226-4	230	270.8

• APPLICATIONS

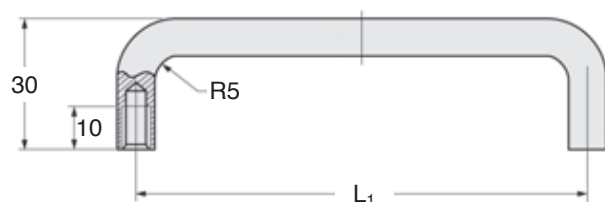
Distribution boards / Devices related to food industry /
Chemical instruments

• CHARACTERISTICS

A simple design with four grooves and a brushed finish.
The stainless steel construction provides excellent
corrosion resistance.



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• HANDLES – Stainless Steel, Satin Finish

Catalog Number	L ₁	Allowable Vertical Load kN (kgf)	Net Weight g
MAKT07M1THA233-4	70	2.94 (300)	81.7
MAKT07M2THA233-3	100	2.35 (240)	104.5
MAKT07M3THA233-2	130	1.86 (190)	127.5
MAKT07M4THA233-1	150	1.57 (160)	143.8

• APPLICATIONS

Food processors / Office automation appliances /
Office utility equipment

• CHARACTERISTIC

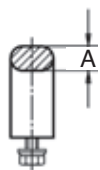
The handle has an elegant matte satin finish.



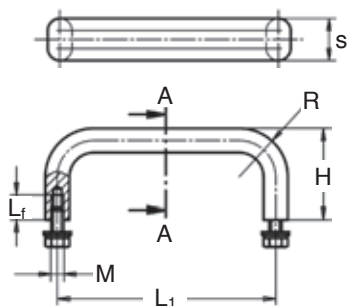
HANDLES, PULL

RoHS
COMPLIANT

1

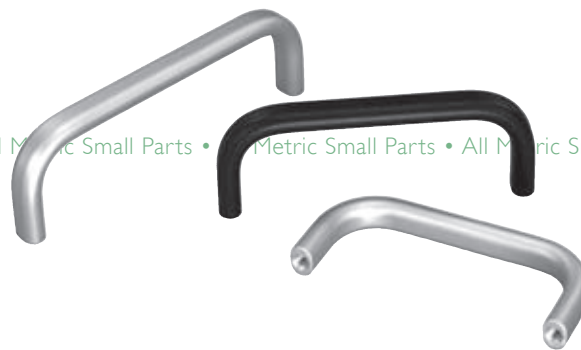


Cross Section
View A-A



• **HANDLE** – Stainless Steel, Semimatte Finish • **RECTANGULAR PROFILE**

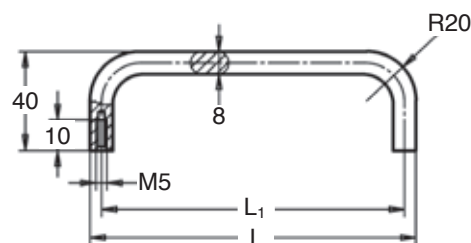
Catalog Number	L ₁	M	L _f	H	A	s	R	Load-bearing Capacity N	Approx. Weight g
MAKL69M2410005	100	M5	10	40	8	12	22	1000	105
MAKL69M2412005	120								118
MAKL69M2415005	150								138
MAKL69M2418005	180								158
MAKL69M2425005	250								205
MAKL69M2410006	100	M6	12	45	10	19.5	24		216
MAKL69M2412006	120								241
MAKL69M2415006	150								279
MAKL69M2418006	180								318
MAKL69M2425006	250								407



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• **HANDLE** – Aluminum, Natural Color Anodized or Black Anodized, Matte Finish

Catalog Number		L ₁	L	Load-bearing Capacity N	Approx. Weight g
Black Anodized	Natural Color Anodized				
MAKL69M18055051	MAKL69M18055053	55	63	500	24
MAKL69M18088051	MAKL69M18088053	88	96		30
MAKL69M18100051	MAKL69M18100053	100	108		32
MAKL69M18120051	MAKL69M18120053	120	128		37
MAKL69M18180051	MAKL69M18180053	180	188		50
MAKL69M18200051	MAKL69M18200053	200	208		55
MAKL69M18235051	MAKL69M18235053	235	243		64
MAKL69M18250051	MAKL69M18250053	250	258		68





• **HANDLE – 304 Stainless Steel, Buff Polished**

Catalog Number	L ₁	L	M	L _f	H	h	A	Weight g
MAKN5FMUNFS080	80	90	M5	10	37	27	10	76
MAKN5FMUNFSH080					45	35		86
MAKN5FMUNFS100	100	110	M5	10	37	27	10	88
MAKN5FMUNFSH100					45	35		98
MAKN5FMUNFS125	125	135	M5	10	37	27	10	103
MAKN5FMUNFSH125					45	35		113
MAKN5FMUNFS160	160	170	M5	10	37	27	10	125
MAKN5FMUNFSH160					45	35		135
MAKN5FMUNFS200	200	210	M5	10	37	27	10	150
MAKN5FMUNFSH200					45	35		160
MAKN5FMUNFS250	250	260	M5	10	37	27	10	180

NOTE: Can be used with bezel **MKAN1NMLY16A**.

• **HANDLE – Steel, Chrome Plated**

Catalog Number	L ₁	L	M	L _f	H	h	A	Weight g
MAKN6FMUNF080CR	80	90	M5	10	37	27	10	76
MAKN6FMUNFH080CR					45	35		86
MAKN6FMUNF100CR	100	110	M5	10	37	27	10	88
MAKN6FMUNFH100CR					45	35		98
MAKN6FMUNF125CR	125	135	M5	10	37	27	10	103
MAKN6FMUNFH125CR					45	35		113
MAKN6FMUNF160CR	160	170	M5	10	37	27	10	125
MAKN6FMUNFH160CR					45	35		135
MAKN6FMUNF200CR	200	210	M5	10	37	27	10	150
MAKN6FMUNFH200CR					45	35		160
MAKN6FMUNF250CR	250	260	M5	10	37	27	10	180

NOTE: Can be used with bezel **MKAN1NMLY16A**.



• **HANDLE** – Aluminum, Buff Polished

Catalog Number	L ₁	L	M	L _f	H	h	A	Weight g
MAKN7FMUNFABF080	80	90	M5	10	37	27	10	27
MAKN7FMUNFABF100	100	110						31
MAKN7FMUNFABF125	125	135						36
MAKN7FMUNFABF160	160	170						44

NOTE: Can be used with bezel **MKAN1NMLY16A**.

• **HANDLE** – Aluminum, Electrostatic Coating, Black Matte Finish

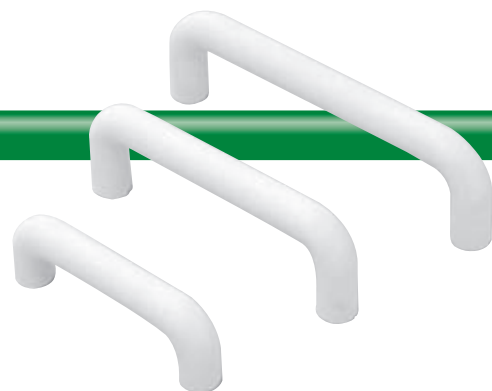
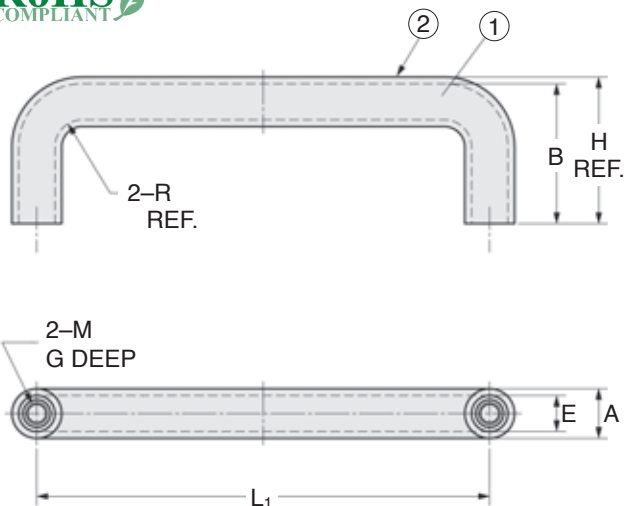
Catalog Number	L ₁	L	M	L _f	H	h	A	Weight g
MAKN7FMUNFABK080	80	90	M5	10	37	27	10	27
MAKN7FMUNFABK100	100	110						31
MAKN7FMUNFABK125	125	135						36
MAKN7FMUNFABK160	160	170						44

NOTE: Can be used with bezel **MKAN1NMLY16A**.

HANDLES, GRAB

RoHS
COMPLIANT

1



• APPLICATIONS

Measuring instruments / Telecommunication equipment

• CHARACTERISTIC

These handles are coated with elastomer.

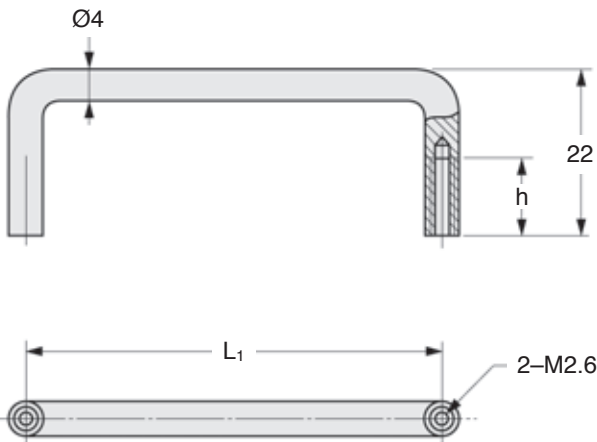
• PARTS LIST

No.	Part Name	Material	Finish	Qty.
1	Handle	Brass	Chrome Plated	1
2	Coating	Elastomer	Ivory	

• HANDLES

Catalog Number	L ₁	M	H REF.	B	A	E	G	R REF.	Net Weight g
MAKT08M1THA4394	40	M4	23.5	22	Ø9	Ø6	8	4.5	16.9
MAKT08M2THA4393	60	M5			Ø11	Ø8	10	6	36.7
MAKT08M3THA4392	80		31.5	30	12	52.2			
MAKT08M4THA4391	100		32.5	31	13	61.3			

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• APPLICATIONS

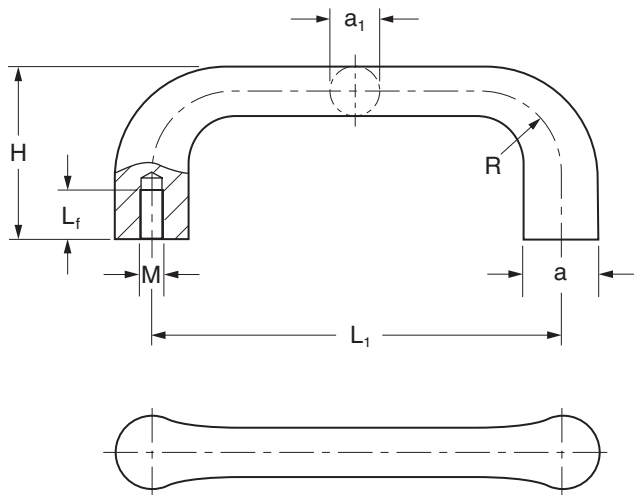
Measuring instruments / Telecommunication devices

• CHARACTERISTIC

Appropriate size can be selected for various devices.

• HANDLES – Brass, Chrome Plated or Stainless Steel, Buffed

Catalog Number	L ₁	h	Allowable Vertical Load N (kgf)	Net Weight g	Catalog Number	L ₁	h	Allowable Vertical Load N (kgf)	Net Weight g
Brass					Stainless Steel				
MAKT09MA2121	20	10	300 (30.6)	5	MAKT09MA212SUS1	20	8	318.8 (32.5)	4.7
MAKT09MA2122	37		157 (16)	6.8	MAKT09MA212SUS2	37		274.7 (28)	6.3
MAKT09MA2123	55		100 (10.2)	8.7	MAKT09MA212SUS3	55		235.4 (24)	8.1



• **HANDLE** – Cast Iron, Deburred & Tumbled or Additional Black Powder Coating

Catalog Number		L_1 ± 0.5	M	L_f	H	a	a_1	R	Load-Bearing Capacity N
Tumbled	Powder-Coated, Black								
MAKL68M9510006	MAKL68M95100061	100	M6	12	42	18	12	20	1000
MAKL68M9511208	MAKL68M95112081	112	M8	15	47	20	14	22	
MAKL68M9512510	MAKL68M95125101	125	M10	18	53	22	16	24	
MAKL68M9514012	MAKL68M95140121	140	M12	20	59	25	18	26	

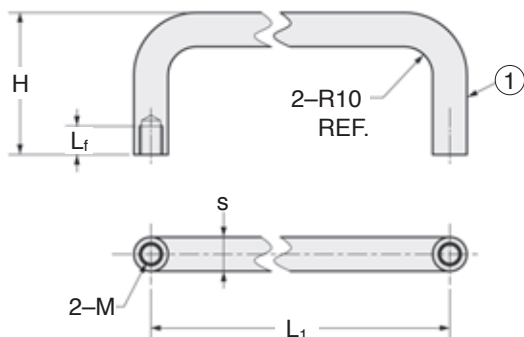


Fig. 1

• PARTS LIST

No.*	Part Name	Material		Finish		Qty.	
		...THA239..	...THA240S..	...THA239..	...THA240S..		
1	Handle	Stainless Steel		Buffed		1	
2	Bezel	—	Stainless Steel	—	Bright Barrel Polished	2	
3	Spring Washer				—		
4	Hexadconal Nut						

*Parts 2, 3 & 4 are not included in ...THA-239..

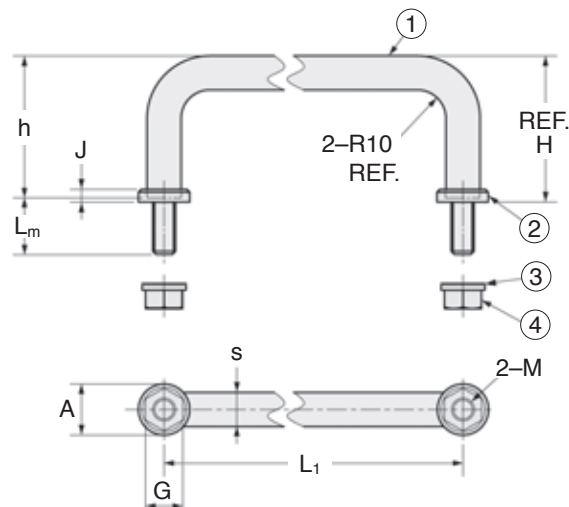


Fig. 2

Fig. 1 • HANDLES

Catalog Number	L ₁	M	L _f	H	s	Net Weight g
MAKT10M1THA2398	68	M5	8	30	Ø7	30.1
MAKT10M2THA2397	100				Ø9	67
MAKT10M3THA2396	110	M6	8	40	Ø10	97
MAKT10M4THA2395	120					102.7
MAKT10M5THA2394	150	M8	10	50	Ø12	187.3
MAKT10M6THA2393	188					222.7
MAKT10M7THA2392	238					266.4
MAKT10M8THA2391	288					309

Fig. 2 • HANDLES

Catalog Number	L ₁	M	L _m	H REF.	h	J	A	G	s	Net Weight g
MAKT10M1THA240S8	68	M5	11	31	30	3	Ø10 Ø13	8	Ø7 Ø9	40
MAKT10M2THA240S7	100									77.5
MAKT10M3THA240S6	110	M6	11	41.5	40	3.5	Ø15	10	Ø10	117
MAKT10M4THA240S5	120									123.5
MAKT10M5THA240S4	150	M8	20	51.5	50	4.5	Ø18	13	Ø12	231
MAKT10M6THA240S3	188									265
MAKT10M7THA240S2	238									309.5
MAKT10M8THA240S1	288									354

• APPLICATIONS

Distribution boards /
Distribution panels / Control Boards

• CHARACTERISTICS

These long pull series handles
are slightly different sizes
from ...THA-31.. Series

Bezels are shown on page 1–22.

Fig. 1
Tapped Feet

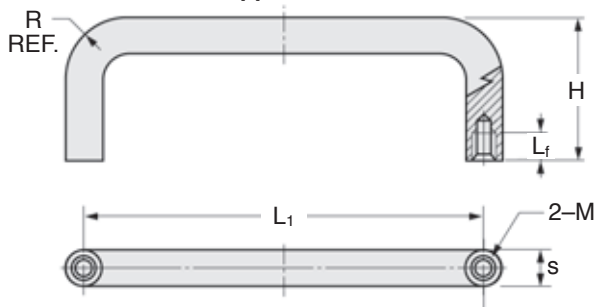
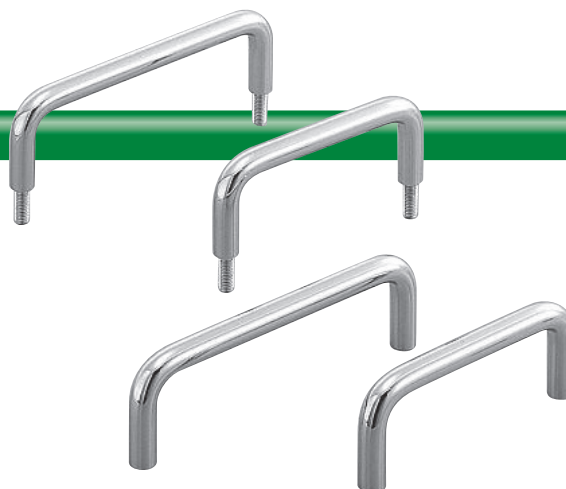
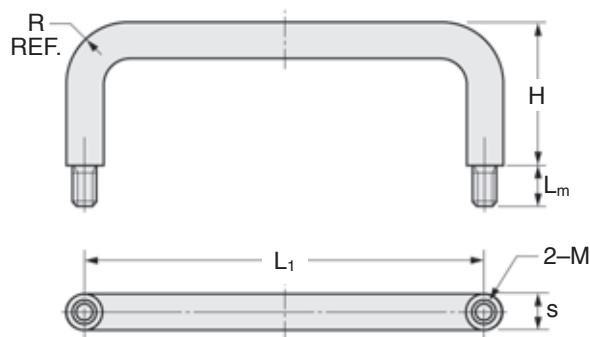


Fig. 2
Screwed Feet



• **APPLICATIONS**

Measuring instruments / Telecommunication devices

• **CHARACTERISTIC**

Appropriate size can be selected for various devices.

See page 1–22 for applicable bezels.

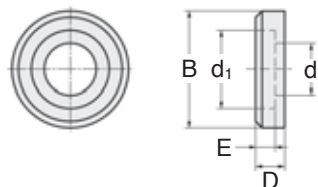
• **HANDLE – Brass, Chrome Plated**

Catalog Number	Allowable Vertical Load N (kgf)	Net Weight g	Catalog Number	Allowable Vertical Load N (kgf)	Net Weight g	L ₁	M	H	L _f	L _m	R	s
Fig. 1 Tapped Feet			Fig. 2 Screwed Feet									
MAKT11MTHA3101TF	1.18 (120)	15	MAKT11MTHA3101SF	1.18 (120)	18.5	40	M4	22	8	13	10.5	Ø6
MAKT11MTHA3102TF		32.5	MAKT11MTHA3102SF		40.5	60		22	10			
MAKT11MTHA3103TF	2.94 (300)	38.5	MAKT11MTHA3103SF	2.45 (250)	47	70	M5	25	10		14	Ø8
MAKT11MTHA3104TF		47.5	MAKT11MTHA3104SF		55	80		30	12			
MAKT11MTHA3105TF	4.41 (450)	90	MAKT11MTHA3105SF	2.94 (300)	103	90	M6	40	16		17.5	Ø10
MAKT11MTHA3106TF	2.94 (300)	56	MAKT11MTHA3106SF	2.45 (250)	64.5	100	M5	31	13		14	Ø8
MAKT11MTHA3107TF		90	MAKT11MTHA3107SF		103	100		35	16			
MAKT11MTHA3108TF	4.41 (450)	110	MAKT11MTHA3108SF	2.94 (300)	124	120	M6	40			17.5	Ø10
MAKT11MTHA3109TF	1.77 (180)	77	MAKT11MTHA3109SF	1.77 (180)	86		M5	31	13		14	Ø8
MAKT11MTHA3110TF		130	MAKT11MTHA3110SF	2.94 (300)	145.5	150		40	16	20	17.5	Ø10
MAKT11MTHA3111TF	2.94 (300)	127	MAKT11MTHA3111SF		139			32	15	19		
MAKT11MTHA3112TF		136	MAKT11MTHA3112SF	2.45 (250)	152	160	M6	40	20	20	17.5	Ø10
MAKT11MTHA3113TF	3.43 (350)	224	MAKT11MTHA3113SF		240.5	180		45	20	20	21	Ø12
MAKT11MTHA3114TF		242	MAKT11MTHA3114SF		258	200						

BEZELS

RoHS
COMPLIANT

1



• APPLICATIONS

Can be used with **MAKT10M..THA239..**
& **MAKT10M..THA240S..** handles.

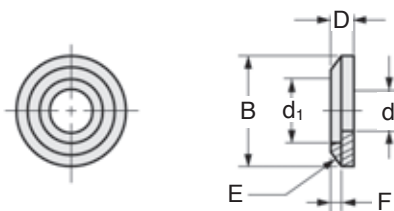
• CHARACTERISTIC

Bezels to be used with pull handles.

• BEZEL – Stainless Steel, Brightened Barrel Polishing

Catalog Number	Size	d	d ₁	B	D	E	Net Weight g	Applicable Model
MKAT01M1THA427-4	Ø7	Ø5.5	Ø7.2	Ø10	3	2	1.1	MAKT10M1THA2398
MKAT01M2THA427-3	Ø9	Ø5.5	Ø9.2	Ø13			1.9	MAKT10M2THA2397
MKAT01M3THA427-2	Ø10	Ø6.5	Ø10.2	Ø15	3.5	3	3	MAKT10M3THA2396, 4THA2395
MKAT01M4THA427-1	Ø12	Ø8.5	Ø12.2	Ø18	4.5		5.6	MAKT10M5... ~ 8...

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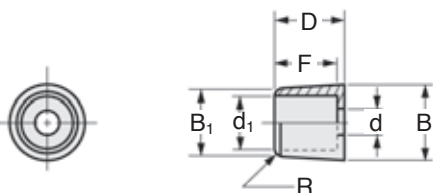
• CHARACTERISTIC

Improved appearance can be obtained by using these bezels with **MAKT11MTHA31...** series handles.

• BEZEL – Brass, Chrome Plated

Catalog Number	Size	d	d ₁	B	D	E	F	Net Weight g	Applicable Model
MKAT02MTHA268-1	Ø6	Ø4.5	Ø6.2	Ø10	2.5	1X45°	1	1	MAKT11MTHA3101
MKAT02MTHA268-2	Ø8	Ø5.5	Ø8.2	Ø12				1.5	MAKT11MTHA3102~4, 6, 9
MKAT02MTHA268-3	Ø10	Ø6.5	Ø10.2	Ø16	3	1.5X45°	1.5	3	MAKT11MTHA3105, 7, 8, 10~12
MKAT02MTHA268-4	Ø12		Ø12.2					3	MAKT11MTHA3113,14

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• CHARACTERISTIC

Improved appearance can be obtained by using these bezels with **MAKT11MTHA31...** series handles.

• BEZEL – Brass, Chrome Plated

Catalog Number	Size	d	d ₁	B	B ₁	D	R	F	Net Weight g	Applicable Model
MKAT03MTHA269-1	Ø6	Ø4.2	Ø6.2	Ø9	Ø7.5	8	1	6.5	2	MAKT11MTHA3101
MKAT03MTHA269-2	Ø8	Ø5.5	Ø8.2	Ø12	Ø9.5	10	1.2	8.5	3.5	MAKT11MTHA3102~4, 6, 9
MKAT03MTHA269-3	Ø10	Ø6.5	Ø10.2	Ø15	Ø12	12	1.5	10.5	7	MAKT11MTHA3105, 7, 8, 10~12
MKAT03MTHA269-4	Ø12		Ø12.2	Ø16	Ø13				6.5	MAKT11MTHA3113,14

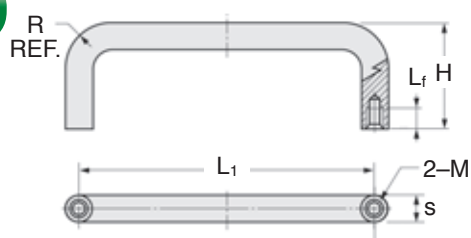


Fig. 1
Tapped Feet

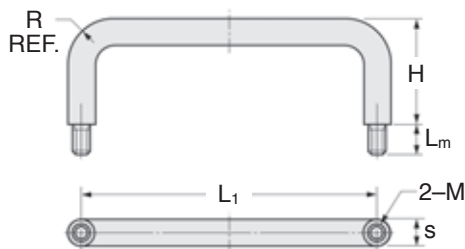


Fig. 2
Screwed Feet

• APPLICATIONS

Measuring instruments /
Telecommunication devices

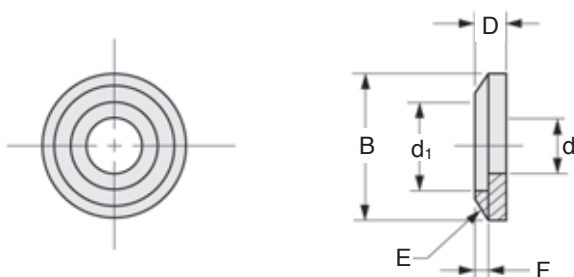
• CHARACTERISTIC

Appropriate size can be selected for
various devices.

• HANDLE – Stainless Steel, Buffed

Catalog Number	Allowable Vertical Load kN (kgf)	Net Weight g	Catalog Number	Allowable Vertical Load kN (kgf)	Net Weight g	L ₁	M	H	L _f	L _m	R	s
Fig. 1 Tapped Feet			Fig. 2 Screwed Feet									
MAKT12MTHA31S1TF	1.18 (120)	4.5	MAKT12MTHA31S1SF	1.28 (130)	6	20	M2.6		5		6	Ø4
MAKT12MTHA31S2TF	1.18 (120)	14	MAKT12MTHA31S2SF	1.28 (130)	17	40		22		7		
MAKT12MTHA31S3TF	1.67 (170)	18.5	MAKT12MTHA31S3SF	1.57 (160)	21	60	M4		7		11	Ø6
MAKT12MTHA31S4TF	1.37 (140)	26	MAKT12MTHA31S4SF	1.37 (140)	30	80		30				
MAKT12MTHA31S5TF	2.45 (250)	55.5	MAKT12MTHA31S5SF	2.45 (250)	62	100		35	10	10	14	Ø8
MAKT12MTHA31S6TF		68	MAKT12MTHA31S6SF		73.5	120	M5	40			15	
MAKT12MTHA31S7TF		82	MAKT12MTHA31S7SF		88.5	100		30				
MAKT12MTHA31S8TF		104	MAKT12MTHA31S8SF		113.5	120	M6	40	11	11	17	Ø10

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• CHARACTERISTIC

To be used with stainless steel handles to enhance their appearance.

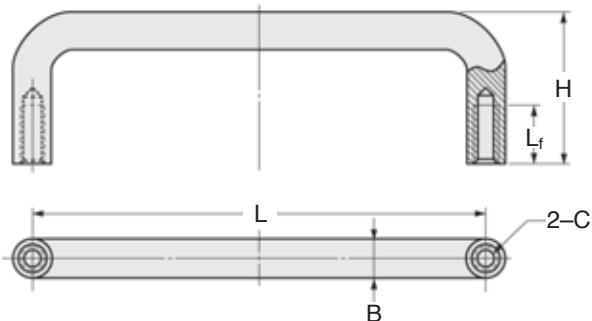
• BEZEL – Stainless Steel

Catalog Number	Size	d	d ₁	B	D	E	F	Net Weight g	Applicable Model
MKAT04MTHA270-1	Ø4	Ø2.8	Ø4.2	Ø6	2	0.5	1	0.25	MAKT12MTHA31S1
MKAT04MTHA270-2	Ø6	Ø4.3	Ø6.2	Ø10	2.5	1	1	1	MAKT12MTHA31S2~4
MKAT04MTHA270-3	Ø8	Ø5.3	Ø8.2	Ø12				1.5	MAKT12MTHA31S5,6
MKAT04MTHA270-4	Ø10	Ø6.3	Ø10.2	Ø16	3	1.5	1.5	3	MAKT12MTHA31S7,8

HANDLES & BEZELS

RoHS
COMPLIANT

1



• APPLICATIONS

Measuring instruments / Telecommunication devices

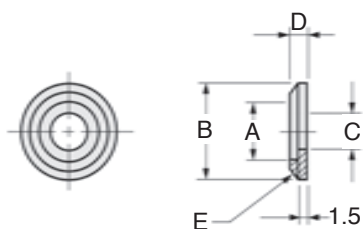
• CHARACTERISTIC

Black colored handles match black colored devices.

• HANDLE – Brass, Special Lubricant Coating, Black

Catalog Number	L	H	C	L _f	B	Allowable Vertical Load kN (kgf)	Net Weight g
MAKT52MTHA2161	40	22	M4	8	Ø6	1.18 (120)	14.6
MAKT52MTHA2162	60	22	M5	10	Ø8	2.94 (300)	33.1
MAKT52MTHA2163	70	25		12			39.1
MAKT52MTHA2164	80	30		13			47.3
MAKT52MTHA2165	100	31		16			56.4
MAKT52MTHA2166	120	40	M6	16	Ø10	4.41 (450)	109.6

All Metric Small Parts • All Metric Small Parts • All Metric Small Parts • All Metric Small Parts • All Metric Small Parts • All Metric Small Parts • All Metric Small Parts



• APPLICATION

Use with black pull handles, **MAKT52MTHA2...**

• CHARACTERISTIC

Enhance the appearance of handles by adding these bezels.

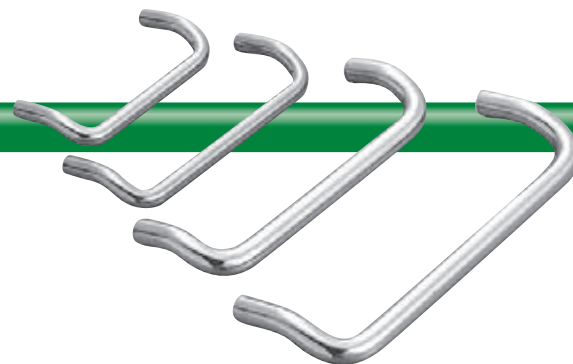
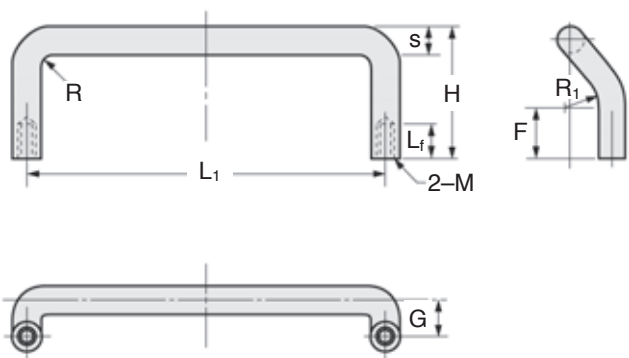
• BEZEL – Brass, Special Lubricant Coating, Black

Catalog Number	A	B	C	D	E	Net Weight g	Applicable Model
MKAT10MTHA2711	Ø6.2	Ø10	Ø4.5	2.5	1 X 45°	1.1	MAKT52MTHA2161
MKAT10MTHA2712	Ø8.2	Ø12	Ø5.5	2.5	1 X 45°	1.5	MAKT52MTHA2162~5
MKAT10MTHA2713	Ø10.2	Ø16	Ø6.5	3	1.5 X 45°	3.2	MAKT52MTHA2166

HANDLES, PULL

RoHS
COMPLIANT

1



• APPLICATIONS

Measuring instruments / Telecommunication devices

• CHARACTERISTICS

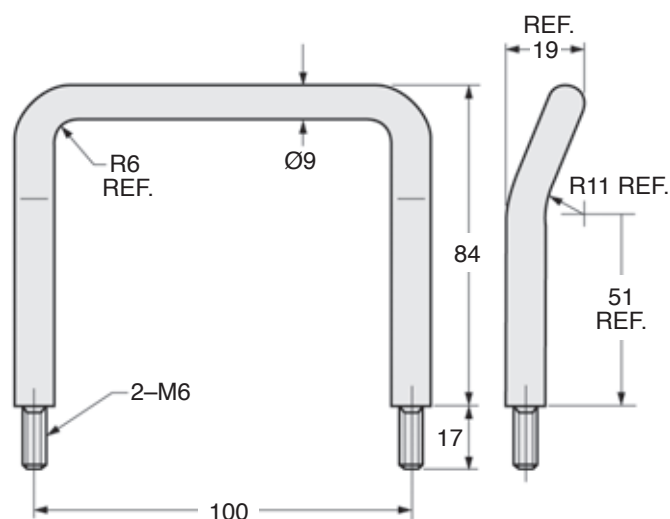
Handle is bent for easy gripping.

Can be used as a guard on equipment

• HANDLE – Stainless Steel, Polished

Catalog Number	L ₁	M	H	L _f	F	G	R	R ₁	s	Net Weight g
MAKT14MTHA32-1	60	M4	30	7	11	10	5	8	Ø6	23
MAKT14MTHA32-2	80	M4	31.5	7	12.5	10	5	8	Ø6	28
MAKT14MTHA32-3	100	M5	33.5	10	13	10.5	6.5	10	Ø8	57
MAKT14MTHA32-4	120	M5	40	10	21	10	6.5	10	Ø8	70.5

All Metric Small Parts • All Metric Small Parts • All Metric Small Parts • All Metric Small Parts • All Metric Small Parts • All Metric Small Parts



• APPLICATIONS

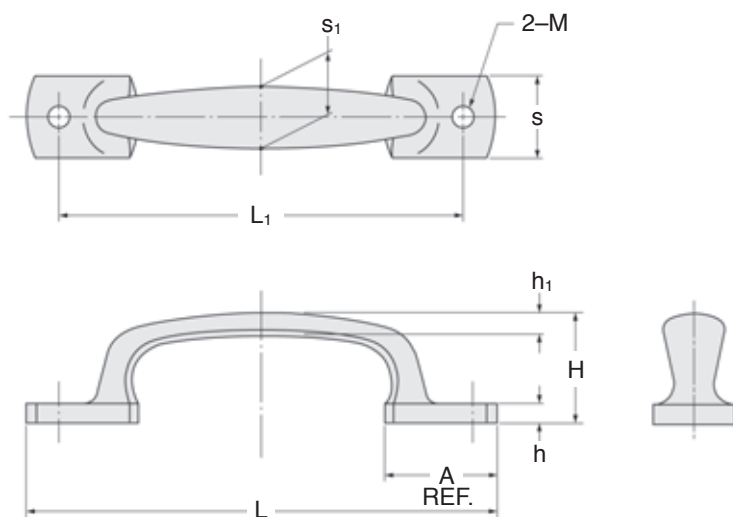
Measuring instruments / Telecommunication devices

• CHARACTERISTIC

Because of the sloping angle near the grip, it is easier to grab even when installed near an obstacle.

• HANDLE – Stainless Steel, Buffed

Catalog Number	Net Weight g
MAKT14MTHA291	131.5



• **APPLICATIONS**

Kitchen equipment / Food industries /
Medical instruments / Vessels / Vehicles

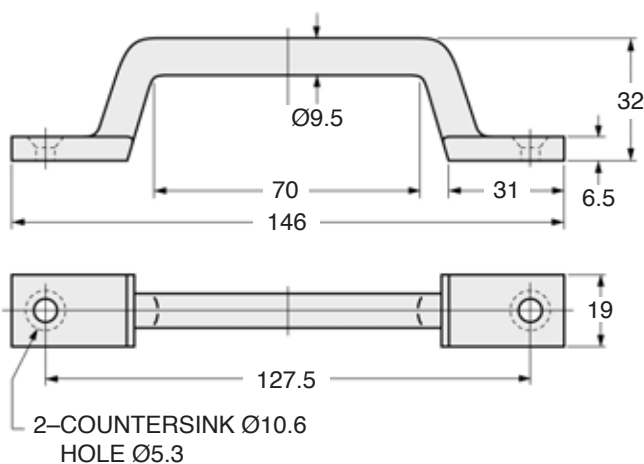
• **CHARACTERISTICS**

Stainless steel handle for use outdoors. It has excellent resistance against heat, salt, chemical, acid and corrosion.

• **HANDLE – Stainless Steel, Buffed**

Catalog Number	L	L ₁	M	H	h	h ₁	A	s	s ₁	Net Weight g
MAKT15M1THA424-3	120	105	Ø5.5	30	5	6	29	20	16	85
MAKT15M2THA424-1	145	125	Ø6.5	32	6	7	35	25	19	150

All Metric Small Parts • All Metric Small Parts • All Metric Small Parts • All Metric Small Parts • All Metric Small Parts • All Metric Small Parts



• **APPLICATIONS**

Measuring instruments /
Telecommunication devices

• **CHARACTERISTICS**

Can be installed from front of panel. It is an easy-to-grip handle with its inclined sides.

• **HANDLE – Zinc Die Cast, Chrome Plated**

Catalog Number	Allowable Vertical Load N (kgf)	Net Weight g
MAKT16MTHA-5	587 (60)	98

HANDLES, FLUSH PULL

RoHS
COMPLIANT

1

APPLICATIONS

Measuring instruments / Controller devices

INSTALLATION INSTRUCTIONS

1. Hook the 45° beveled bottom of the handle into the panel opening (see Fig. 1)
2. While holding the handle against the panel, insert the screw with the pan head washer (see Fig. 2)

CHARACTERISTICS

A rotary pull developed to simplify the installation as its primary concept. The appearance of the handle was also revised. It is suitable for various types of boxes where a short handle is required.

NOTE

Since the handle is designed to be rotated, make sure to allow room for rotation.

PARTS LIST

No.	Part Name	Material	Finish	Qty.
1	Housing	Zinc Die Cast	Chrome Plated (Satin Finish)	1
2	Handle			
3	Pan Head Washer	Steel	Zinc Plated	
4	Screw with Washer			
5	Spring Pin	Stainless Steel	—	

SIZE LIST FOR INSTALLATION HOLE

MAKT00MTHA236-1

Panel Thickness	l	l_1	h
1.6	60.1	50.1	13
2.0	60.5	50.5	
2.3	60.8	50.8	

SIZE LIST FOR INSTALLATION HOLE

MAKT00MTHA236-2

Panel Thickness	l	l_1	h
1.6	71.0	60.0	15
2.0	71.4	60.4	
2.3	71.7	60.7	

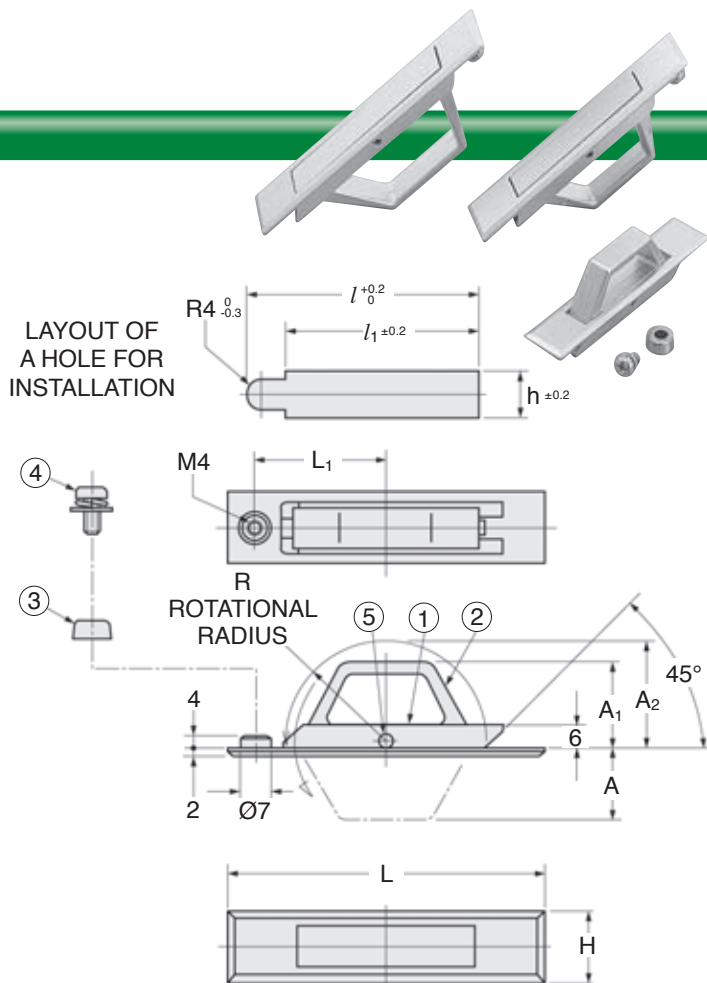
SIZE LIST FOR INSTALLATION HOLE

MAKT00MTHA236-3

Panel Thickness	l	l_1	h
1.6	83.0	73.0	17
2.0	83.4	73.4	
2.3	83.7	73.7	

HANDLES

Catalog Number	L	L ₁	H	A	A ₁	A ₂	R	Allowable Load N (kgf)	Net Weight g
MAKT00MTHA236-1	76	31	15	17	21	27	25	98.1 (10)	40.5
MAKT00MTHA236-2	88	37	18	21	25	32	30	147 (15)	58.7
MAKT00MTHA236-3	100	42.5	20	26.5	30.5	37	35	196 (20)	79.3



INSTALLATION EXAMPLE

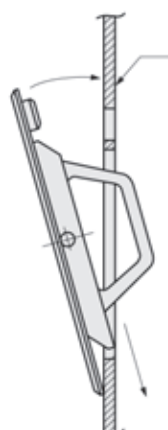


Fig. 1

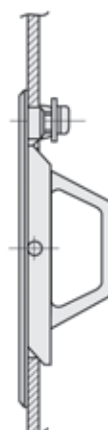


Fig. 2

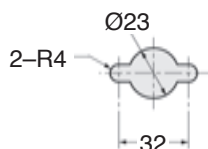
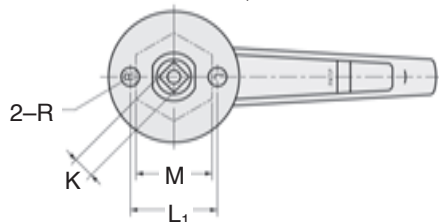
HANDLES, TURN TYPE



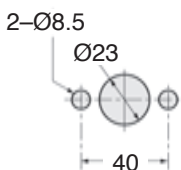
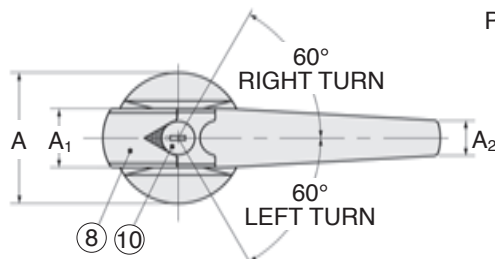
• PARTS LIST

No.	Part Name	Material		Finish		Qty.
		A330 · A330B	A330S · A330SB	A330 · A330B	A330S · A330SB	
1	Square Hole Washer	Steel	Stainless Steel	Zinc Plated	—	1
2	Square Hole Washer					
3	Flat Washer					
4	Phillips Hexagon Head Bolt with Washer					
5	Toothed Lock Washer					
6	Handle	Zinc Die Cast		See Table Below		
7	Handle Seat					
8	Cap					
9	Mounting Nut	Zinc Die Cast / Stainless Steel	Zinc Plated	Barrel Polishing		
10	Lock		Zinc Plated / —	—		
11	Packing*	Rubber		Black		2
12	Key	Brass		Nickel Plated		

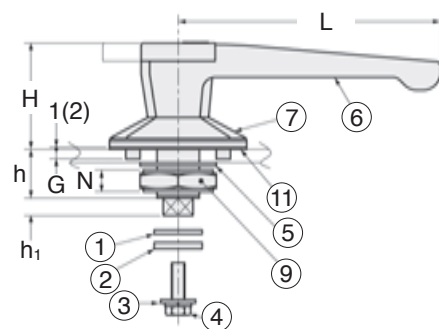
*For ...330S1K and ...330S1, material is elastomer.



LAYOUT OF HOLE FOR
INSTALLATION
PRODUCT NO. 2K, 2, 3K, 3



LAYOUT OF HOLES FOR
INSTALLATION
PRODUCT NO. 1K OR 1



• HANDLES

Catalog Number	Key No.	Finish	Net Weight g
MAKT24MA3301K	200	Chrome Plated	516
MAKT24MA3301	No Key		514
MAKT24MA3302K	200		354
MAKT24MA3302	No Key		356
MAKT24MA3303K	200	Paint (Ivory)	314
MAKT24MA3303	No Key		310
MAKT24MA330B1K	200		507
MAKT24MA330B1	No Key		508
MAKT24MA330B2K	200	Paint (Ivory, Clear)	351
MAKT24MA330B2	No Key		353
MAKT24MA330B3K	200		310
MAKT24MA330B3	No Key		310
MAKT24MA330C1K	200	Buffed	511
MAKT24MA330C2K	200		351
MAKT24MA330C3K	200		312
MAKT24MA330S1K	200	Paint (Ivory)	566
MAKT24MA330S1	No Key		582
MAKT24MA330S2K	200		408
MAKT24MA330S2	No Key		403
MAKT24MA330S3K	200	Paint (Ivory)	350
MAKT24MA330S3	No Key		346
MAKT24MA330SB2K	200		412
MAKT24MA330SB2	No Key		402

• SIZE LIST

Catalog Number	L	L ₁	H	h	h ₁	M	K	N	G	A	A ₁	A ₂	R
...3K	80	32	44.6	14.8	5	30	8	7	1.5	Ø46	23	12	Ø7
...3			44.5										
...2K	100		44.6	14.3						Ø48	25	15	
...2			44.5										
...1K	120	40	48.7 (49.7)	22.4 (21.4)	8	35	10	10	4.5 (3.5)	Ø60	27	16	Ø8
...1			48.6 (49.6)										

www.allmetricsmallparts.com Dimensions in () are for ...330S1K and ...330S1.

HANDLES, TURN TYPE

RoHS
COMPLIANT

1

• APPLICATIONS

Distribution boards / Distribution panels /
Control boards / Various types of boxes

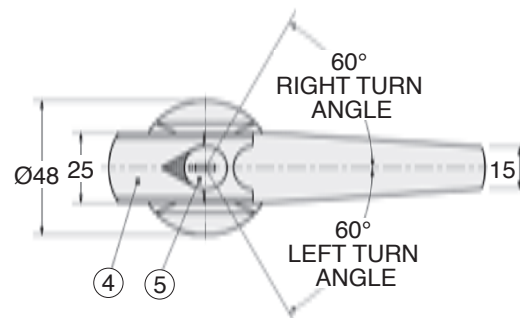
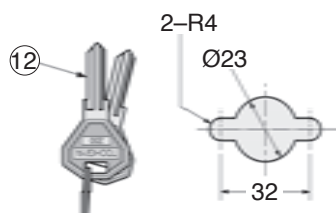
• CHARACTERISTIC

These handles are easier to grip due to
their longer neck design.

• SPECIFICATION

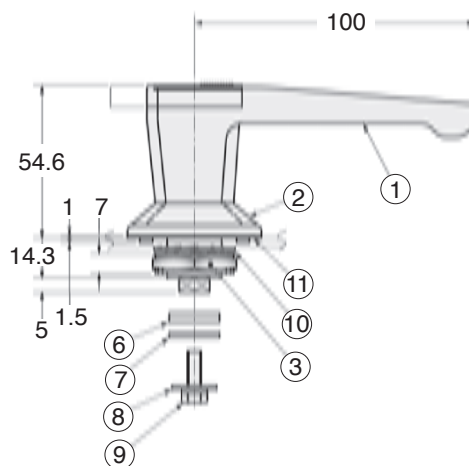
The figure shows the right 60° turn type.
By rotating the handle seat 180°, the unit is
changed to the left 60° turn type.

LAYOUT OF A HOLE
FOR INSTALLATION



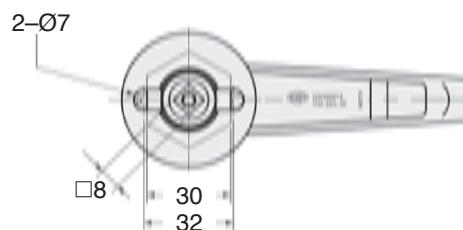
• PARTS LIST

No.	Part Name	Material		Finish		Qty.
		A330L • A330LB	A330LS • 330LSB	A330L • A330LB	A330LS • 330LSB	
1	Handle	Zinc Die Cast	Stainless Steel	See Table Below		1
2	Handle Seat			Zinc Plated	Barrel Polished	
3	Mounting Nut					
4	Cap			See Table Below		
5	Lock	Zinc Die Cast / Stainless Steel		Zinc Plated / —	—	
6	Square Hole Washer	Steel		Zinc Plated		
7	Square Hole Washer					
8	Flat Washer					
9	Phillips Head Hexagonal Bolt with Washer					
10	Toothed Lock Washer					
11	Packing	Rubber		Black		2
12	Key	Brass		Nickel Plated		



• HANDLES

Catalog Number	Key No.	Finish	Net Weight g
MAKT24MA330L2K	200	Chrome Plated	396
MAKT24MA330L2	No Key	Paint (Ivory)	394
MAKT24MA330LB2K	200	Paint (Ivory)	394
MAKT24MA330LB2	No Key	Buffed	454
MAKT24MA330LS2K	200	Buffed	477
MAKT24MA330LS2	No Key	Paint (Ivory)	454
MAKT24MA330LSB2K	200	Paint (Ivory)	480
MAKT24MA330LSB2	No Key		



HANDLES, FIXED TYPE

RoHS
COMPLIANT

1

• APPLICATIONS

Distribution boards / Distribution panels /
Control boards / Various types of boxes

• CHARACTERISTICS

Same as turn type **MAKT24MA330L...**
series but without ability to turn. Used on
double doors in conjunction with turn type.

• NOTE

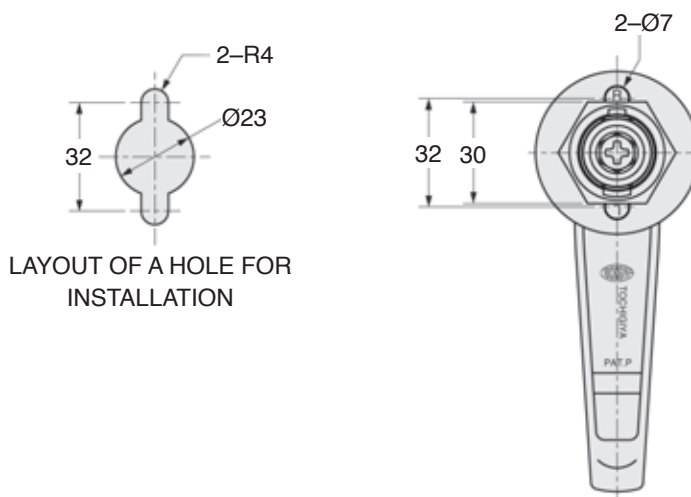
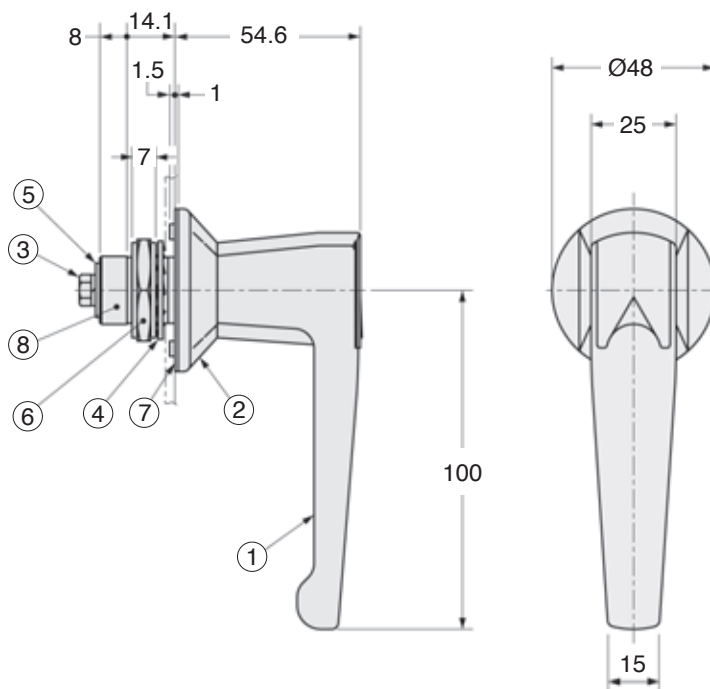
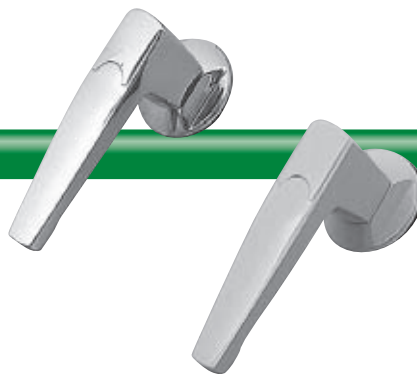
Do not remove the phillips head hexagon
bolt with washer listed as ③ in the parts list.

• PARTS LIST

No.	Part Name	Material	Finish	Qty.
1	Handle	Stainless Steel	See Table Below	1
2	Handle Seat			
3	Phillips Head Hexagon Bolt with Washer		—	
4	Toothed Lock Washer		—	
5	Flat Washer		—	
6	Mounting Nut	Rubber	Barrel Polishing	
7	Packing		Black	
8	Square Hole Spacer		—	
		Stainless Steel	—	

• HANDLES

Catalog Number	Finish	Net Weight g
MAKT24MA330LSF2	Buffed	480
MAKT24MA330LSFB2	Paint (Ivory)	487



LAYOUT OF A HOLE FOR
INSTALLATION

HANDLES, FIXED TYPE

RoHS
COMPLIANT

1

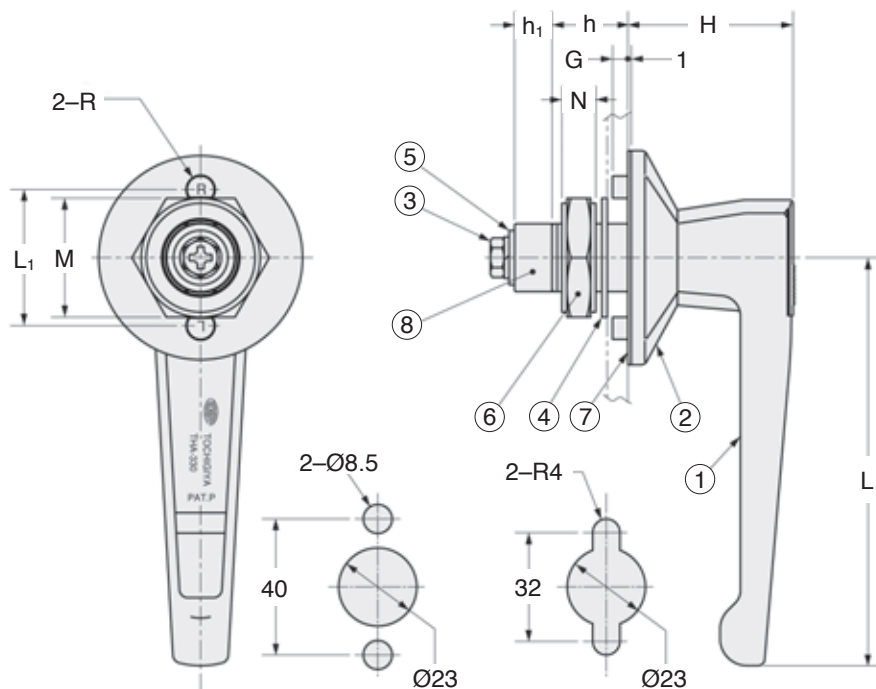
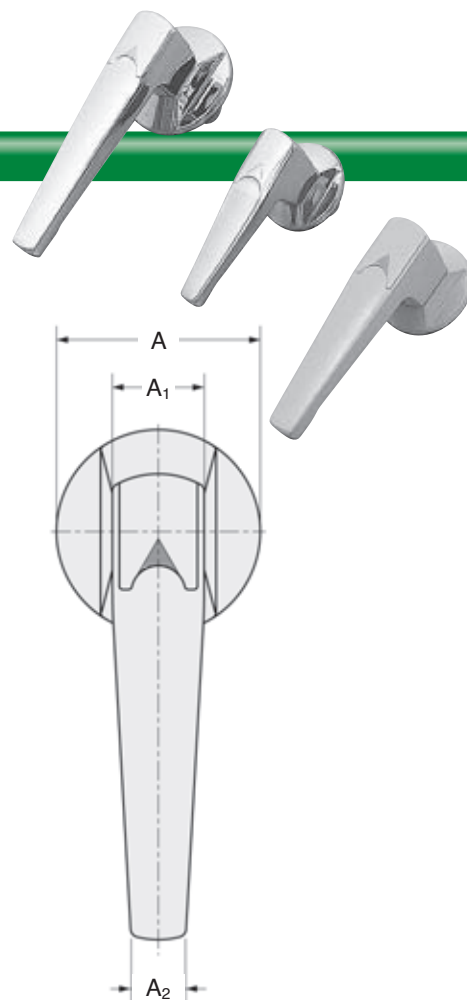


Fig. 1

Fig. 2

LAYOUT OF HOLES FOR INSTALLATION



• PARTS LIST

No.	Part Name	Material		Finish		Qty.
		A330F · A330FB	A330SF	A330F · A330FB	A330SF	
1	Handle	Zinc Die Cast	Stainless Steel	See Table Below	See Table Below	1
2	Handle Seat					
3	Phillips Head Hexagon Bolt with Washer	Steel				
4	Toothed Lock Washer					
5	Flat Washer					
6	Mounting Nut	Zinc Die Cast	Zinc Plated	Barrel Polishing		
7	Packing*	Rubber			Black	
8	Square Hole Spacer	Zinc Die Cast	Stainless Steel	Zinc Plated	—	

* ...M3A330SF1, packing material is Elastomer.

• APPLICATIONS

Distribution boards / Distribution panels /
Control boards / Various types of boxes

• CHARACTERISTICS

Same as turn type **MAKT24MA330...** series but without ability to turn. Used on double doors in conjunction with turn type.

• NOTE

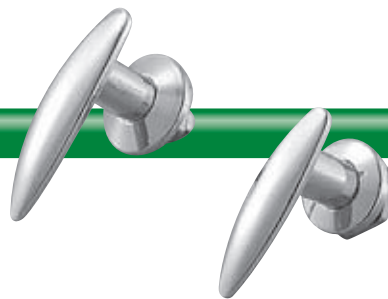
Do not remove the phillips head hexagon bolt with washer listed as ③ in the parts list.

• HANDLES

Catalog Number	Finish	Fig.	L	L ₁	H	h	h ₁	M	N	G	A	A ₁	A ₂	R	Net Weight g
MAKT24M1A330F3	Chrome Plated	2	80	32	44.5	14.7	8	30	7	1.5	Ø46	23	12	Ø7	318
MAKT24M2A330F2		1	100	40	48.6	14.1	11	35	10	4.5	Ø48	25	15	Ø8	364
MAKT24M3A330F1	Paint (Ivory)	1	120	40	48.6	22.35	11	35	10	4.5	Ø60	27	16	Ø8	514
MAKT24M1A330FB3		2	80	32	44.5	14.7	8	30	7	1.5	Ø46	23	12	Ø7	312
MAKT24M2A330FB2		1	100	40	48.6	14.1	11	35	10	4.5	Ø48	25	15	Ø8	356
MAKT24M3A330FB1	Buffed	1	120	40	48.6	22.35	11	35	10	4.5	Ø60	27	16	Ø8	510
MAKT24M1A330SF3		2	80	32	44.5	14.7	8	30	7	1.5	Ø46	23	12	Ø7	356
MAKT24M2A330SF2		1	100	40	48.6	14.1	11	35	10	4.5	Ø48	25	15	Ø8	411
MAKT24M3A330SF1		1	120	40	49.6	21.35	11	35	10	3.5	Ø60	27	16	Ø8	583

HANDLES - Dual Swing

RoHS
COMPLIANT



1

• APPLICATIONS

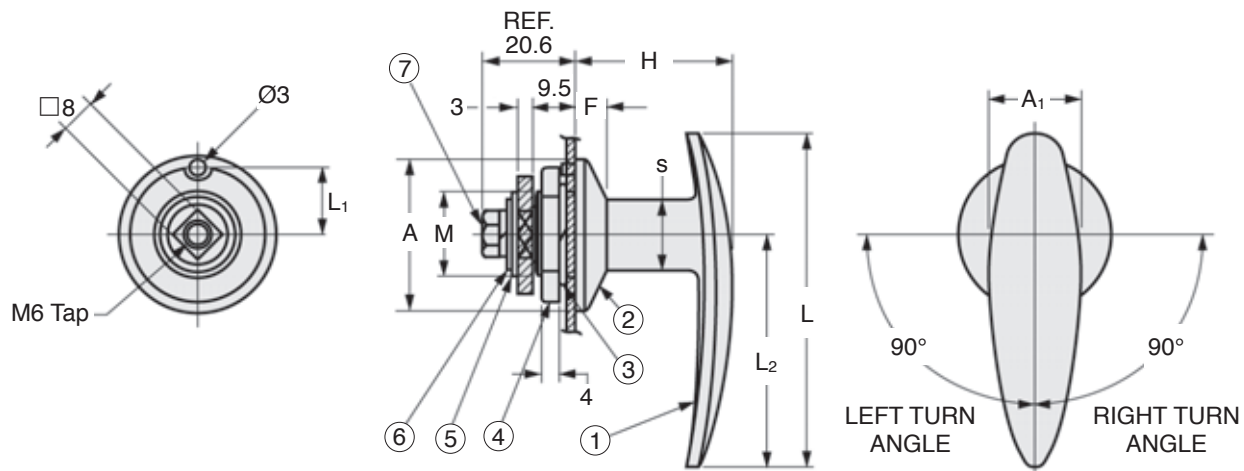
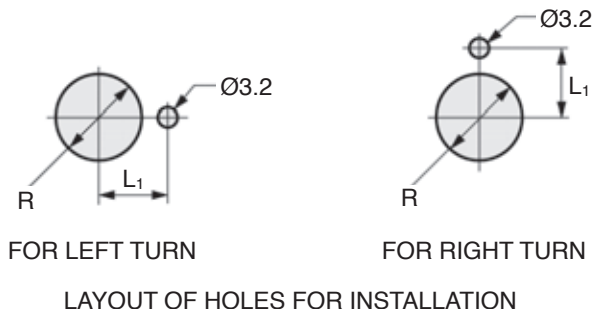
Distribution boards / Distribution panels

• CHARACTERISTIC

The handle can be used for both left and right sides.

• PARTS LIST

No.	Part Name	Material	Finish	Qty.
1	Handle	Zinc Die Cast	Chrome Plated	1
2	Sleeve			
3	Ring Washer	Steel Wire	Zinc Plated	
4	Mounting Nut	Zinc Die Cast		
5	Square Hole Washer	Steel		
6	Washer			
7	Hexagon Bolt with Washer			



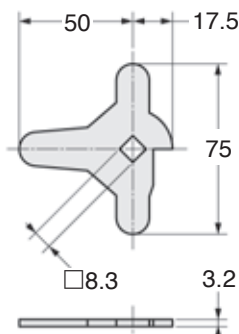
• HANDLES

Catalog Number	L	L ₁	L ₂	M	H	A	A ₁	F	s	R	Net Weight g
MAKT25M1THA225-2	65	13	45	M18 X 1	33	Ø30	17	6	Ø15.2	Ø18.2	97.2
MAKT25M2THA225-1	75	14.5	52	M19 X 1	36	Ø34	20	7	Ø16.2	Ø19.5	118

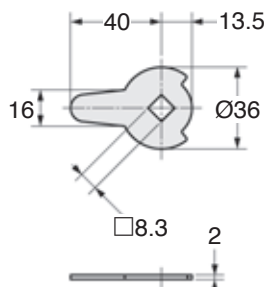
CAMS, OPTIONAL

RoHS
COMPLIANT

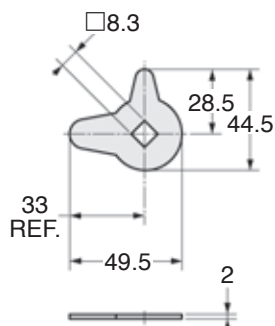
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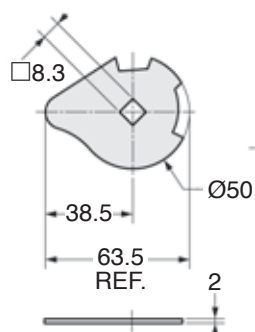
MAKT35M6A2661



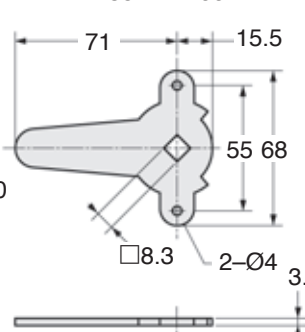
MAKT35M2A266SUS2
MAKT35M1A2662



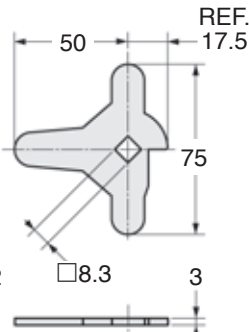
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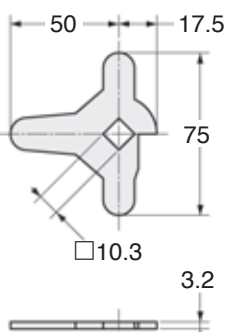
MAKT35M4A2664



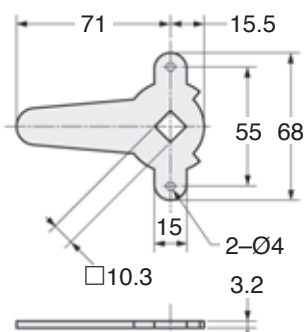
MAKT35M7A2665



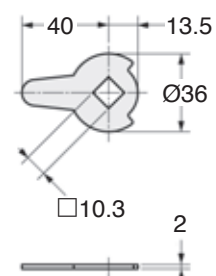
MAKT35M5A266SUS1



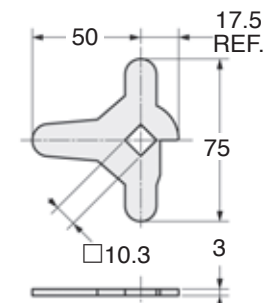
MAKT35M4A2671



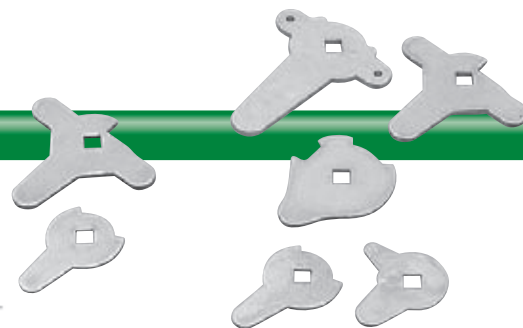
MAKT35M5A2672



MAKT35M1A2673
MAKT35M2A267SUS3



MAKT35M3A267SUS1



• APPLICATION

Various types of handles.

• CHARACTERISTIC

Many sizes and shapes are offered to fit different applications.

• PARTS LIST

Model No.	Material	Finish
...A266SUS...	Stainless Steel	—
...A266...	Steel	Zinc Plated

• CAMS

Catalog Number	Net Weight g
MAKT35M1A266SUS2	17
MAKT35M2A2662	
MAKT35M3A2663	
MAKT35M4A2664	34.5
MAKT35M5A266SUS1	43.5
MAKT35M6A2661	48.5
MAKT35M7A2665	62

All Metric Small Parts • All Metric Small Parts • All Metric Small Parts • All Metric Small Parts • All Metric Small Parts • All Metric Small Parts



• PARTS LIST

Model No.	Material	Finish
...A267SUS...	Stainless Steel	—
...A267...	Steel	Zinc Plated

• CAMS

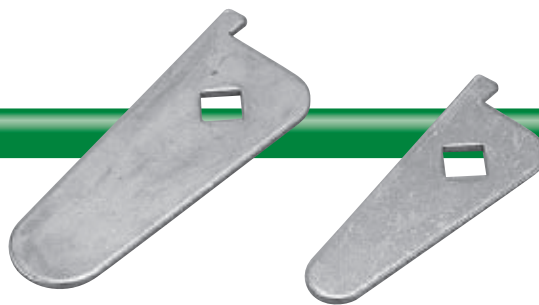
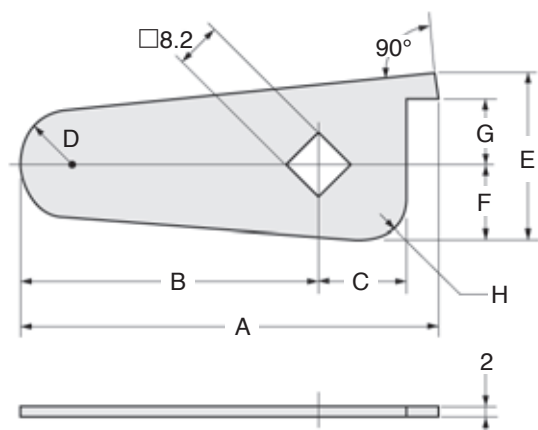
Catalog Number	Net Weight g
MAKT35M1A2673	16
MAKT35M2A267SUS3	16.5
MAKT35M3A267SUS1	44.5
MAKT35M4A2671	47
MAKT35M5A2672	60

• APPLICATION

Various types of handles.

• CHARACTERISTIC

Many sizes and shapes are offered to fit different applications.

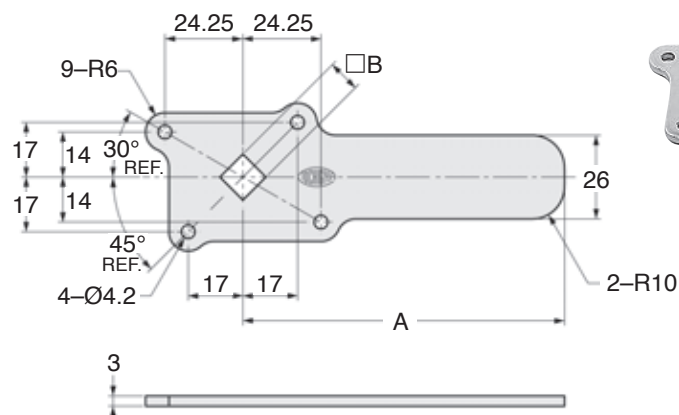


- **APPLICATION**
Various types of handles.
- **CHARACTERISTIC**
Select the size to fit the application.

• **CAM** – Steel, Zinc Plated Finish

Catalog Number	A	B	C	D	E	F	G	H	Net Weight g
MAKT35M1THA2232	78	56	16	R10	31	14	12	R8	25.8
MAKT35M2THA2231	65	44	15	R6	25	12	8	R7	15.4

All Metric Small Parts • All Metric Small Parts • All Metric Small Parts • All Metric Small Parts • All Metric Small Parts



- **APPLICATION**
Various types of handles.
- **CHARACTERISTICS**
Size can be selected for various mounting locations.
Two different strokes are available depending upon position of rod.
(For 60° handle rotation ~ 28 mm stroke)
(For 90° handle rotation ~ 34 mm stroke)

• **CAM** – Stainless Steel, Barrel Polishing Finish

Catalog Number	A	B	Net Weight g
MAKT35M1THA4266	80	8.1	78
MAKT35M2THA4265	100	8.1	88
MAKT35M3THA4264		10.1	

RODS

RoHS
COMPLIANT

1

• APPLICATIONS

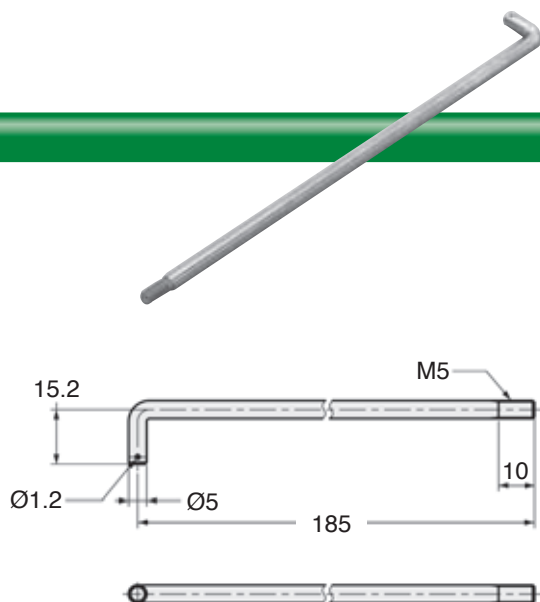
Paddle latches / Various types of handles

• CHARACTERISTICS

Can be used with paddle latches or handles to make a 2- or 3-point lock. Use with slam latch **MAKT44MTHA315**.

• ROD – Steel, Zinc Plated

Catalog Number	Net Weight g
MAKT53MTHA316	30



All Metric Small Parts • All Metric Small Parts • All Metric Small Parts • All Metric Small Parts • All Metric Small Parts • All Metric Small Parts

• APPLICATIONS

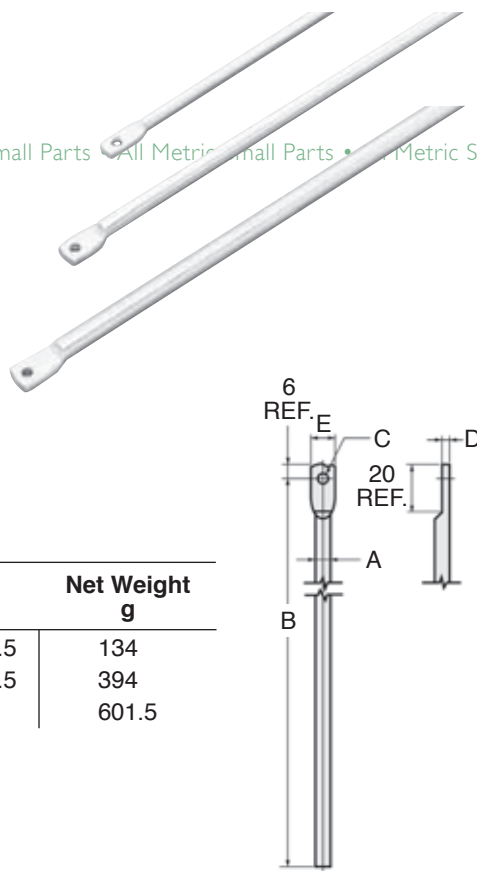
Distribution boards / Distribution panels / Boxes for controllers

• CHARACTERISTIC

Standard rod sizes are offered which can be used with various door locks for boxes.

• ROD – Steel, Zinc Plated

Catalog Number	A	B	C	D	E	Net Weight g
MAKT54MTHA2491	Ø6	600		3	Approx. 9.5	134
MAKT54MTHA2492	Ø8	1000	Ø4.2	4	Approx. 12.5	394
MAKT54MTHA2493	Ø9	1200		4.5	Approx. 14	601.5



RETAINERS, ROD

RoHS
COMPLIANT

1

• APPLICATIONS

Distribution boards / Distribution panels /
Best for transfer mechanism with a rod

• CHARACTERISTICS

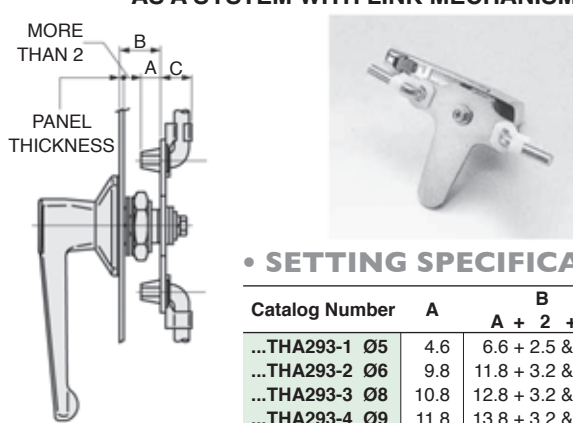
A bushing for connecting a rod with simple snap-on installation avoiding any staking. It is a bushing with which steady movement of a rod can be obtained, preventing operational failure caused by loosening of staking. Achieve cost reduction with this labor saving retainer.

• MATERIAL CHARACTERISTICS

Water absorption or moisture absorption is one of the characteristics of polyamide (nylon-made) products. For this reason, water absorption treatment is made for stabilizing their characteristics. As a result, the products may show the following phenomena depending on the temperature and humidity of their storage. However, its functionality is maintained.

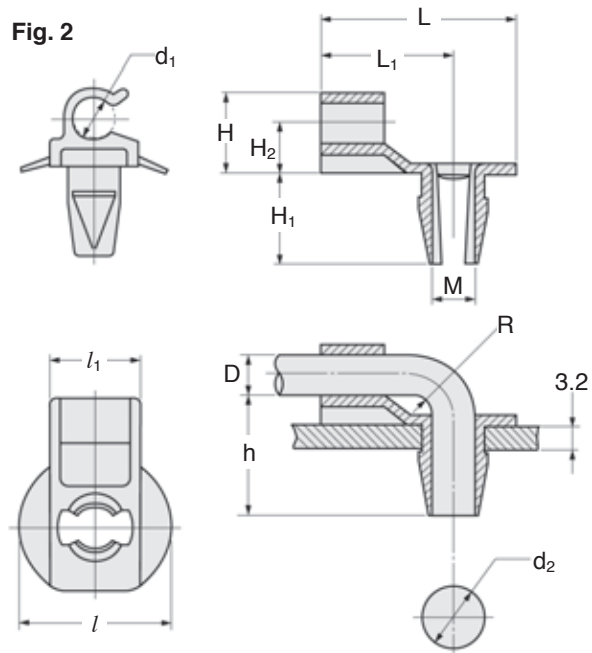
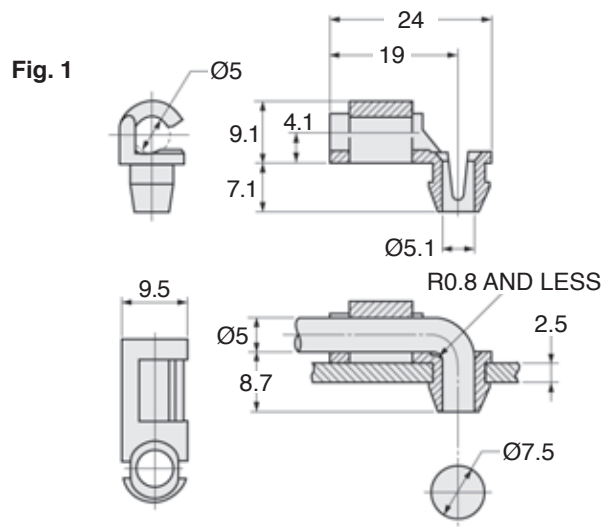
1. Since nylon-made products absorb and exhaust water content continuously if they are stored in a bag, color of the dye for a carton box may be absorbed into the product through the bag. In this case, melamine, the yellow dye for a carton box, is absorbed in the air as moisture content, which may be absorbed into the product. For the worst case, the product may show yellowish color.
2. Nylon made products sometimes show a bluish color. It is because heat-resistant material reacts with water content. This is another characteristic of nylon.

APPLICATION EXAMPLE OF A UTILITY MODEL AS A SYSTEM WITH LINK MECHANISM



• SETTING SPECIFICATION

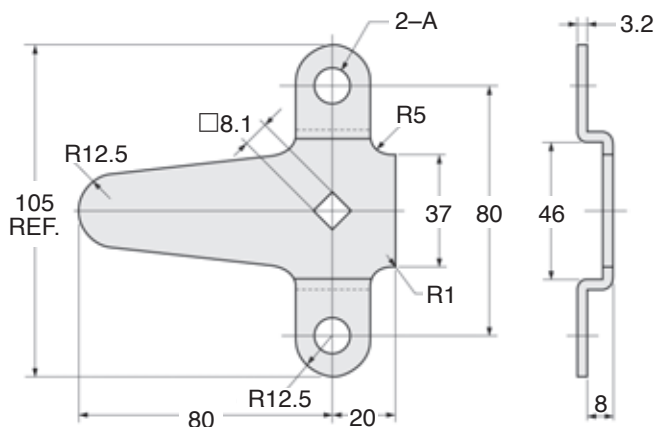
Catalog Number	A	B A + 2 + Panel Thick.	C
...THA293-1 Ø5	4.6	6.6 + 2.5 & over	11.6
...THA293-2 Ø6	9.8	11.8 + 3.2 & over	14.7
...THA293-3 Ø8	10.8	12.8 + 3.2 & over	18.2
...THA293-4 Ø9	11.8	13.8 + 3.2 & over	19.2



LAYOUT OF PROCESSED ROD AND A HOLE FOR INSTALLATION

• RETAINER – Nylon, Natural Color Finish

Catalog Number	Fig.	L	L ₁	H	H ₁	H ₂	l	l ₁	h	M	R	D or d ₁	d ₂	Net Weight g
MAKT27MTHA293-1	1	See dimensions in drawing above												0.6
MAKT27MTHA293-2	2	28	19	11.5	13	7	Ø21	13	17	Ø6.2	4 and less	Ø6	Ø9	1.2
MAKT27MTHA293-3		30	21	15	14	9	Ø22	15	19	Ø8.3	5 and less	Ø8	Ø11	1.8
MAKT27MTHA293-4		32	22	16	15	9.5	Ø24	16	20	Ø9.3	5 and less	Ø9	Ø12	2



• **APPLICATIONS**

Distribution boards / Distribution panels / Control boards

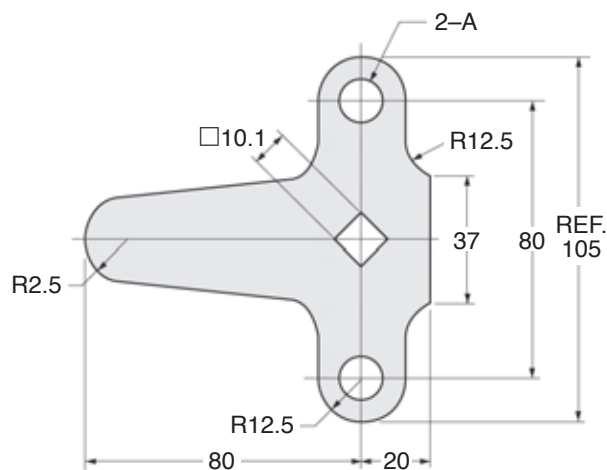
• **CHARACTERISTIC**

Use the cam with a push-in type rod retainer to save installation time.

• **CAM – Steel, Zinc Plated**

Catalog Number	Applicable Model	A	For Rod Diameter	Net Weight g
MAKT35MTHA4012	MAKT27MTHA 2932	Ø9	Ø6	115.3
MAKT35MTHA4013	MAKT27MTHA 2933	Ø11	Ø8	113.5
MAKT35MTHA4014	MAKT27MTHA 2934	Ø12	Ø9	112.9

All Metric Small Parts • All Metric Small Parts • All Metric Small Parts • All Metric Small Parts • All Metric Small Parts • All Metric Small Parts



• **APPLICATIONS**

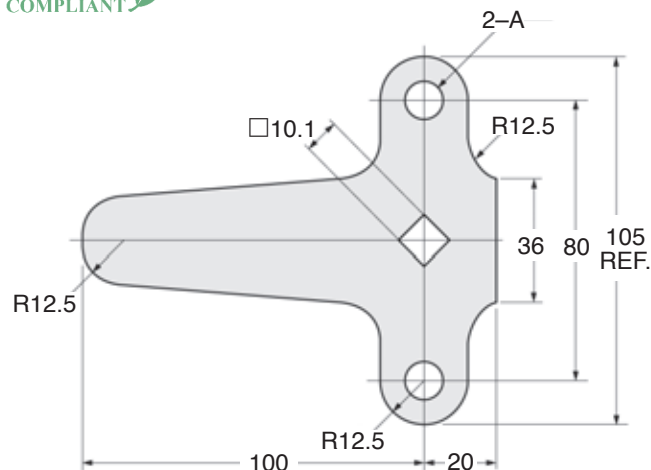
Distribution boards / Distribution panels / Control boards

• **CHARACTERISTIC**

Use the cam with a push-in type rod retainer to save installation time.

• **CAM – Steel, Zinc Plated**

Catalog Number	Applicable Model	Plate Thickness	A	For Rod Diameter	Net Weight g
MAKT35MTHA4022	MAKT27MTHA 2932	3.2	Ø9	Ø6	113.8
MAKT35MTHA4023	MAKT27MTHA 2933		Ø11	Ø8	111.3
MAKT35MTHA4024	MAKT27MTHA 2934		Ø12	Ø9	109.3



• **APPLICATIONS**

Distribution boards / Distribution panels / Control boards

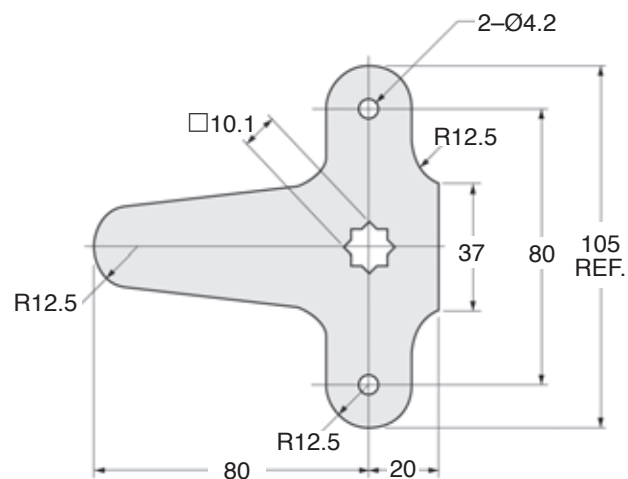
• **CHARACTERISTIC**

Use the cam with a push-in type rod retainer to save installation time.

• **CAM – Steel, Zinc Plated**

Catalog Number	Applicable Model	Plate Thickness	A	For Rod Diameter	Net Weight g
MAKT35MTHA4032	MAKT27MTHA 2932	3.2	Ø9	Ø6	126.7
MAKT35MTHA4033	MAKT27MTHA 2933		Ø11	Ø8	125.6
MAKT35MTHA4034	MAKT27MTHA 2934		Ø12	Ø9	123.9

All Metric Small Parts • All Metric Small Parts • All Metric Small Parts • All Metric Small Parts • All Metric Small Parts • All Metric Small Parts • All Metric Small Parts



• **APPLICATIONS**

Distribution boards / Distribution panels / Control boards

• **CHARACTERISTIC**

With its double squared installation hole, the installation angle can be adjusted with each turn of 45°.

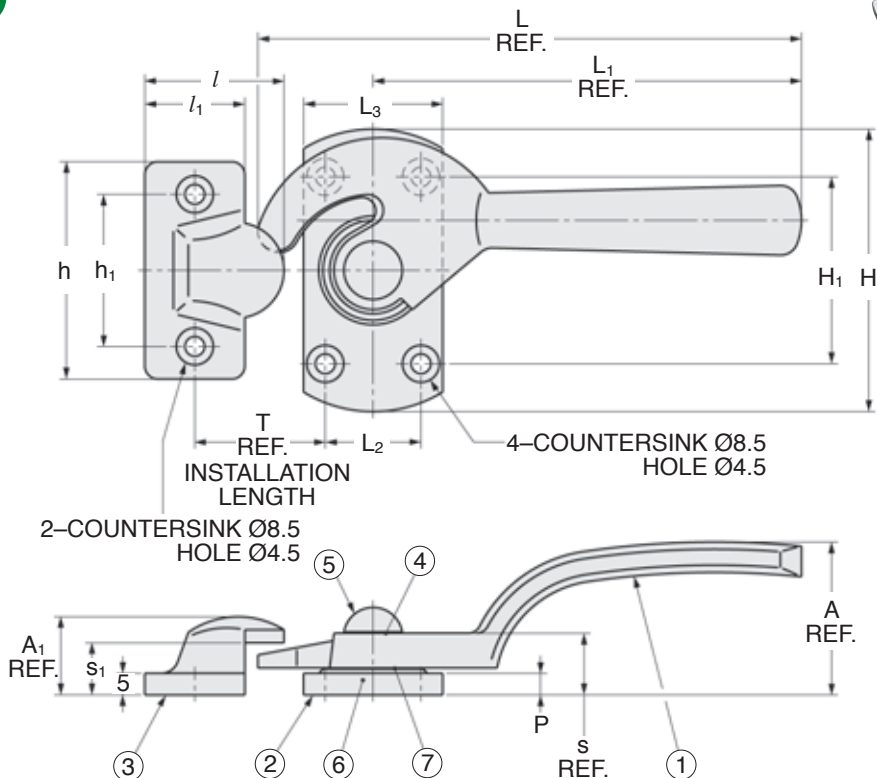
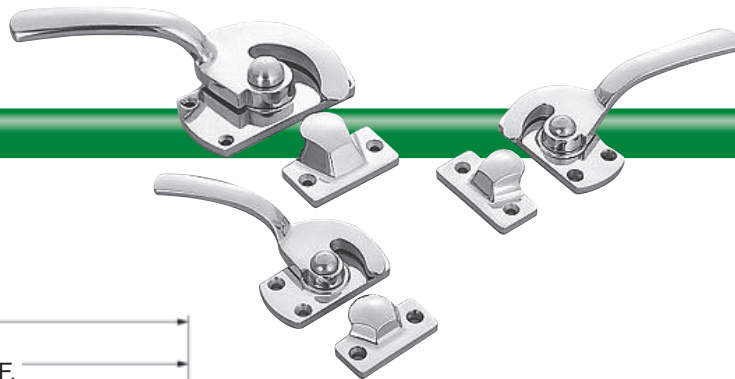
• **CAM – Steel, Zinc Plated**

Catalog Number	Plate Thickness	Net Weight g
MAKT35MTHA404	3.2	114.1

HANDLES, LIFT LEVER

RoHS
COMPLIANT

1



• APPLICATIONS

Thermostatic chambers / Refrigerators /
Small doors for various types of sealed storage

• CHARACTERISTIC

Handle is made of stainless steel and has
excellent corrosion resistance.

• OPERATION INSTRUCTIONS

Tighten until proper position is attained.

• PARTS LIST

No.	Part Name	Material	Finish	Qty.
1	Handle	Stainless Steel	Buffed	1
2	Base			
3	Keeper			
4	Wave Washer			
5	Rivet			
6	Washer			
7	Plate Spring			
			—	

• HANDLES

Catalog Number		L Ref.	L ₁ Ref.	L ₂	L ₃	H	H ₁	l	l ₁
Right-Hand Type	Left-Hand Type								
MAKT26M1THA4305R	MAKT26M1THA4305L	90	68	17	30	55	37	30	20
MAKT26M2THA4304R	MAKT26M2THA4304L	110	83	20		60	40		
MAKT26M3THA4303R	MAKT26M3THA4303L	125	98.5	22	32	65	43	32	23
MAKT26M4THA4302R	MAKT26M4THA4302L	140	111.4	25	40	80	52	35	24
MAKT26M5THA4301R	MAKT26M5THA4301L	170	127	34	45	90	70	40	28

Catalog Number		h	h ₁	A Ref.	A ₁ Ref.	s Ref.	s ₁	P	T Ref.	Net Weight g
Right-Hand Type	Left-Hand Type									
MAKT26M1THA4305R	MAKT26M1THA4305L	45	32	27.1	14.5	12.6	10	5	28	139
MAKT26M2THA4304R	MAKT26M2THA4304L			35.2		13.2				166
MAKT26M3THA4303R	MAKT26M3THA4303L	50	35	35.2	18	14.2	12	5	30	230
MAKT26M4THA4302R	MAKT26M4THA4302L		34	43.6	17	14.6		6	34	298
MAKT26M5THA4301R	MAKT26M5THA4301L	52	40	48.6	19	17.6	14	6	43	528

HANDLES, LIFT LEVER

RoHS
COMPLIANT

1

• APPLICATIONS

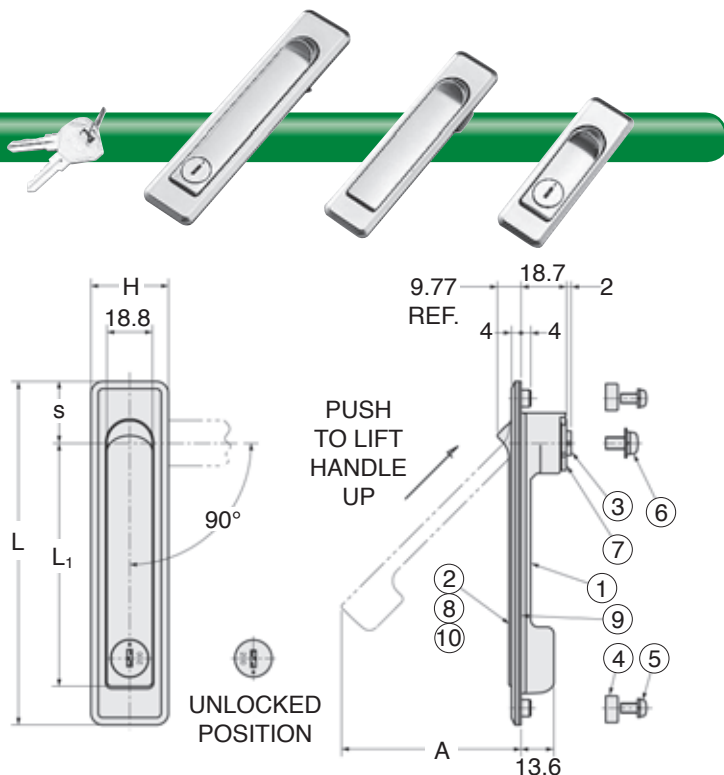
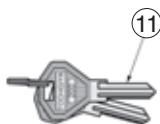
Distribution boards / Distribution panels /
Control boards / Telecommunication devices /
Office automation appliances

• CHARACTERISTICS

A cylinder lock type handle. Operational difficulties caused by the cam resistance are eliminated and waterproofing is added.

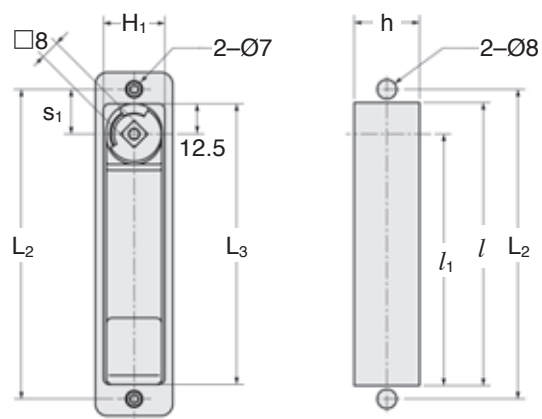
• SPECIFICATIONS

It can swing to the left or to the right by changing the position of the cam. Inserting and removing the key can be done at both locked and unlocked positions. (2-point take off).
Applicable panel thickness: 0.8 to 2.3.



• PARTS LIST

No.	Part Name	Material	Finish	Qty.
1	Case	Zinc Die Cast	Chrome Plated (Dull Finish)	1
2	Handle			
3	Shaft			
4	Mounting Spacer			
5	Phillips Pan Head Screw with Washer	Steel	Zinc Plated	2
6	Phillips Pan Head Screw with Washer			
7	Rotation Control Cam			
8	Pin	Stainless Steel	—	1
9	Packing	Rubber	Black	
10	Lock	Stainless Steel / Zinc Die Cast	— / Zinc Plated	2
11	Key	Brass	Nickel Plated	



LAYOUT OF HOLE
FOR INSTALLATION

See page 1-42 for applicable cams.

• HANDLES

Catalog Number	L	L ₁	L ₂	L ₃	H	H ₁	l	l ₁	h	A REF.	s	s ₁	Net Weight g
MAKT31M1THA5053	86	45.5	72	61	28	23	62	49	24	35.29	25	18	160
MAKT31M2THA5053K													172
MAKT31M3THA5052	119	78.5	105	94			95	82		58.63			190
MAKT31M4THA5052K													200
MAKT31M5THA5051	142	100.5	128	116	32	25.4	117	104	27	74.19	25.5	18.5	230
MAKT31M6THA5051K													242

HANDLES, LIFT LEVER

RoHS
COMPLIANT

1

• APPLICATIONS

Distribution boards / Distribution panels /
Control boards / Various types of boxes

• CHARACTERISTICS

Push of the button makes the lever pop up. The lever lifts out gently, yet avoids the operational failure caused by foreign matter.

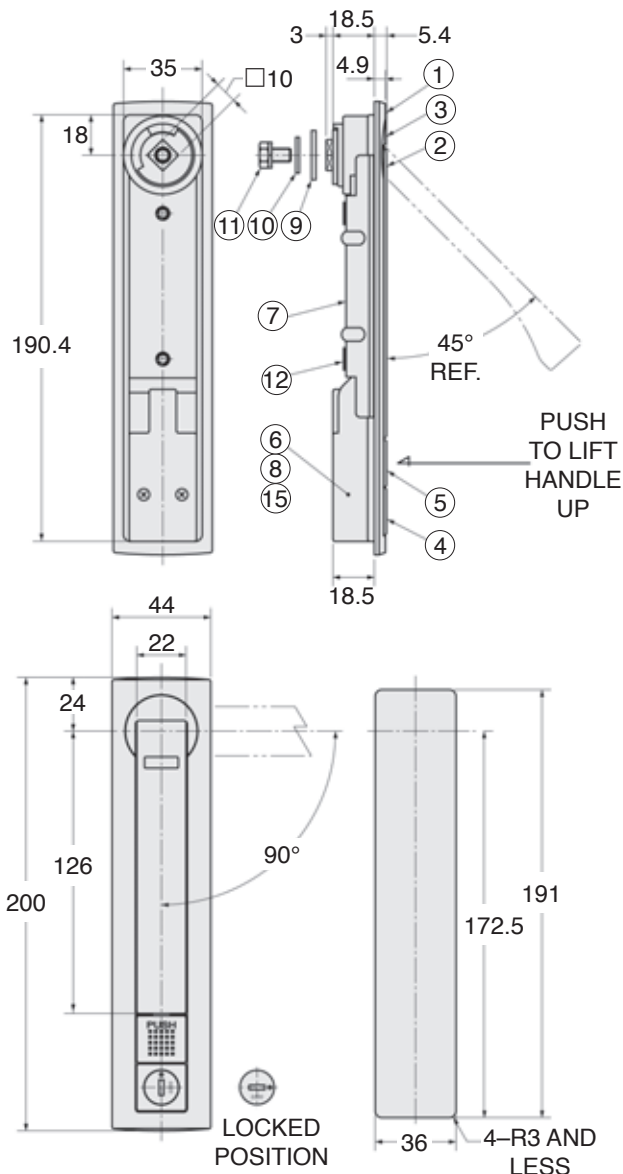
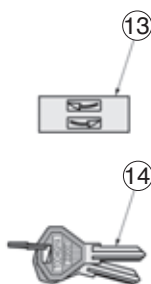
• PARTS LIST

No.	Part Name	Material	Finish	Qty.
1	Case	Zinc Die Cast	Painted (Ivory)	1
2	Lever			
3	Shaft			
4	Cylinder Case			
5	Push Button			
6	Latch	Steel	Nickel Plated	2
7	Bracket			
8	Cam Stopper			
9	Square Hole Washer			
10	Flat Washer			
11	Phillips Head Hexagon Bolt with Washer	—	—	1
12	Phillips Head Countersunk Screw			
13	Direction Marker Seal	—	—	1
14	Key	Brass	Nickel Plated	1
15	Lock	Stainless Steel / Zinc Die Cast	— / Zinc Plated	1

See page 1—42 for applicable cams.

• HANDLES

Catalog Number	Key	Net Weight g
MAKT32M1THA4161	Without	672
MAKT32M2THA4161K	With	694



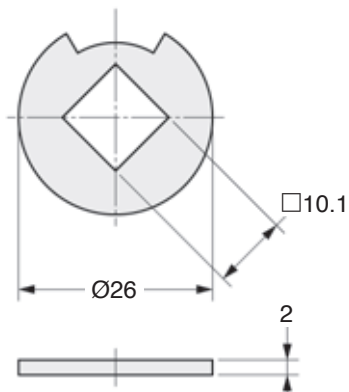
THE FIGURE SHOWS
MAKT32MTHA4161K

LAYOUT OF HOLE
FOR INSTALLATION

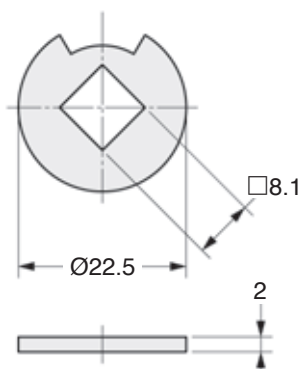


1

MAKT35MT3041



MAKT35MT3042



• **APPLICATIONS**

Distribution boards / Distribution panels /
Control boards / Doors of various cabinets.

• **CHARACTERISTICS**

By replacing these cams with cams that originally came with the handle, one can change it to the nonrotating handle. It is used on one side of a double door on which locking or unlocking is not needed.

• **FOR USE WITH**

MAKT32M..THA416..
MAKT31M..THA505..
MAKT29M..HA506..

• **CAM** – Stainless Steel, Barrel Polished

Catalog Number	Net Weight g
MAKT35MT3041	5.8
MAKT35MT3042	

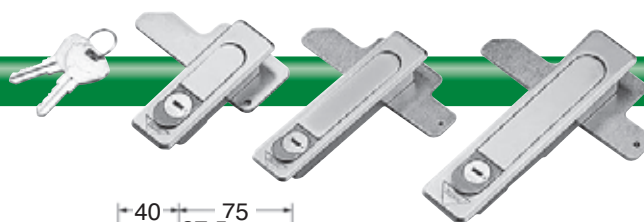


Fig. 1

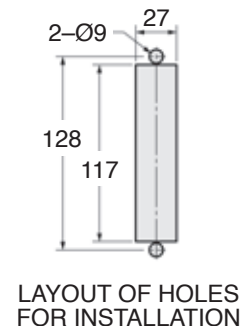
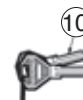
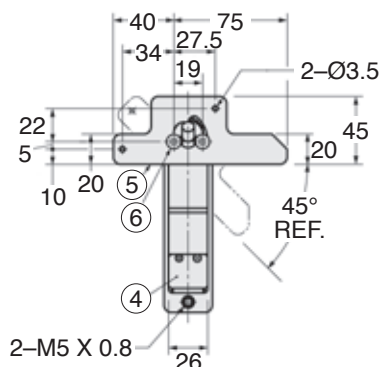
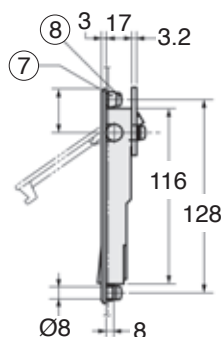
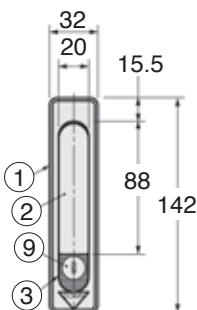


Fig. 2

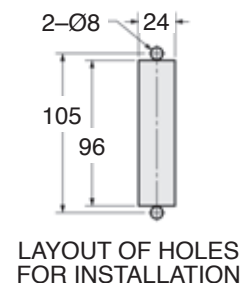
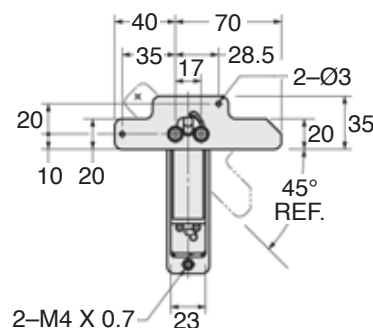
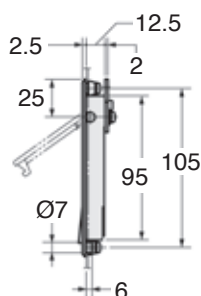
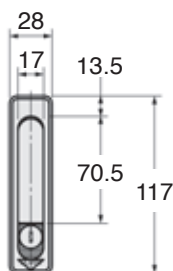
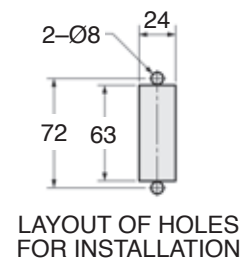
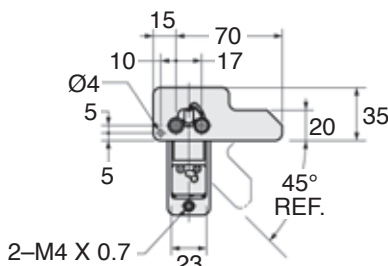
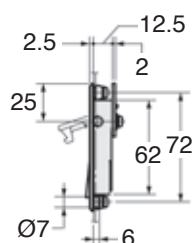
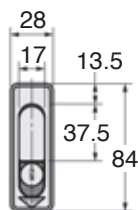


Fig. 3



• PARTS LIST

No.	Part Name	Material	Finish	Qty.
1	Base	Zinc Die Cast	Chrome Plated Dull Finish	1
2	Handle			
3	Latch			
4	Latch Cover	Stainless Steel	Barrel Polished	1
5	Mounting Hardware			
6	Screw with Washer	Steel	Zinc Plated	2
7	Countersunk Washer			
8	Screw	Stainless Steel / Zinc Die Cast	— / Zinc Plated	1
9	Lock			
10	Key	Brass	Nickel Plated	2

NOTE: The handles are shown with key number 200.

• APPLICATIONS

Distribution boards / Distribution panels / Office automation appliances / Various types of boxes

• CHARACTERISTIC

Handle includes a lock and key for better theft protection.

• HANDLES

Fig.	Catalog Number Without Key	Net Weight g	Catalog Number With Key No. 200	Net Weight g	Included Cam Model No.	Applicable Cams Shown On Page 1-45
3	MAKT33M1THA5403	146	MAKT33M1THA5403K	160	T-302-0	MAKT35MT3020
2	MAKT33M2THA5402	202	MAKT33M2THA5402K	214	T-301-0	MAKT35MT3010
1	MAKT33M3THA5401	346	MAKT33M3THA5401K	354	T-300-0	MAKT35MT3000

Fig. 1

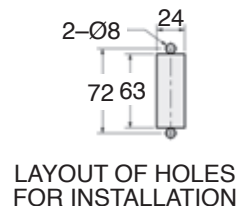
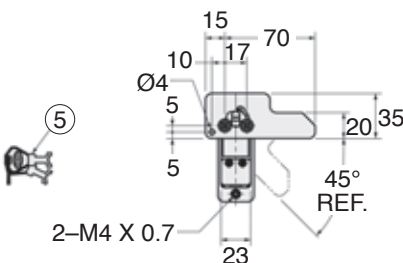
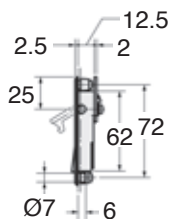
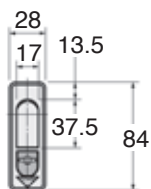


Fig. 2

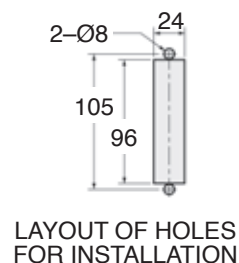
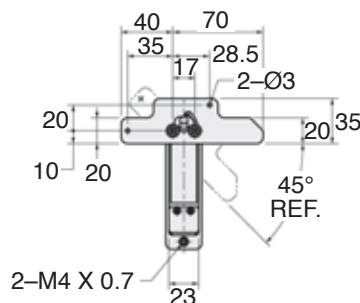
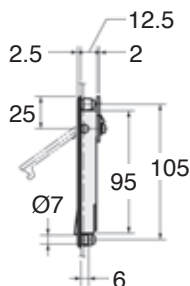
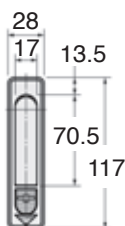
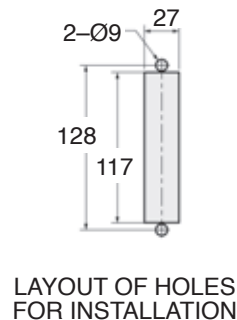
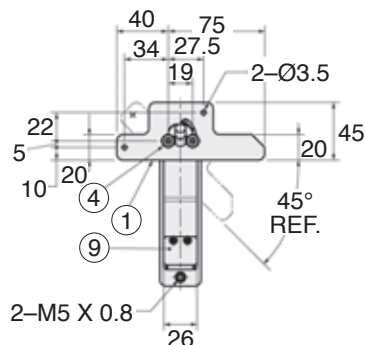
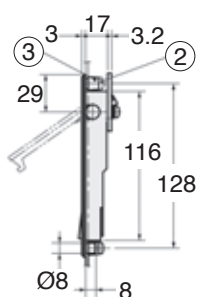
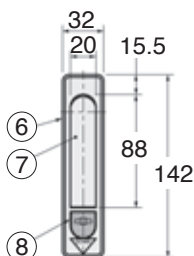


Fig. 3



• PARTS LIST

No.	Part Name	Material	Finish	Qty.	
1	Cam	Steel	Nickel Plated	1	
2	Phillips Pan Head Screw with Washer			2	
3	Pan Shaped Washer				
4	Phillips Pan Head Screw				
5	Key	Zinc Die Cast	Chrome Plated (Dull Finish)	1	
6	Base				
7	Handle				
8	Latch	Stainless Steel	Barrel Polishing		
9	Latch Cover				

• HANDLES

Fig.	Catalog Number Without Key	Net Weight g	Catalog Number With Key No. 408A	Net Weight g	Applicable Plate Thickness
1	MAKT34M1A408AN3	140	MAKT34M2A408AN3K	150	0.6 ~ 2.3
2	MAKT34M3A408AN2	194	MAKT34M4A408AN2K	208	
3	MAKT34M5A408AN1	338	MAKT34M6A408AN1K	348	0.6 ~ 3.2

• APPLICATIONS

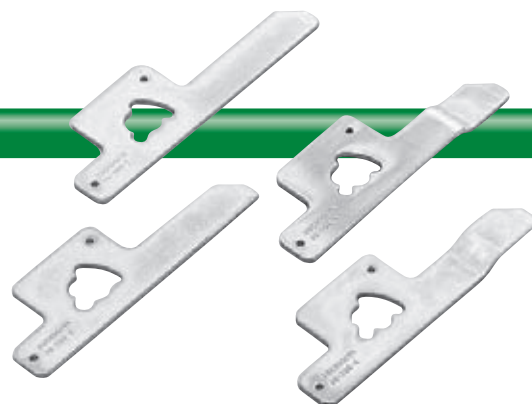
Distribution boards / Distribution panels / Control boards /
Telecommunication devices / Office automation appliances / Office utilities /
Various types of doors for boxes

• CHARACTERISTICS

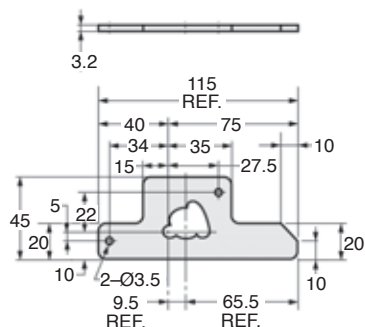
This specially designed lock is much more secure than traditional flush handle locks. The improved design and surface finish gives a fresh and sophisticated appearance. It is a modified version of handle ...A408 and has better operability, due to a higher strength handle and modified latch shape.

• SPECIFICATIONS

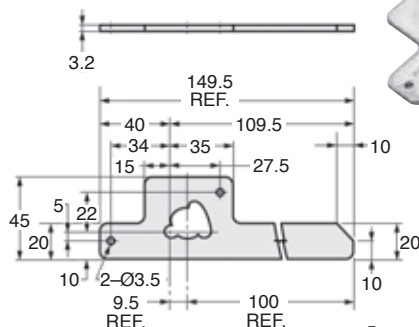
It can be used for both swing to the left and to the right by changing the position of the cam. Turn angle of the key is 180°. (2 points take off.)



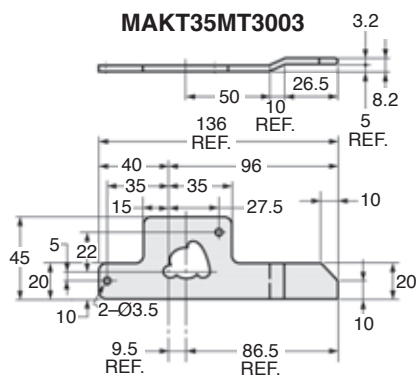
MAKT35MT3000



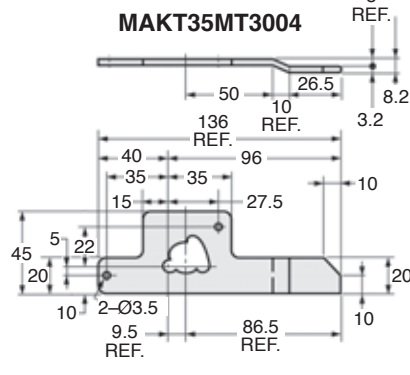
MAKT35MT3001



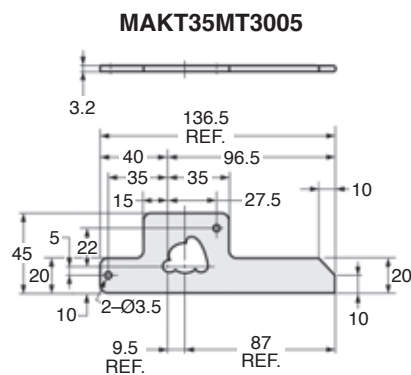
MAKT35MT3003



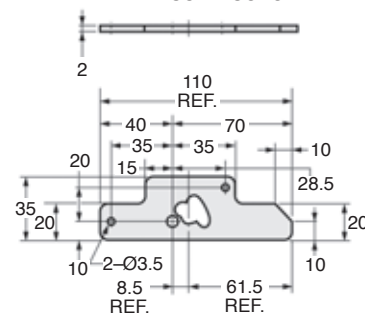
MAKT35MT3004



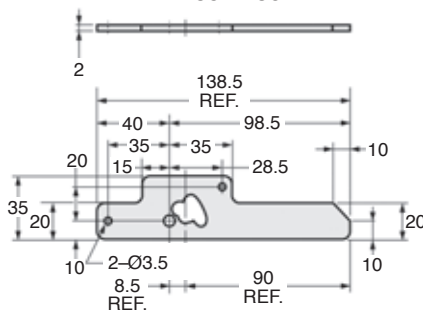
MAKT35MT3005



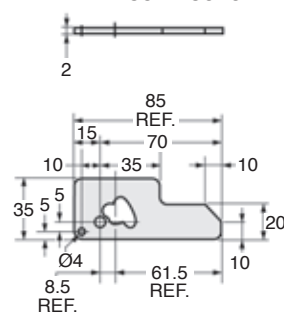
MAKT35MT3010



MAKT35MT3011



MAKT35MT3020

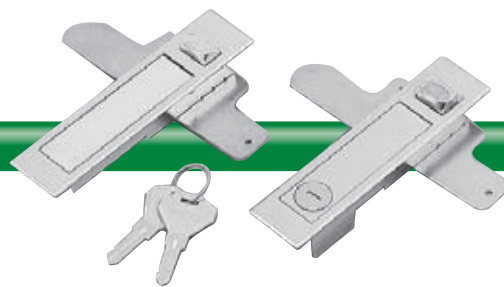


• **CAM** – Steel, Zinc Plated

Catalog Number	Applicable Model	Net Weight g
MAKT35MT3000	MAKT34M..A408AN.. MAKT33M3THA5401K	78
MAKT35MT3001		92
MAKT35MT3003		86
MAKT35MT3004		
MAKT35MT3005		
MAKT35MT3010	MAKT34M..A408AN.. MAKT33M2THA5402K MAKT33M1THA5403K	42
MAKT35MT3011		51
MAKT35MT3020		34

INSTALLATION EXAMPLE





1

• APPLICATIONS

Distribution boards / Distribution panels /
Control boards / Telecommunication devices /
Office automation appliances / Dust boxes /
Other various types of doors for boxes

• CHARACTERISTICS

Improved operability compared with ordinary
flush handles. A nonslip finish is added to the
push button. Security is enhanced while dust-
proofing the lock, by using the keyed version
with shutter mechanism.

• SPECIFICATION

Lock at 12 o'clock position and unlock at 3
o'clock position. Key can be inserted and
removed at both positions. Available with key
No. 200.

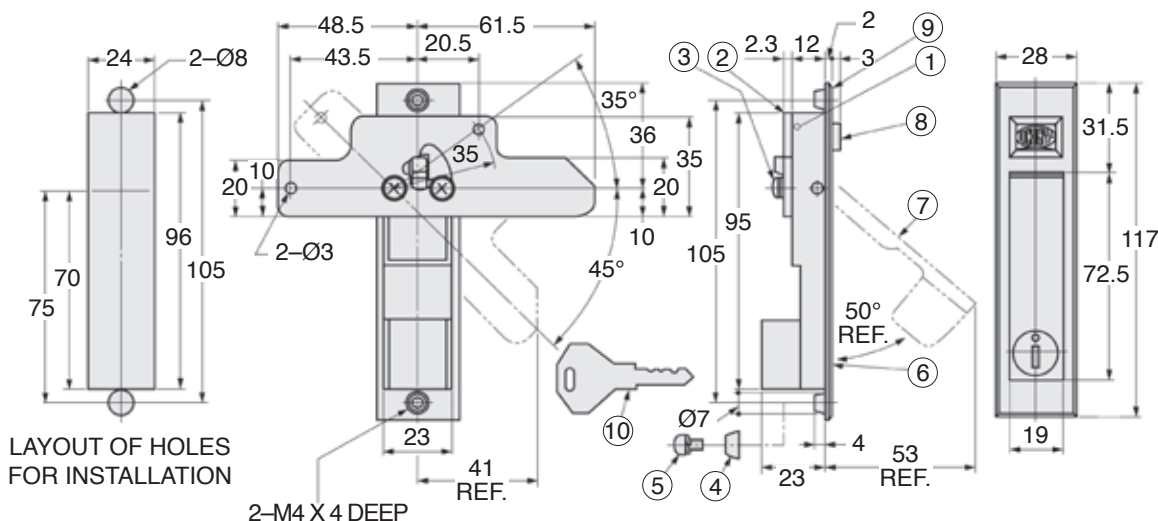
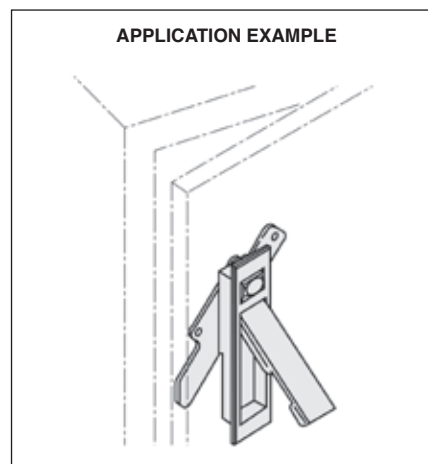
• PARTS LIST

No.	Part Name	Material	Finish	Qty.
1*	Cover	Steel	Zinc Plated	1
2*	Cam			2
3*	Set Screw			
4*	Pan Shaped Washers			
5*	Set Screw	Zinc Die Cast	Satin Finish	1
6	Rotor			
7	Handle			
8	Push Button			
9	Body	Brass	Nickel Plated	2
10	Key			

*For catalog number **MAKT36MTHA296-2K** numbers 1 thru 5 in the parts list are nickel plated.

• HANDLES

Catalog Number	Key No.	Net Weight g
MAKT36MTHA296-2	No Key	188
MAKT36MTHA296-2K*	2200	245



HANDLE, LIFT LEVER

RoHS
COMPLIANT



1

• APPLICATIONS

Distribution boards / Distribution panels /
Control boards / Telecommunication devices /
Office automation appliances / Dust boxes /
Other various types of doors for boxes

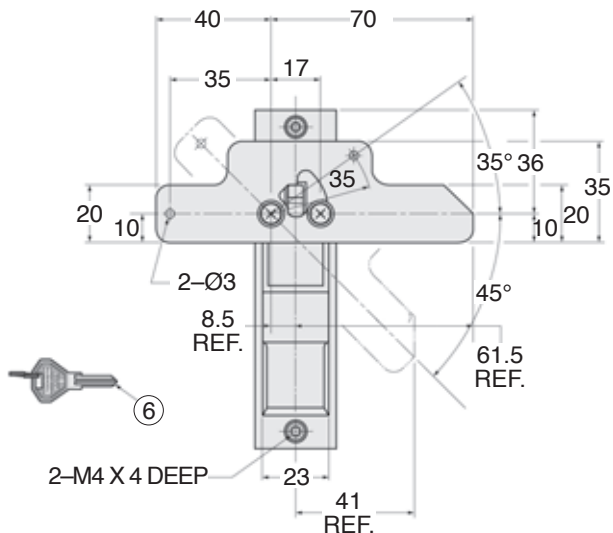
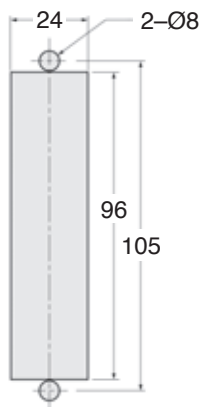
• CHARACTERISTICS

Dustproofing and key compatibility is improved
by the shutter mechanism in the lock.

• SPECIFICATIONS

Applicable panel thickness: 0.6 to 2.3. Handle
swing can be to the left or right by changing the
position of the cam. Turning the cam left 90°
makes it lock.

LAYOUT OF HOLES
FOR INSTALLATION

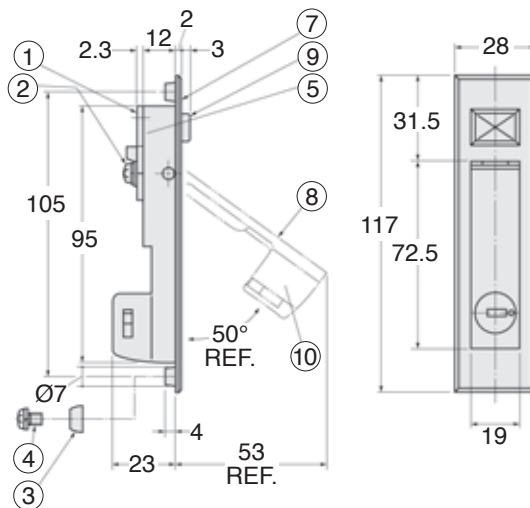


• PARTS LIST

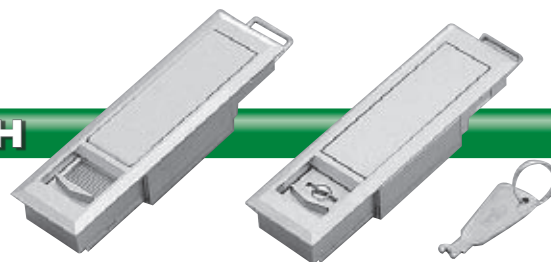
No.	Part Name	Material	Finish	Qty.
1	Cam	Steel	Nickel Plated	1
2	Set Screw			2
3	Pan Shaped Washers			
4	Set Screw			
5	Cover	Brass		1
6	Key			
7	Body	Zinc Die Cast	Chrome Plated Satin Finish	1
8	Handle			
9	Push Button			
10	Lock	Stainless Steel / Zinc Die Cast	— / Zinc Plated	

• HANDLE

Catalog Number	Key No.	Net Weight g
MAKT37MTHA276-2K	2200	245



HANDLES, FLUSH-LIFT LEVER LATCH



1

• APPLICATIONS

Vessels / Vehicles / Railcars / Transporter devices /
General industrial machines / Machine tools /
Distribution boards / Distribution panels

• CHARACTERISTICS

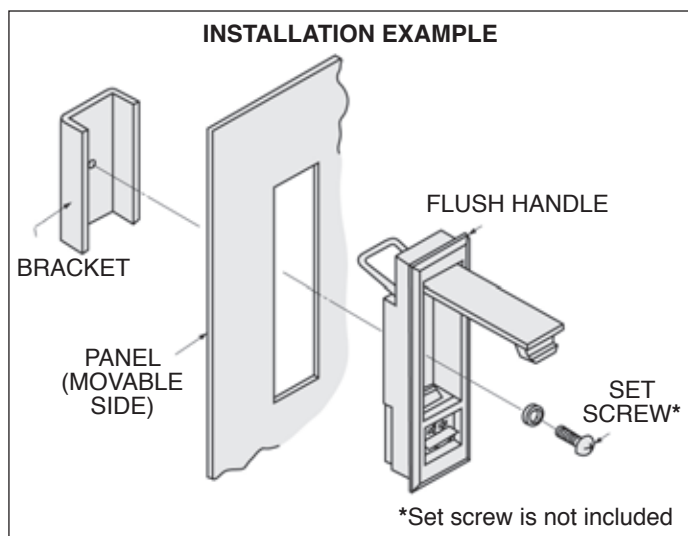
The unit locks by hooking the arm and swinging upward.
The spring force resists vibration and has a sealing effect.
The one screw with bracket simplifies the installation.

• SPECIFICATION

This key is used exclusively for **MAKT38MTHA234-**.

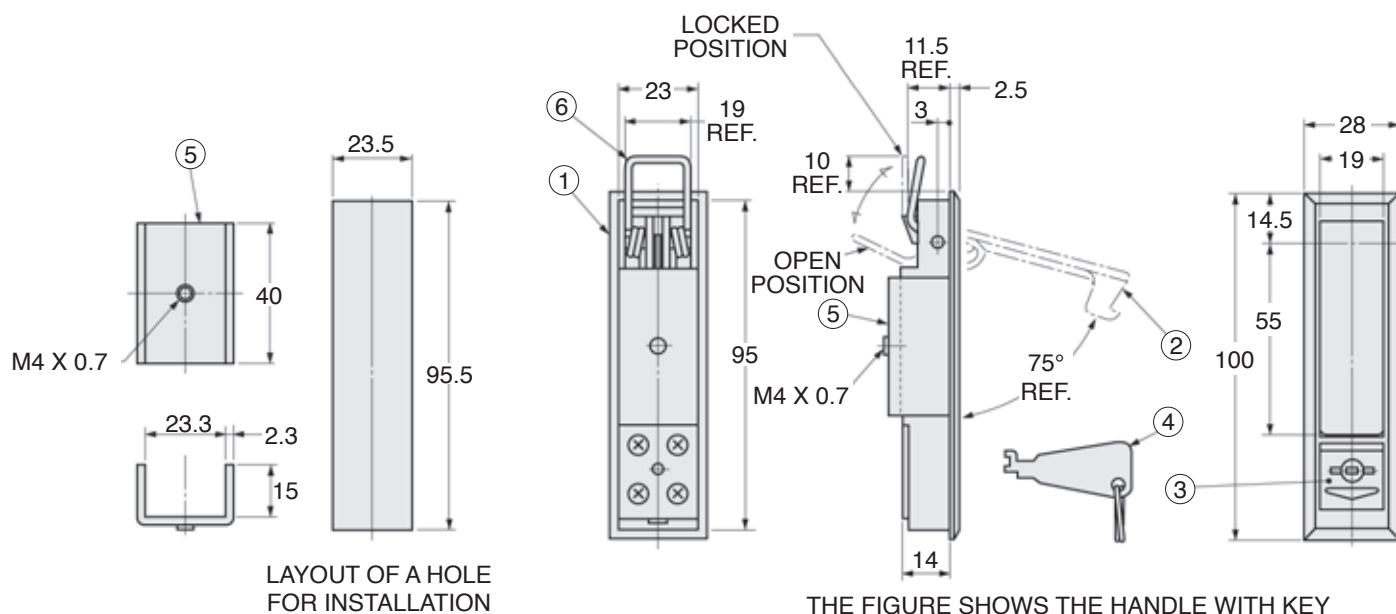
• PARTS LIST

No.	Part Name	Material	Finish	Qty.
1	Housing	Zinc Die Cast	Chrome Plated (Satin Finish)	1
2	Handle			
3	Latch			
4	Key	Steel	Nickel Plated	
5	Bracket		Zinc Plated	
6	Arm	Stainless Steel	—	



• HANDLES

Catalog Number	Type	Net Weight g
MAKT38MTHA234-1	With Key	180.8
MAKT38MTHA234-2	No Key	174.4



HANDLES, FLUSH LIFT LEVER

RoHS
COMPLIANT



1

• APPLICATIONS

Information board / Rack for communication equipment / Server rack (If using for EMI shielding rack application, it is important to install an EMI countermeasure device on the rack.)

• CHARACTERISTICS

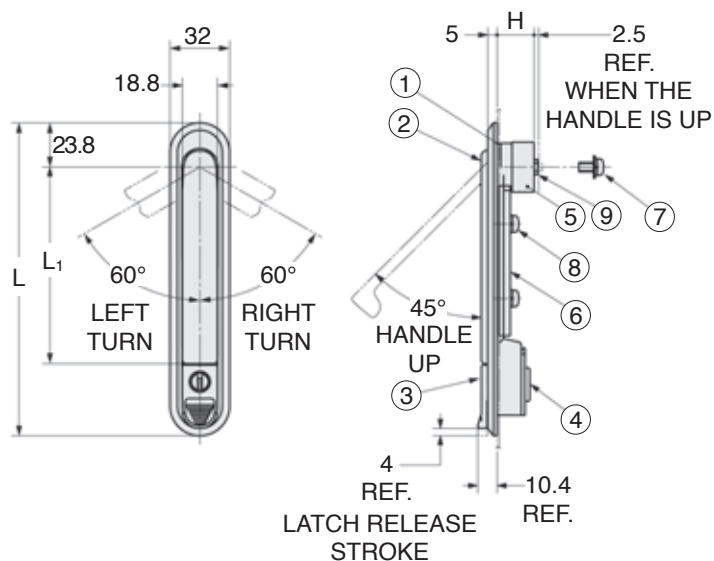
Swing direction can be switched by rotating the cap assembly. When the handle is folded into the closed position, the cam is pulled in by the lift mechanism. The shallow depth of the unit from the mounting surface allows efficient use of the interior space.

• SPECIFICATIONS

The cap can be installed 180° rotated from the diagram shown to allow the handle swing to the left 60°. The key can be inserted or removed at the locked or unlocked positions (2-point take off). The locking cam is not supplied. Please order separately.

• CAUTION

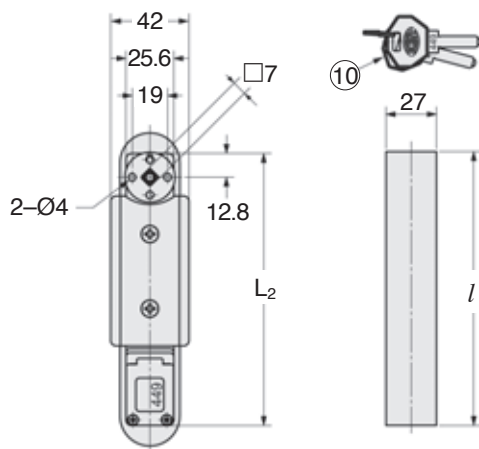
After attaching a cam, the attaching screw should be locked in place to prevent loosening.



• PARTS LIST

No.	Part Name	Material	Finish	Qty.
1	Case	Zinc Die Cast	Painted, Black	1
2	Handle		Painted, Black	
3	Latch (lock)		Painted Black, Chrome Plated	
4	Latch Cover		Painted Black, Chrome Plated	
5	Cap	Steel	Zinc Plated	2*
6	Attaching Plate		Zinc Plated	
7	Screw with Washer		Zinc Plated	
8	Screw with Washer*		Zinc Plated	
9	Pin	Stainless Steel	—	1
10	Key	Brass / Polypropylene	Nickel Plated / Black	2

*For catalog number MAKT30M1HA449B3K the quantity is 1.



LAYOUT OF HOLE
FOR INSTALLATION

• HANDLES

Catalog Number	Key No.	Max. Panel Thickness	L	L ₁	L ₂	H	l	Net Weight g
MAKT30M1HA449B3K	449	1.2	118	55.5	96	20.2	97	296
MAKT30M2HA449B2K			138	75.5	116	19.8	117	341
MAKT30M3HA449B1K			168	105.5	146	19.6	147	404

HANDLE, LIFT LEVER - with Power Unlock

RoHS
COMPLIANT



1

• APPLICATIONS

Communication equipment (digital devices, magnetic disk devices) / Other EMI shielded control boards

• CHARACTERISTICS

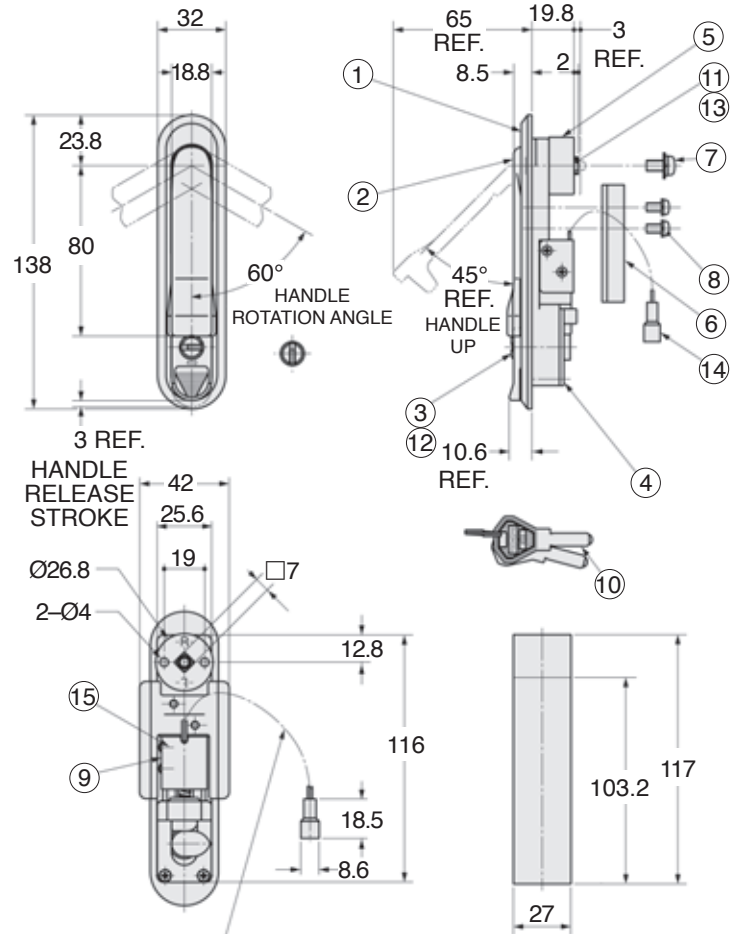
When the electrical power is on, a solenoid keeps it unlocked. When the power is off, it remains locked. In case of emergency, a key can be used to unlock the handle. When the handle is folded into the closed position, the cam is pulled in resulting in a tighter sealed door that does not rattle. The shallow depth of the unit from the mounting surface allows efficient use of the interior space. The key is a dimple type design making the lock difficult to tamper with.

• SPECIFICATIONS

By reorienting the cap, it is possible to reverse the swing direction of the handle. The locking cam is not supplied. Please purchase separately.

• CAUTION

After attaching a cam, the attaching screw should be locked in place to prevent loosening. For use in EMI shielded racks, it is important to install an EMI countermeasure device on the rack. The maximum allowable pressure on the cam (not supplied) is 30N (3 kgf) at 43 mm in the horizontal direction from the center of the rotation of the handle. When unlocking manually, the handle will spring out as the key is turned. Exercise caution not to hit fingers. (While pulling down on the latch, position the fingers operating the key away from the handle.)



LEAD WIRE LENGTH: 200

LAYOUT OF HOLE
FOR INSTALLATION

• PARTS LIST

No.	Part Name	Material	Finish	Qty.
1	Case	Zinc Die Cast	Chrome Plated (Dull Finish)	1
2	Handle			
3	Latch			
4	Latch Cover			
5	Cap	Steel	Zinc Plated	2
6	Mounting Plate			
7	Screw with Washer			
8	Screw with Washer			
9	Solenoid Cover	Brass	Nickel Plated	2
10	Key			
11	Pin	Stainless Steel	—	1
12	Latch Spring			
13	Pin Spring	Steel Wire	Zinc Plated	1
14	Relay Plug	Nylon		
15	Solenoid	—	Zinc Plated	1

• SOLENOID SPECIFICATION

Voltage V	Duty Cycle	Resistance Ω	Power Consumption W	Current mA	Max. Continuous Operation (sec.)
12 DC	25% on 75% off	24	6	500	30

• HANDLE

Catalog Number	Key No.	Max. Panel Thickness	Net Weight g
MAKT28MTHA459	459	1.2	399

HANDLES, LIFT LEVER

RoHS
COMPLIANT



1 • APPLICATIONS

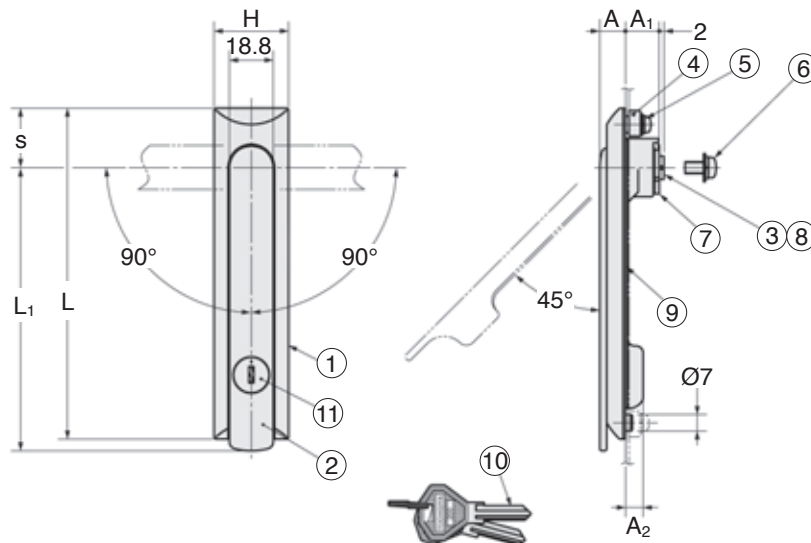
Distribution boards / Distribution panels /
Control boards / Various types of boxes

• CHARACTERISTICS

Flush type lever handle that is opened by pulling up with finger tips. Same installation holes as **...THA408AN** and **...THA505** for easy exchange. Waterproof versions have "w" after "506" in the part number.

• SPECIFICATIONS

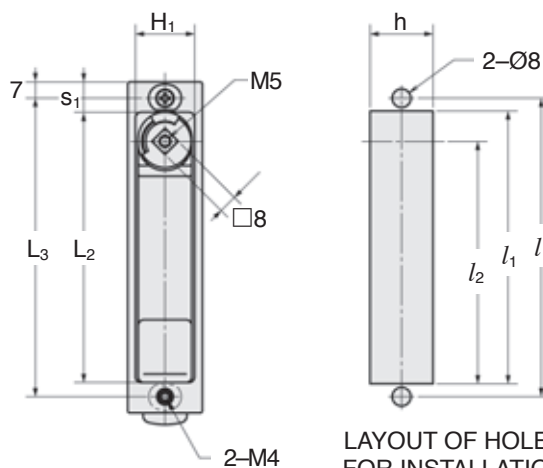
By reorienting the motion control cam, the swing can be switched between right and left. The key rotates 180°. The key can be inserted or removed at the locked or unlocked positions (2-point take off). The locking cam is not supplied. Please order separately.



• PARTS LIST

No.	Part Name	Material	Finish	Qty.
1	Case	Zinc Die Cast	Chrome Plated (Dull Finish)	1
2	Handle			
3	Shaft			
4	Attaching Hardware	Steel	Zinc Plated	2
5	Screw with Washer			
6	Screw with Washer			
7	Rotation Control Cam	Stainless Steel	—	1
8	Pin			
9*	Packing	Elastomer	Gray	
10	Key	Brass	Nickel Plated	2
11	Lock	Stainless Steel / Zinc Die Cast	— / Zinc Plated	1

*Included only with catalog numbers containing "w".



LAYOUT OF HOLES FOR INSTALLATION

• HANDLES

Catalog Number	Key No.	L	L ₁	L ₂	H	H ₁	<i>l</i>	<i>l</i> ₁	<i>l</i> ₂	h	s	s ₁	A	A ₁	A ₂	Net Weight g
MAKT29M1HA5063	No Key	86	66.5	60.89	28	23	72	62	49	24	25	12.5	10	15.5	8.6	176
MAKT29M2HA5063K	200												10	15.5	8.6	186
MAKT29M3HA506W3K													11	14.5	7.6	187
MAKT29M4HA5062	No Key	119	99.5	93.94			105	95	82				10	15.5	8.6	214
MAKT29M5HA5062K	200												10	15.5	8.6	222
MAKT29M6HA506W2K													11	14.5	7.6	225
MAKT29M7HA5061	No Key	142	121.5	115.95	32	25.4	128	117	104	27	25.5	13	10	15.5	8.6	274
MAKT29M8HA5061K	200												10	15.5	8.6	282
MAKT29M9HA506W1K													11	14.5	7.6	284

NOTE: Panel thickness should be 0.8 ~ 2.3.

www.allmetricsmallparts.com

LATCHES, FLUSH-HANDLE, Compression Type



• PARTS LIST

No.	Part Name	Material	Finish	Qty.
1	Case	Zinc Die Cast	Chrome Plated Dull Finish	1
2	Handle			
3	Latch			
4	Shaft Guide			
5	Cap			
6	Rotor	Zinc Die Cast / Stainless Steel	Zinc Plated / —	4
7	Latch Cover	Steel	Chrome Plated	
8	Countersunk Washers		Nickel Plated	
9	Pan Head Screw and Spring Washers			
10	Pan Head Screw and Flat Spring Washer	Stainless Steel	—	1
11	E-Ring			
12	Keys			
		Brass	Nickel Plated	2

• APPLICATIONS

EMI shielding racks for information devices such as digital equipment / Magnetic disk devices / Control boards / Railcars / Aircraft

• CHARACTERISTICS

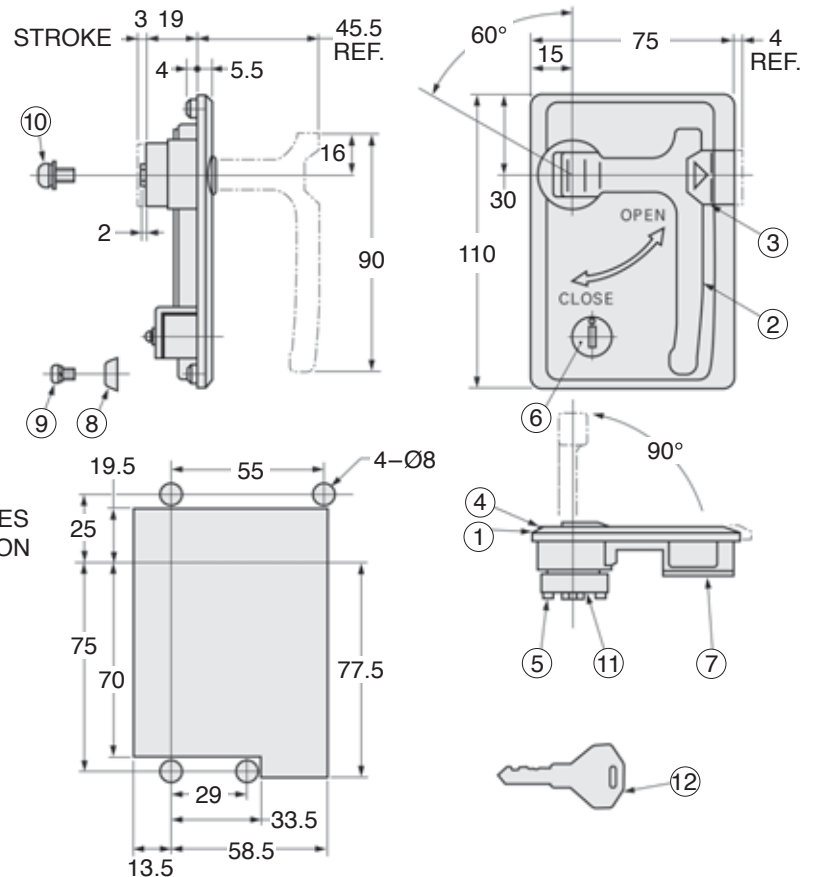
When the handle is returned to the stored position, the cam is pulled in. There is no play when the door is closed while enhancing the EMI effect. The unit has a clean appearance, due to its superior space-saving design.

• LATCHES

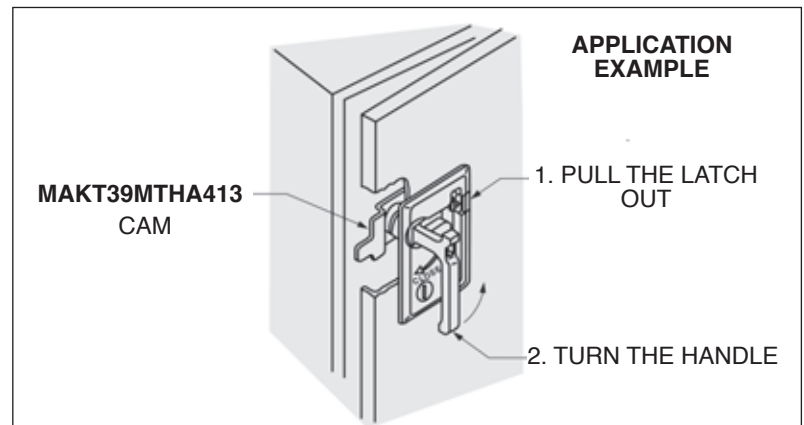
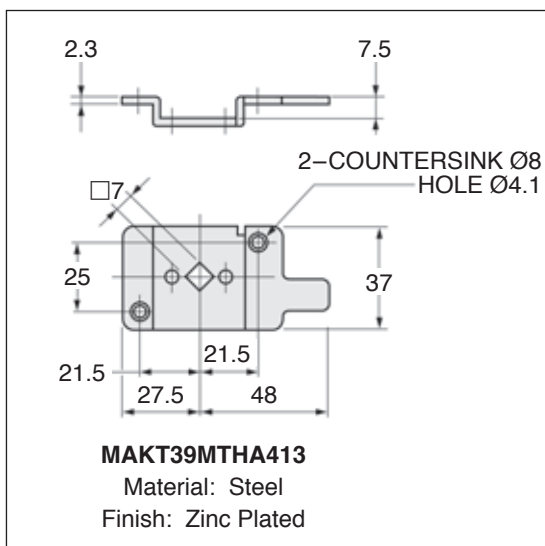
Catalog Number	Key No.	Net Weight g
MAKT39MTHA450-1	No Key	362
MAKT39MTHA450-1K	2200	318

• CAM

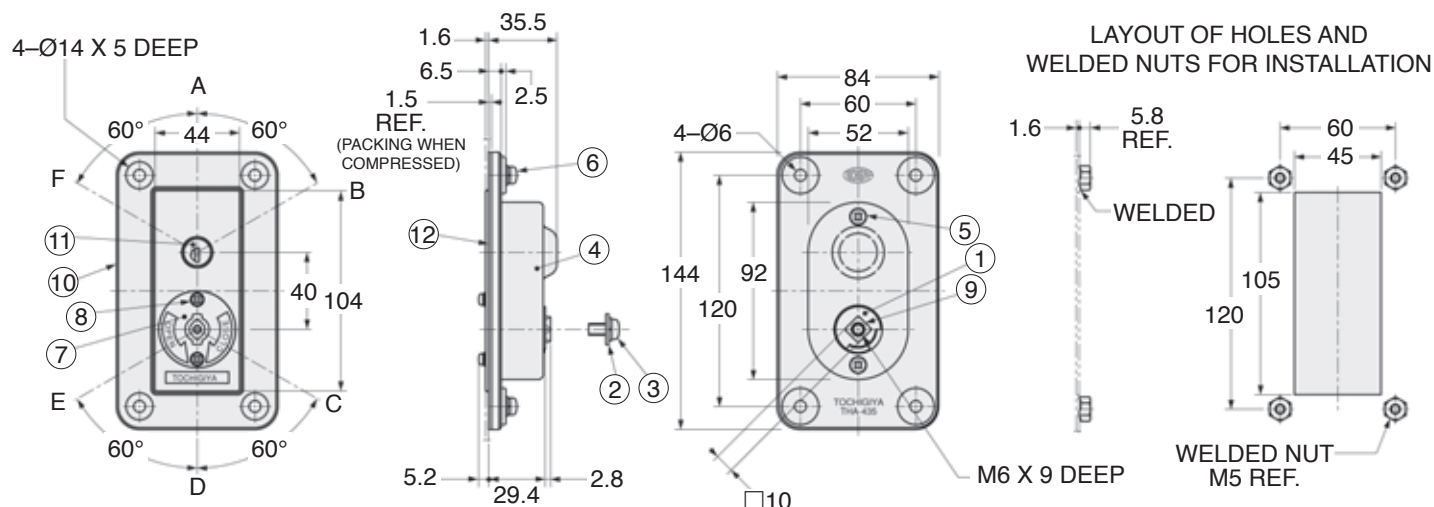
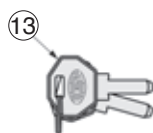
Catalog Number	Net Weight g
MAKT39MTHA413	47



LAYOUT OF HOLES FOR INSTALLATION



1



No.	Part Name	Material	Finish	Qty.
1	Rotation Control Cam	Steel	Zinc Plated	1
2	Flat Washer			
3	Phillips Pan Head Screw with Washer			
4	Cover			
5	Phillips Countersunk Screw			
6	Phillips Pan Head Screw with Washer			4
7	Directional Indication Plate	Stainless Steel	—	One Set
8	Phillips Pan Head Screw with Washer			2
9	Shaft			Barrel Polishing
10	Base	Die Cast Aluminum	Paint (Silver)	1
11	Lock	—	—	
12	Packing	Elastomer	Black	
13	Key	Nickel Silver / Polypropylene	— / Black	2

Distribution boards / Distribution panels / Control boards /
Measuring instruments

- Uses a double key system for improving security.

When installing, tighten the packing evenly and take an antiloosening measure. Also pay attention to the orientation of the packing (front/back) when installing. The handle key **MAKT51THA436** is sold separately.

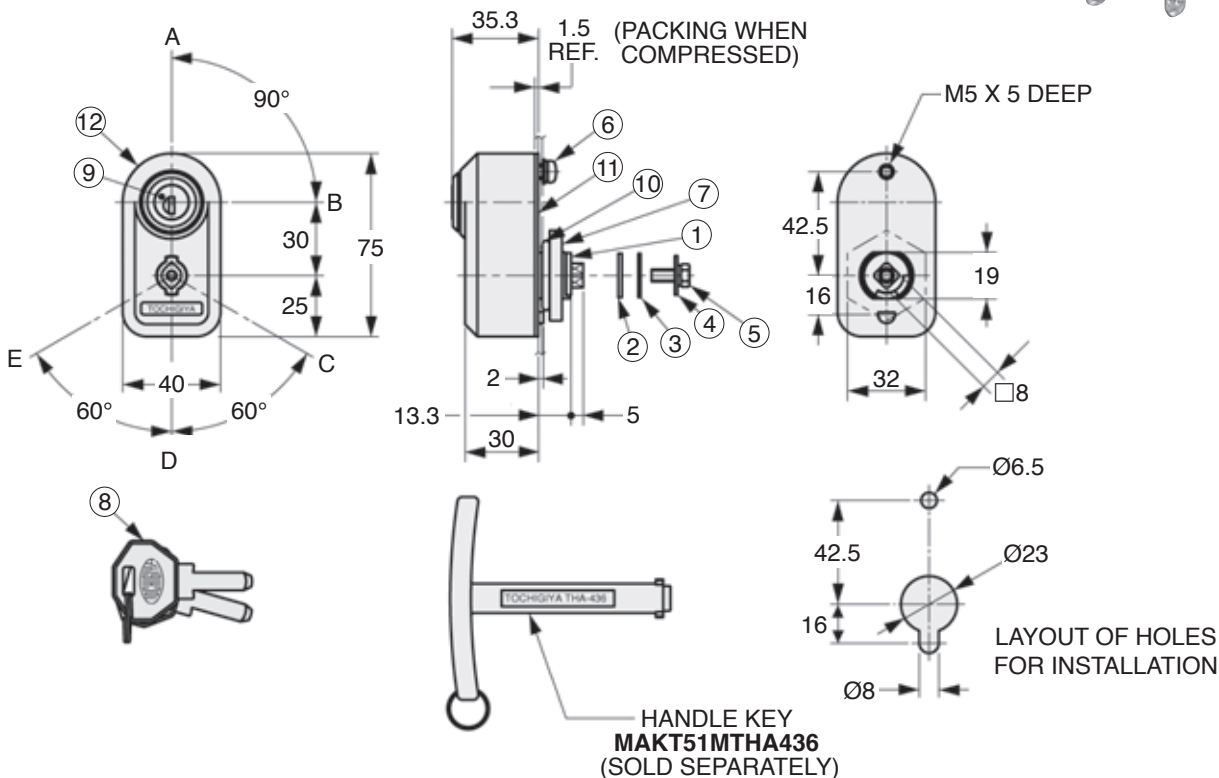
To open: Insert and unlock with the key after which use the handle key, **MAKT5IMTHA436**, to open.

To close: Lock with the handle key, **MAKT5IMTHA436**, first, remove the handle key, then lock with the key.

The turn angle of the key is 60° between points A and B.
The turn can be made between point A and F by changing the cam. The key can be removed at point A only.
The handle key rotation is 60° between points D and C.
The turn angle can be made to 60° between points D and E by changing the cam.
The handle key can be removed at point D only.

Catalog Number	Key No.	Net Weight g
MAKT49MTHA435	E5000	458

HANDLE, KEY LATCH - Double Key



• PARTS LIST

No.	Part Name	Material	Finish	Qty.
1	Rotation Control Cam	Steel	Zinc Plated	1
2	Square Hole Washer (A)			
3	Square Hole Washer (B)			
4	Flat Washer			
5	Cross Hole Hexagon Head Bolt with Washer	Brass		
6	Cross Hole Pan Head Screw with Washer			
7	Mounting Nut			
8	Key	Nickel Silver / Polypropylene	— / Black	2
9	Lock	—	—	1
10	Ring Washer	Piano Wire		
11	Packing	Rubber		
12	Case	Aluminum Die Cast	Black Paint (Silver)	

• APPLICATIONS

Distribution boards / Distribution panels /
Control boards / Measuring instruments

• CHARACTERISTIC

A double key system for improved security.

• NOTE

Apply antiloosening treatment for parts (5) and (6) after installation. The handle key, **MAKT51MTHA436**, is sold separately.

• OPERATION INSTRUCTIONS

To open: Unlock with the key first, then use the handle key, **MAKT51MTHA436**, to open.

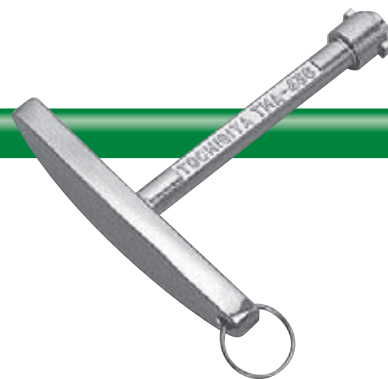
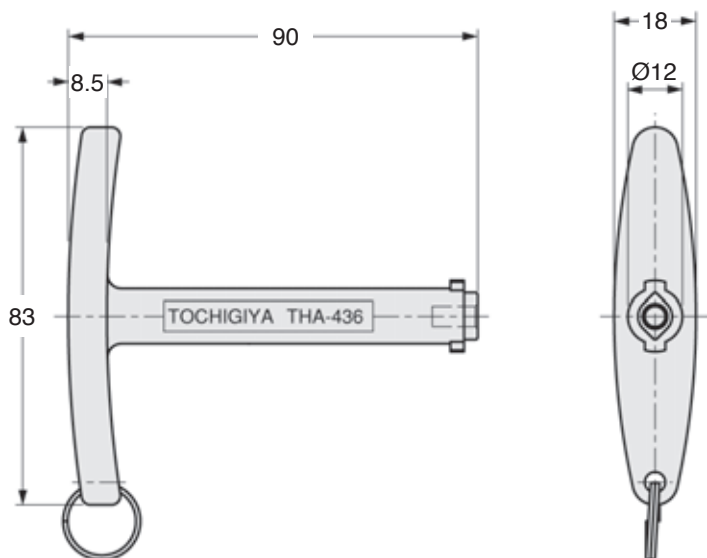
To close: Lock with the handle key, **MAKT51MTHA436**, first; remove the handle key, then lock with the key.

• SPECIFICATION

The turn angle of the key is 90° between points A and B. The key can be removed at point A only. The handle key rotation is 60° between points D and C. The turn angle can be made to 60° between points D and E by changing the cam. The handle key can be removed at point D only.

• HANDLE

Catalog Number	Key No.	Range of Panel Thickness	Net Weight g
MAKT50MTHA437	E5000	1.4 ~ 3.2	241



• **APPLICATIONS**

Used on **MAKT49MTHA435** or **MAKT50MTHA437**

• **CHARACTERISTIC**

A handle key for the double key lock.

• **HANDLE** – Stainless Steel, Electrolytic Polishing Finish

• **RING** – Stainless Steel

Catalog Number	Net Weight g
MAKT51MTHA436	104.5

HANDLE, KEY LATCH

RoHS
COMPLIANT

1

• APPLICATIONS

Small distribution boards / Small distribution panels /
Control boards

• CHARACTERISTICS

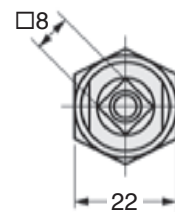
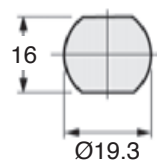
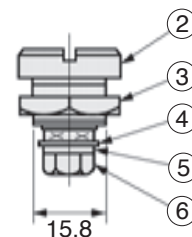
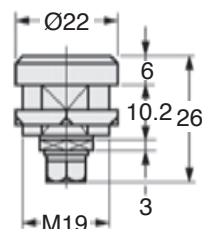
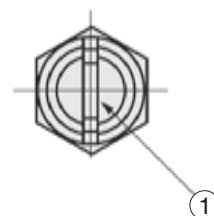
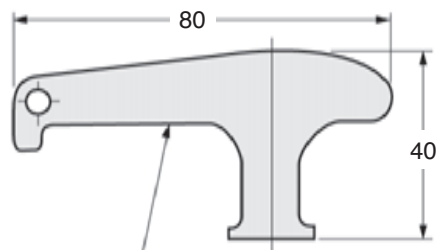
Heat-resistant, salt-resistant, chemical-resistant, and
acid-resistant. The handle contains a built-in detent
mechanism and protrudes slightly from the mounting
surface.

• PARTS LIST

No.	Part Name	Material	Finish	Qty.
1	Rotational Axis	Stainless Steel	—	1
2	Mounting Seat			
3	Mounting Nut			
4	Washer			
5	Spring Washer			
6	Hexagon Bolt			
7	Key Handle		Barrel Polishing	

• HANDLE

Catalog Number	Net Weight g
MAKT48MTHA184	60.1



LAYOUT OF HOLE FOR INSTALLATION

LATCHES, PADDLE - Stainless Steel

RoHS
COMPLIANT



1

• APPLICATIONS

Distribution boards / Distribution panels / Control boards / Industrial machinery

• CHARACTERISTICS

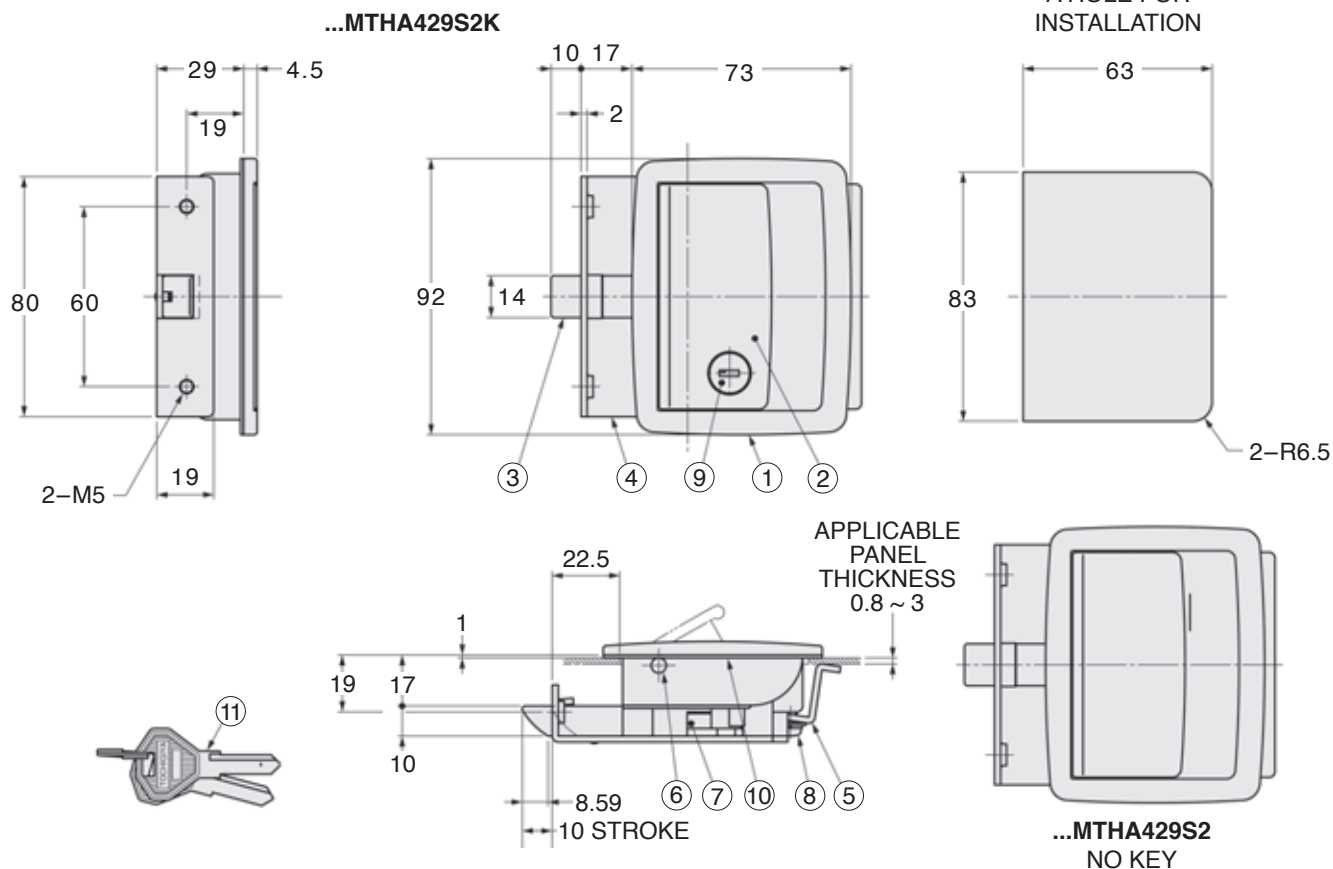
Same as the ...MTHA429.. series, except in stainless steel. Can be installed without disassembling the unit.

• LATCHES

Catalog Number	Key No.	Net Weight g
MAKT41MHA429S2	R200	657
MAKT41MHA429S2K	No Key	639

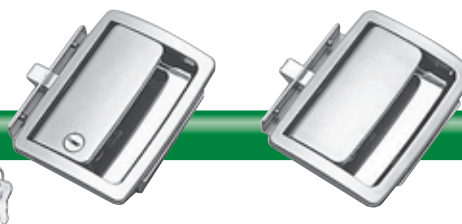
• PARTS LIST

No.	Part Name	Material	Finish	Qty.
1	Case	Stainless Steel	Bead Blast	1
2	Handle		Barrel Polishing	
3	Latch			
4	Base			
5	Mounting Bracket			
6	Pin			
7	Spring			
8	Screws and Flat Washers			
9	Lock			
10	Packing	Rubber	Black	1
11	Keys	Brass	Nickel Plated	2



LATCHES, PADDLE, 1-Point Locking

RoHS
COMPLIANT



1

• PARTS LIST

No.	Part Name	Material	Finish	Qty.
1	Case	Zinc Die Cast	Chrome Plated, Dull Finish	1
2	Handle		Chrome Plated, Satin Finish	
3	Lock		Chrome Plated	
4	Latch		—	
5	Pin	Stainless Steel	—	2
6	Base	Steel	Zinc Plated	
7	Mounting Bracket		—	
8	Cross-Hole Pan Head Screws and Washers		—	
9	Spring	Stainless Steel	—	1
10	Packing	Rubber	Black	2
11	Keys	Brass	Nickel Plated	2

• APPLICATIONS

Distribution boards / Distribution panels /
Control boards / Machine tools

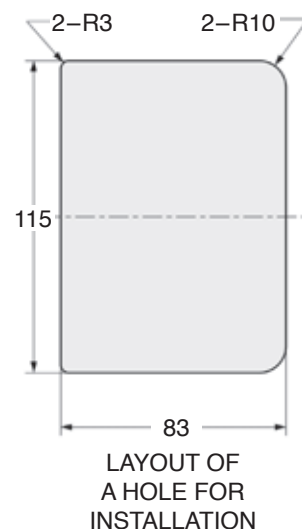
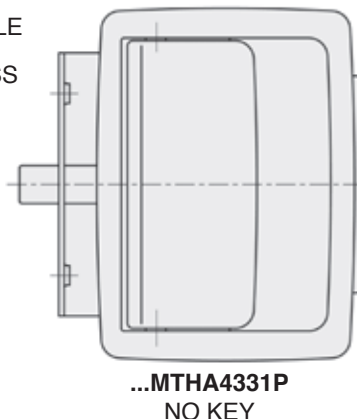
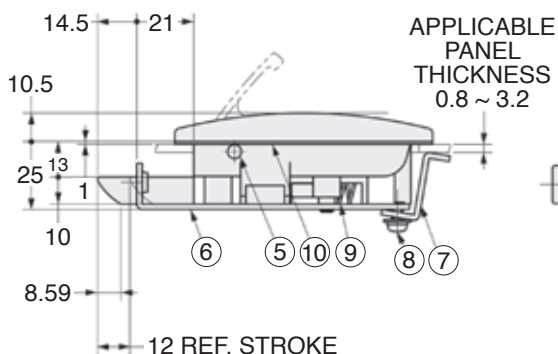
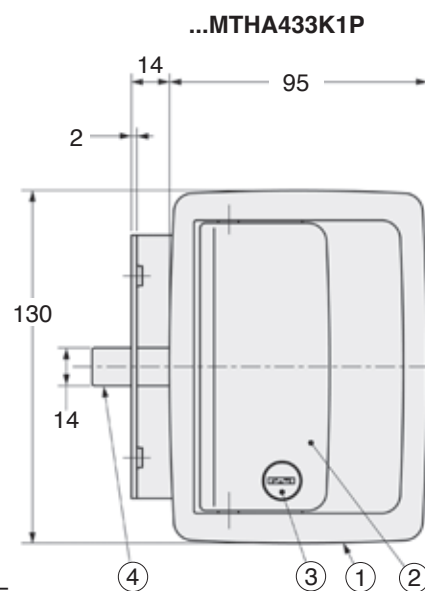
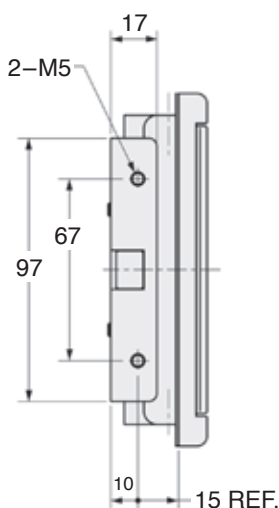
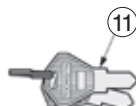
• CHARACTERISTIC

This flush-type latch protrudes slightly from the mounting surface and is usable for both left and right sides.

• LATCHES

Catalog Number	Key No.	Net Weight g
MAKT41MTHA433K1P	282	894
MAKT41MTHA4331P	No Key	874

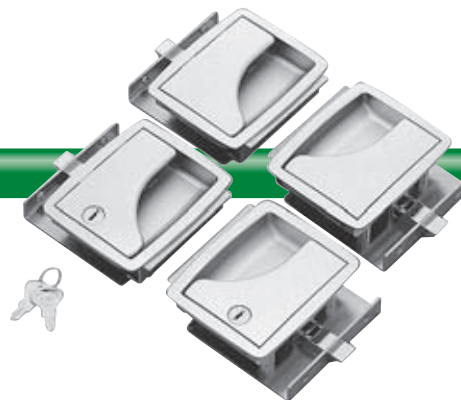
NOTE: Both latch and handle move independently.



LATCHES, PADDLE

RoHS
COMPLIANT

1



• APPLICATIONS

Distribution boards / Distribution panels / Control boards / Vehicle related devices / Machine tools

• CHARACTERISTICS

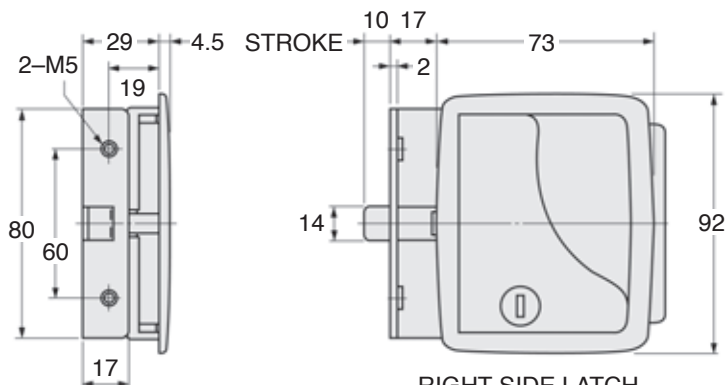
A door can be opened by pulling on the handle and closed by simply pushing on the door. When the door is not latched properly, the handle remains in the raised position, giving a visual confirmation of closure. These paddle latches are fairly dust and waterproof and can be installed without disassembling the unit.

• PARTS LIST

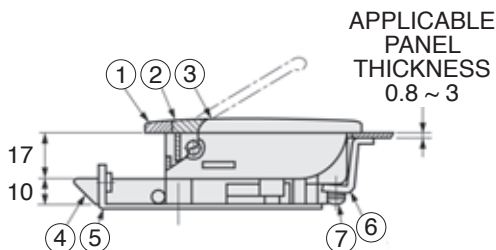
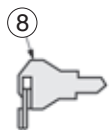
No.	Part Name	Material	Finish	Qty.
1	Case	Zinc Die Cast	Chrome Plated	1
2	Lever		Satin Finish	
3	Rotor		Chrome Plated	
4	Latch		Chrome Plated	
5	Base	Steel	Zinc Plated	2
6	Mounting Bracket			
7	Pan Head Screws			
8	Keys	Brass	Nickel Plated	

• LATCHES

Catalog Number	Specifications	Key No.	Net Weight g
MAKT42MTHA281-1	Right-Side Latch	282	469
MAKT42MTHA281-2		No Key	452
MAKT42MTHA281-3	Left-Side Latch	282	469
MAKT42MTHA281-4		No Key	452

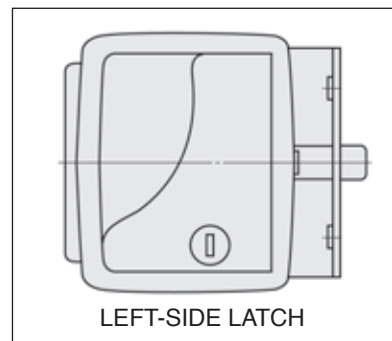
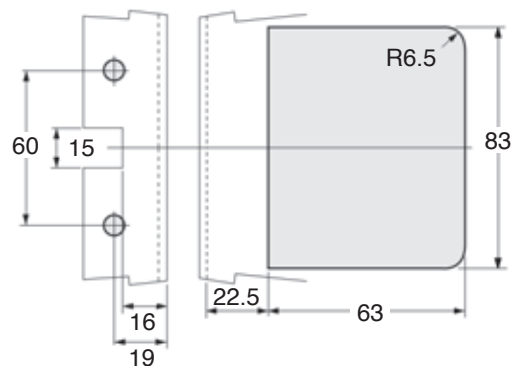


RIGHT-SIDE LATCH

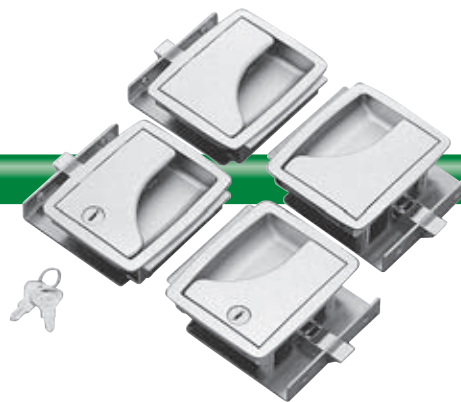


THE FIGURE SHOWS THE LATCH WITH KEY

LAYOUT OF A HOLE FOR INSTALLATION



LEFT-SIDE LATCH



• APPLICATIONS

Distribution boards / Distribution panels / Control boards / Vehicle related devices / Machine tools

• CHARACTERISTICS

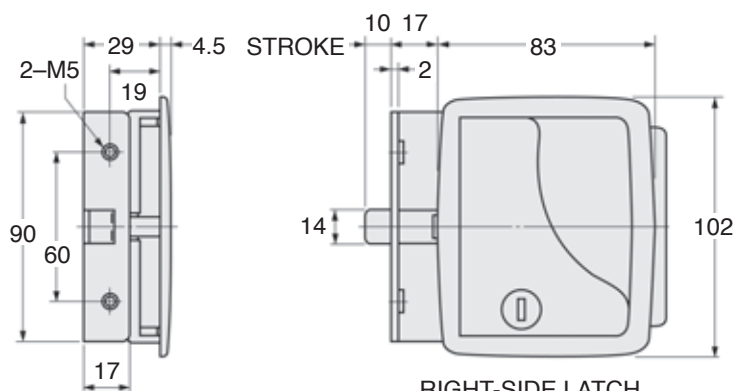
A door can be opened by pulling on the handle and closed by simply pushing on the door. When the door is not latched properly, the handle remains in the raised position, giving a visual confirmation of closure. These paddle latches are fairly dust and waterproof and can be installed without disassembling the unit.

• PARTS LIST

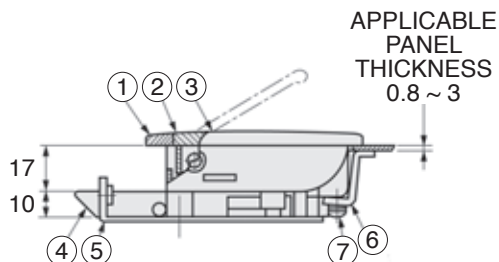
No.	Part Name	Material	Finish	Qty.
1	Case	Zinc Die Cast	Chrome Plated Satin Finish	1
2	Lever			
3	Rotor		Chrome Plated	
4	Latch			
5	Base	Steel	Zinc Plated	2
6	Set Plate			
7	Pan Head Screws	Brass	Nickel Plated	
8	Keys			

• LATCHES

Catalog Number	Specifications	Key No.	Net Weight g
MAKT42MTHA282-1	Right-Side Latch	282	615
MAKT42MTHA282-2		No Key	600
MAKT42MTHA282-3	Left-Side Latch	282	615
MAKT42MTHA282-4		No Key	600

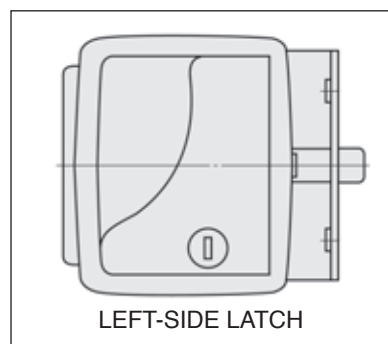
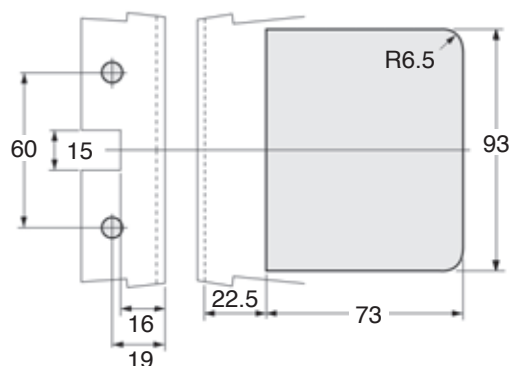


RIGHT-SIDE LATCH



THE FIGURE SHOWS THE LATCH WITH KEY

LAYOUT OF A HOLE FOR INSTALLATION



LEFT-SIDE LATCH

LATCHES, PADDLE, 1-Point Locking

RoHS
COMPLIANT



1 • APPLICATIONS

Distribution boards / Distribution panels / Control boards / Vehicle related devices / Machine tools

• CHARACTERISTIC

A door can be opened by pulling on the handle and closed by simply pushing on the door. When the door is not latched properly, the handle remains in the raised position alerting the user that the door remained open. These paddle latches are more dust and water resistant than the ...MTHA282.. series and can be installed without disassembling the unit.

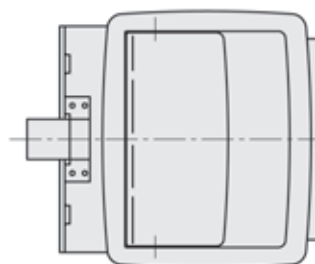
• PARTS LIST

No.	Part Name	Material	Finish	Qty.
1	Case	Zinc Die Cast	Chrome Plated, Dull Finish	1
2	Handle		Chrome Plated, Satin Finish	
3	Lock		Chrome Plated	
4	Latch	Stainless Steel	—	
5	Pin			
6	Spring			
7	bracket	Steel	Zinc Plated	2
8	Base			
9	Mounting Bracket			
10	Pan Head Screws	Elastomer	Gray	1
11	Packing			
12	Keys	Brass	Nickel Plated	2

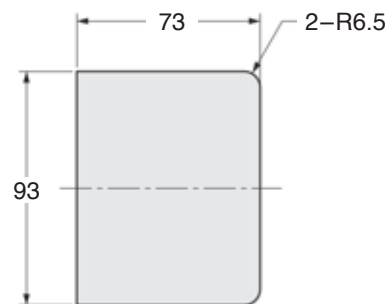
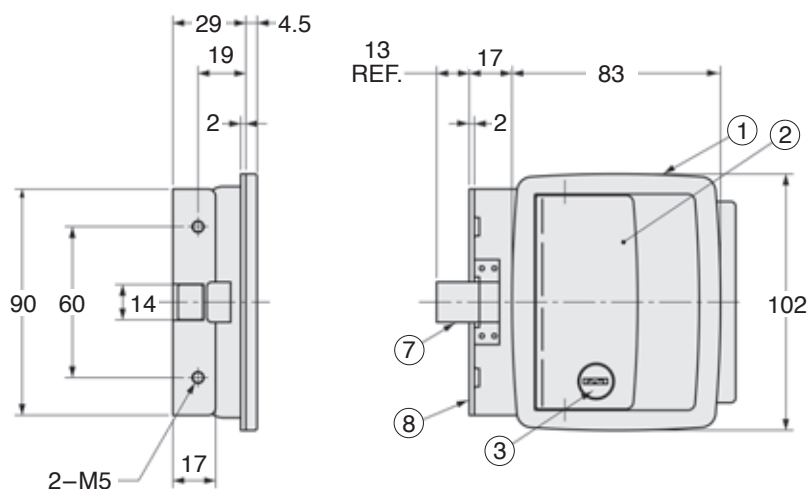
• LATCHES

Catalog Number	Key No.	Net Weight g
MAKT44MTHA429-1	No Key	656
MAKT44MTHA429-1K	282	672

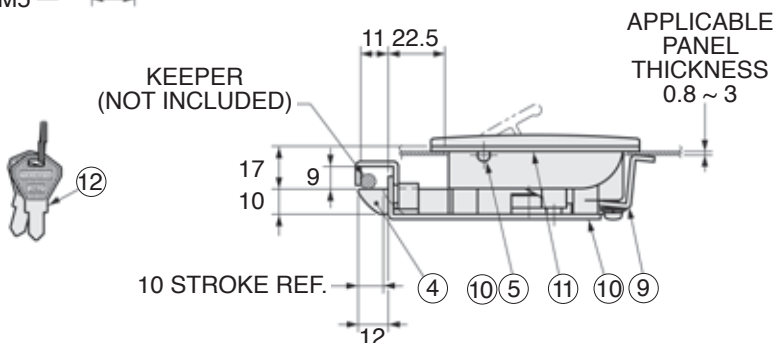
...MTHA429-1
NO KEY



...MTHA429-1K

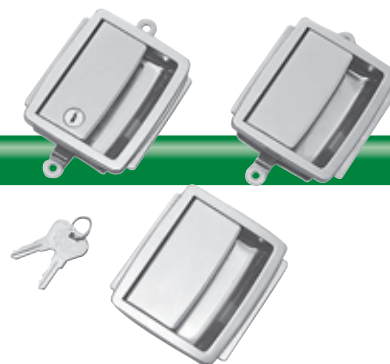


LAYOUT OF
A HOLE FOR
INSTALLATION



LATCHES, PADDLE, 2-Point Locking

RoHS
COMPLIANT



1

• PARTS LIST

No.	Part Name	Material	Finish	Qty.	
1	Case	Zinc Die Cast	Chrome Plated, Dull Finish	1	
2	Handle		Chrome Plated, Satin Finish		
3	Lock		Stainless Steel		—
4	Pin				
5	Spring	Steel	Zinc Plated		
6	Mounting Bracket				
7	Mounting Bracket				
8	Pan Head Screws				
9	Arm			4	
10	Arm			1	
11	Arms			2	
12	Base			1	
13	Packing	Elastomer	Gray	1	
14	Keys	Brass	Nickel Plated	2	

• LATCHES

Catalog Number	Key No.	Net Weight g
MAKT44MTHA4291KP	282	678
MAKT44MTHA42912P	No Key	662
MAKT44MTHA4291F	No Latch	648

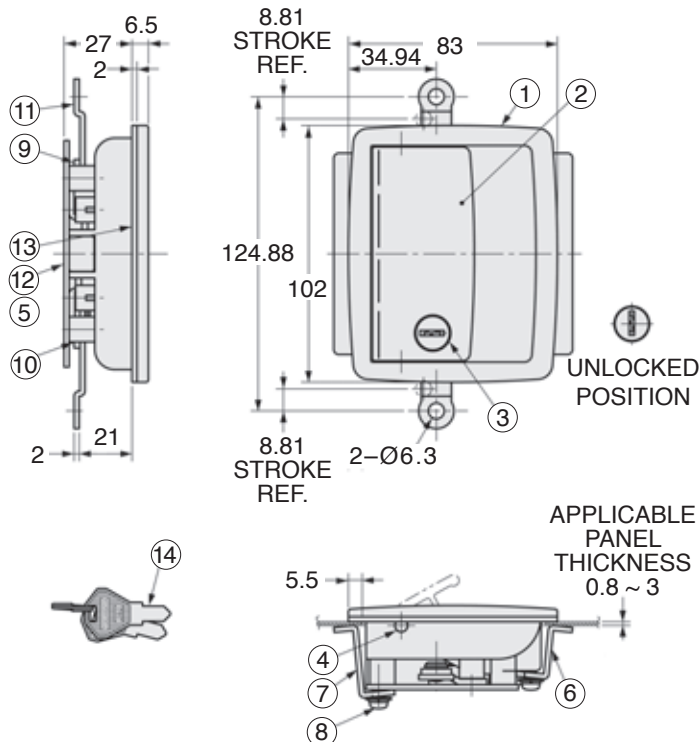
• APPLICATIONS

Distribution boards / Distribution panels /
Control boards / Vehicle related devices /
Machine tools

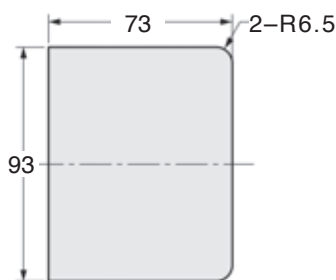
• CHARACTERISTICS

The paddle latch allows for 2-point locking with the use of a rod (not included). The flush-type latch protrudes slightly from the mounting surface and can be installed on the left or right side. Model ...MTHA4291F, is used on one side of a double door.

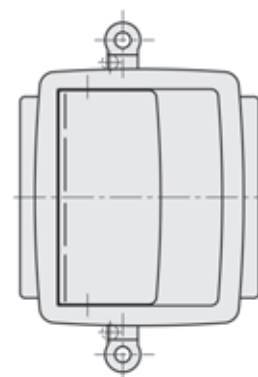
...MTHA4291KP



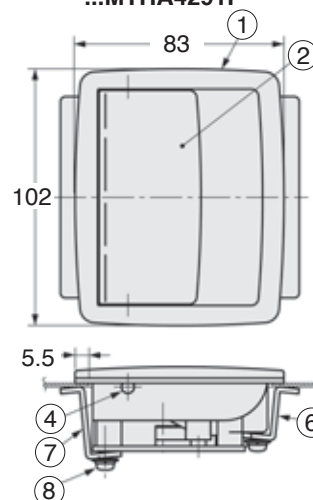
LAYOUT OF A HOLE FOR INSTALLATION



...MTHA42912P



...MTHA4291F





LATCH, PADDLE - Plastic, 2-Point Locking

RoHS
COMPLIANT

• PARTS LIST

1

No.	Part Name	Material	Finish	Qty.
1	Case	Polycarbonate	Black	1
2	Handle			
3	Pin			
4	Base			
5	Mounting Brackets	Steel	Zinc Plated	2
6	Cross-Hole Pan Head Screws and Washers			4
7	Arm			1
8	Arm			2
9	Arms			2
10	Packing	Elastomer	Gray	1
11	Lock	Zinc Die Cast	Chrome Plated	
12	Keys	Brass	Nickel Plated	2
13	Rod Retainers*	Nylon	Natural Color	

*Rod Retainers are **MAKT27MTHA293-1**, Sold Separately.

• APPLICATIONS

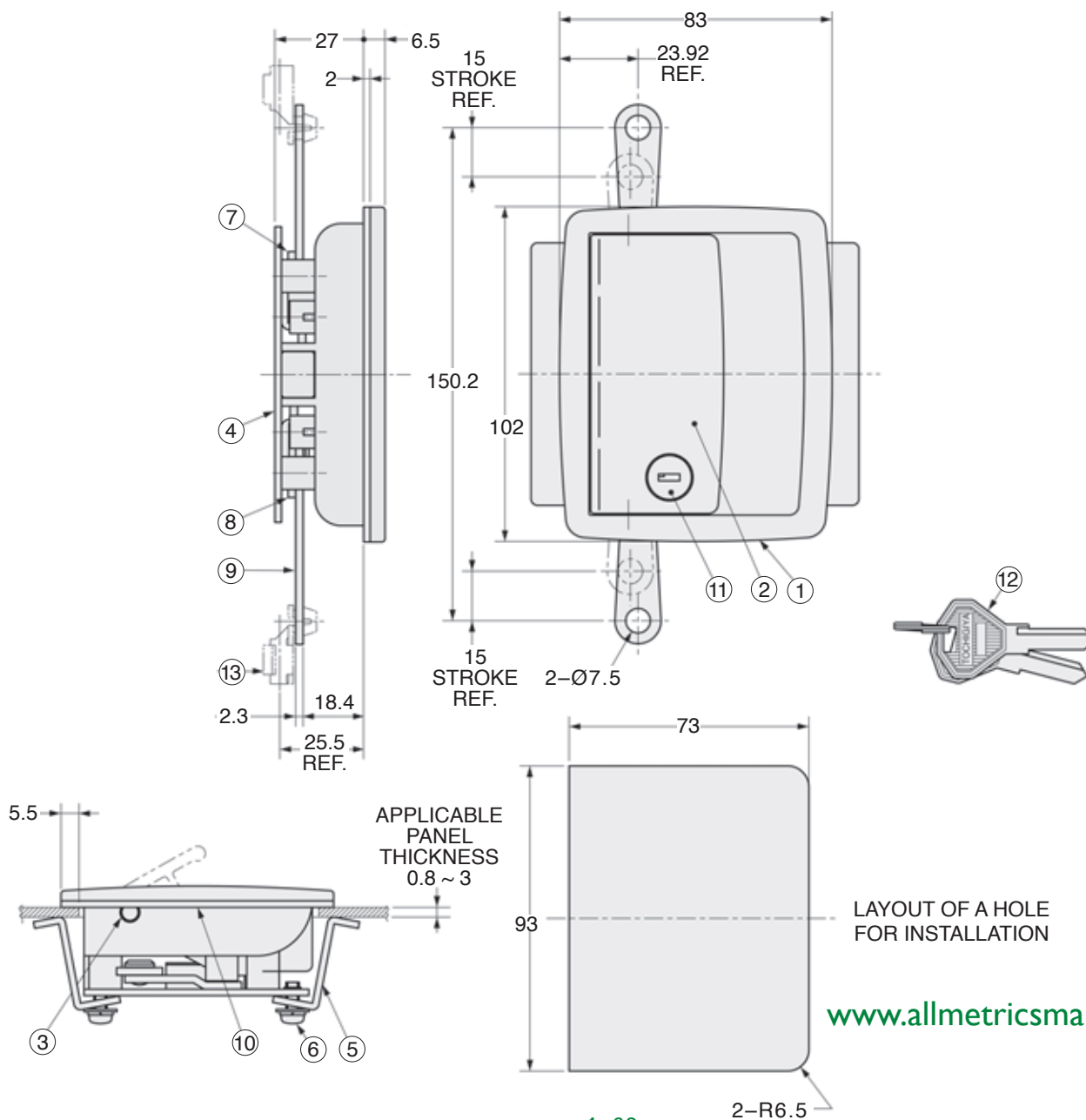
Machine tools / Kitchen equipment

• CHARACTERISTICS

The paddle latch allows for 2-point locking with the use of a rod (not included). Plastic is used for the case and handle to make the latch lighter than the ...MTHA429.. series.

• LATCH

Catalog Number	Key No.	Net Weight g
MAKT44MA429P1K2P	R200	395



www.allmetricsmallparts.com

LATCHES, PADDLE, 2-Point Locking

RoHS
COMPLIANT



1

• LATCHES

Catalog Number	Max. Plate Thickness	Key No.	Net Weight g
MAKT41MTHA433K2P	0.8	282	962
MAKT41MTHA4332P		No Key	940
MAKT41MTHA433F		No Latch	876

NOTE: When installing, make sure that the markings "2P" and "LOCK" are visible. Apply antiloosening treatment to the cross-hole countersunk screws (part no. 7) after installation. The emergency release is only available on model **MAKT41MTHA4332P**.

• APPLICATIONS

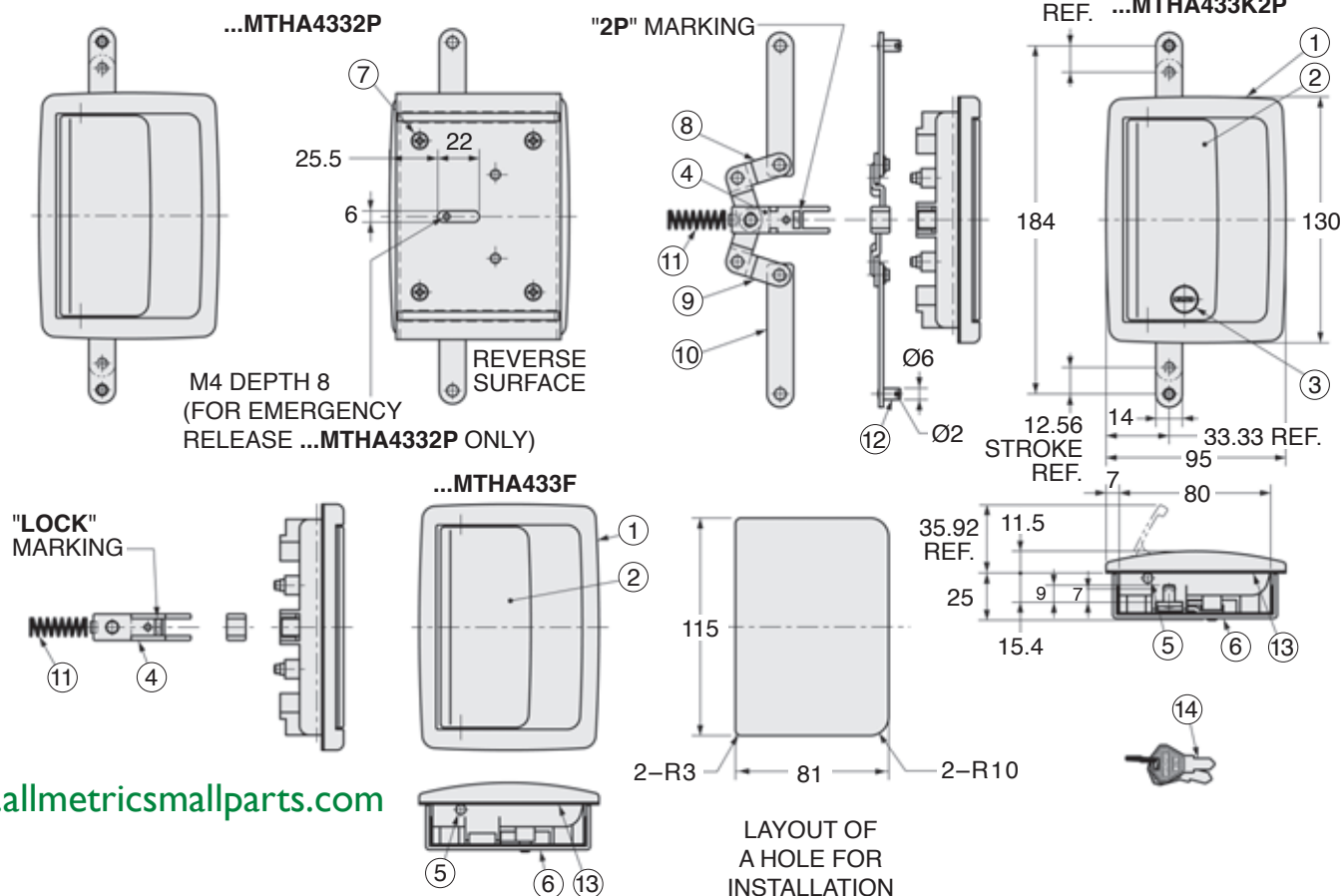
Distribution boards / Distribution panels /
Control boards / Machine tools

• CHARACTERISTICS

The paddle latch allows for 2-point locking with the use of a rod (not included). The flush-type latch protrudes slightly from the mounting surface and can be installed on the left or right side. Model **...MTHA433F**, is used on one side of a double door.

• PARTS LIST

No.	Part Name	Material	Finish	Qty.
1	Case	Zinc Die Cast	Chrome Plated, Dull Finish	1
2	Handle		Chrome Plated, Satin Finish	
3	Lock		Chrome Plated	
4	Joint	Stainless Steel	—	1
5	Pin		—	
6	Bracket	Steel	Zinc Plated	4
7	Cross-Hole Countersunk Screws			
8	Arm			
9	Arm			
10	Arms	Stainless Steel	—	2
11	Spring			
12	Bosses	Rubber	Black	2
13	Packing			
14	Keys	Brass	Nickel Plated	2



LATCHES, PADDLE, 3-Point



1

APPLICATIONS

Distribution boards / Distribution panels /
Control boards / Vehicle related devices /
Machine tools

CHARACTERISTICS

A link mechanism is added to the paddle latch
...MTHA282; using this with the slam latch,
MAKT43MTHA284, a rod retainer is
attached to the ends of the arms con-
necting to the slam latch (see application
example to the right). Simply push the
rod into the rod retainer.

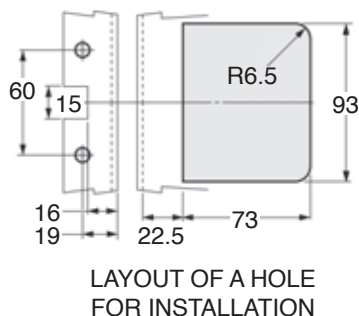
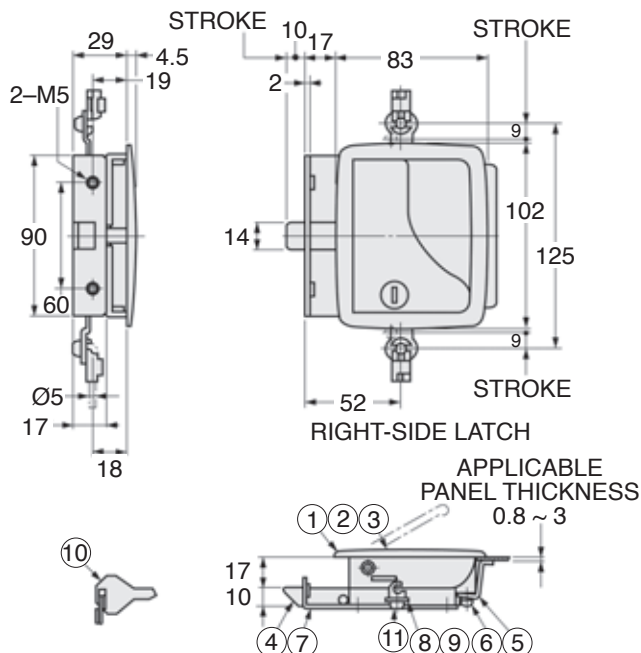
PARTS LIST

No.	Part Name	Material	Finish	Qty.
1	Case	Zinc Die Cast	Chrome Plated Satin Finish	1
2	Lever			
3	Rotor		Chrome Plated	
4	Latch			
5	Mounting Bracket	Steel	Zinc Plated	2
6	Pan Head Screws			
7	Base			1
8	Arm			
9	Arm			
10	Keys	Brass	Nickel Plated	2
11	Rod Retainers*	Nylon	Natural Color	

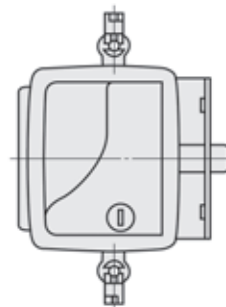
*Rod Retainers are **MAKT27MTHA293-1**, Sold Separately.

LATCHES

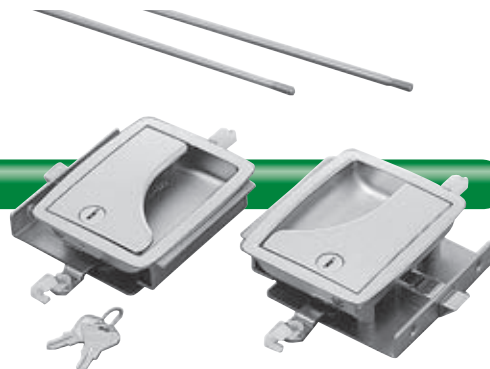
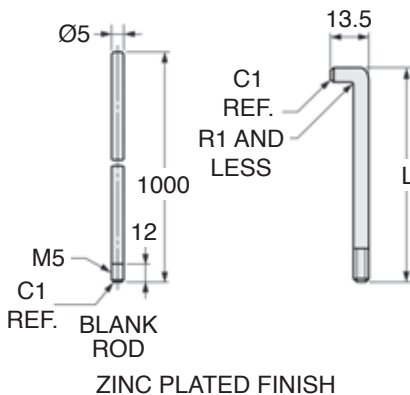
Catalog Number	Specifications	Key No.	Net Weight g
MAKT42MTHA283-1	Right-Side Latch	282	597
MAKT42MTHA283-2	Left-Side Latch		



LEFT-SIDE LATCH



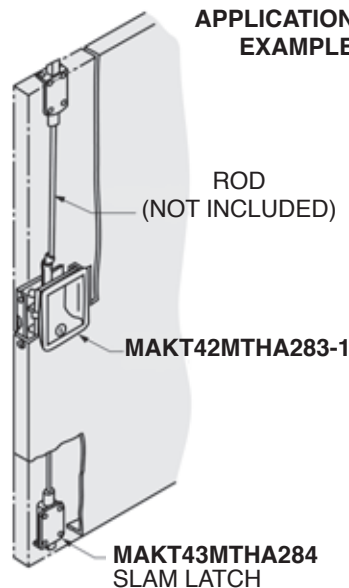
ROD EXAMPLE - NOT INCLUDED AVAILABLE UPON REQUEST



MAKT43MTHA284
SLAM LATCH



APPLICATION
EXAMPLE



• **APPLICATIONS**

Distribution boards / Distribution panels / Control boards / Vehicle related devices / Cabinets

• **CHARACTERISTIC**

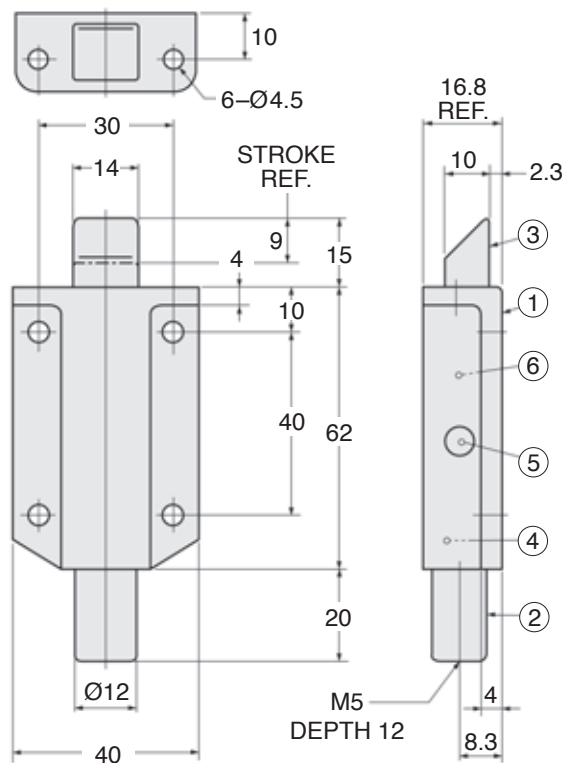
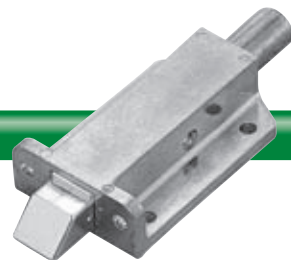
In order to ensure the engagement of the latch, the latch stroke can be verified by the movement of the rod.

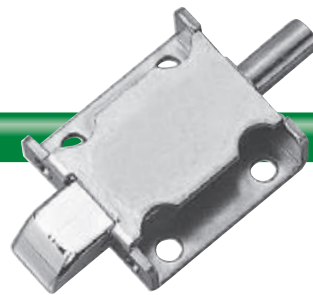
• **PARTS LIST**

No.	Part Name	Material	Finish	Qty.
1	Case	Zinc Die Cast	Zinc Plated	1
2	Rod		Chrome Plated	
3	Latch		Stainless Steel	
4	Spring			
5	Spring Pin			
6	Block	Brass		

• **LATCH**

Catalog Number	Net Weight g
MAKT43MTHA284	167.3





1

• **APPLICATIONS**

Panel latches / Various types of handles

• **CHARACTERISTIC**

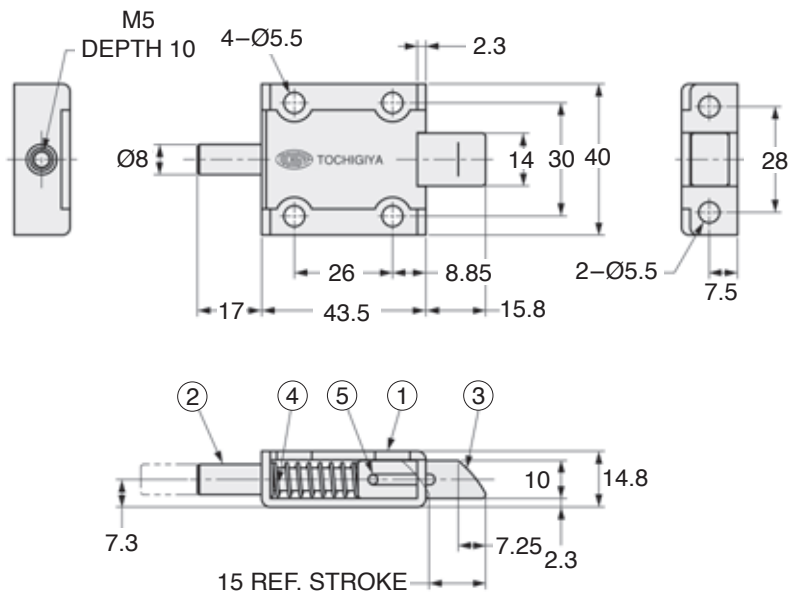
The paddle latch is shock resistant since the rod and latch move independently.

• **PARTS LIST**

No.	Part Name	Material	Finish	Qty.
1	Case	Steel	Zinc Plated	1
2	Rod			
3	Latch	Zinc Die Cast	Chrome Plated	
4	Spring	Piano Wire	Zinc Plated	
5	Spring Pin	Stainless Steel	—	

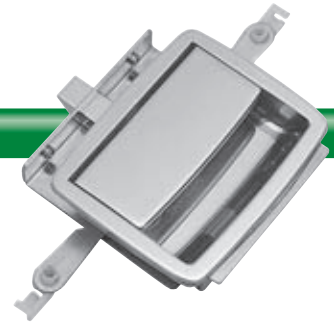
• **LATCH**

Catalog Number	Net Weight g
MAKT44MTHA315	88



LATCH, PADDLE, 3-Point Locking

RoHS
COMPLIANT



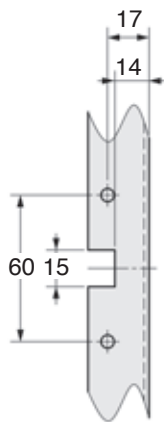
• PARTS LIST

No.	Part Name	Material	Finish	Qty.
1	Case	Zinc Die Cast	Chrome Plated, Dull Finish	1
2	Handle			
3	Latch			
4	Pin	Steel	Zinc Plated	2
5	Base			
6	Mounting Hardware			
7	Small Screws and Flat Washers			
8	Arm			
9	Arm			
10	Arms			
11	Rod Retainers*	Nylon	Natural Color	2
12	Packing	Elastomer	Gray	1

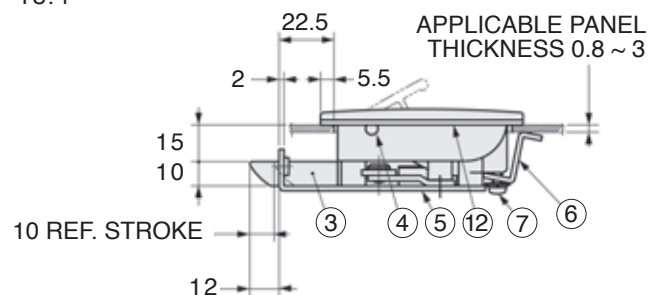
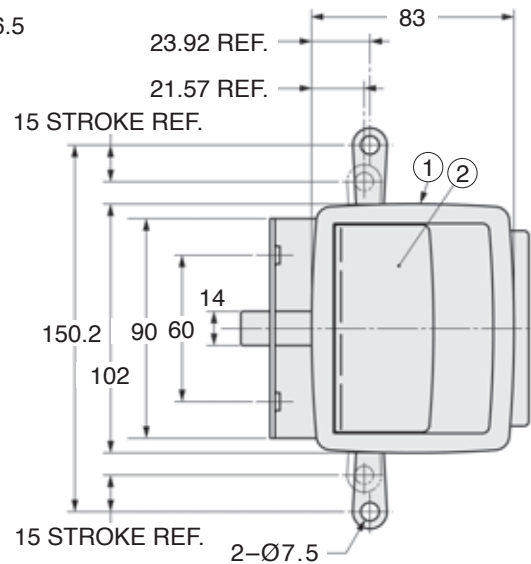
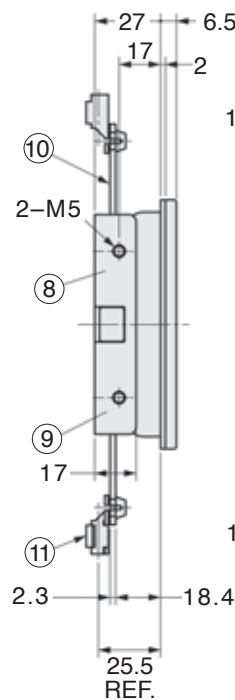
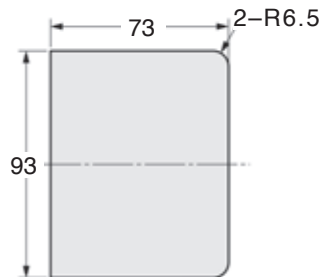
*Rod Retainers are **MAKT27MTHA293-1**, Sold Separately.

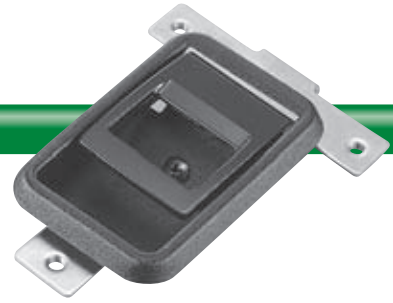
• LATCH

Catalog Number	Key No.	Net Weight g
MAKT41MHA42913PL	No Key	680



LAYOUT OF A HOLE FOR INSTALLATION





1

• **APPLICATIONS**

Doors for construction machines / Operator cabs

• **CHARACTERISTIC**

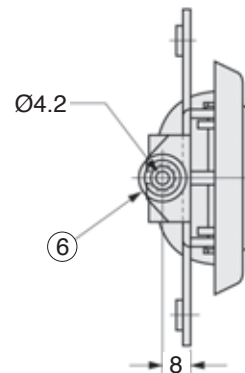
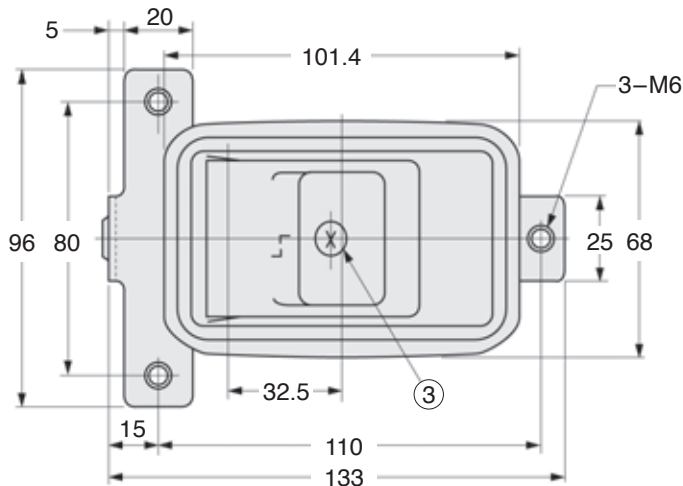
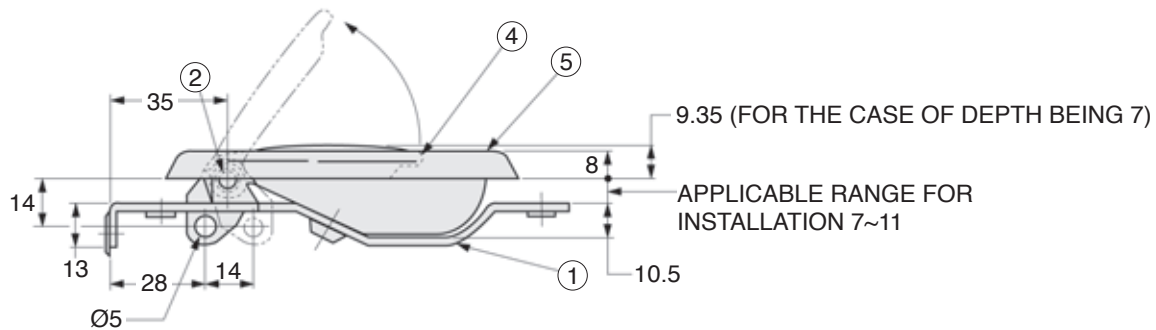
An interior handle for doors of construction machines, such as operator cab doors. Lifting the handle up unlocks the door.

• **HANDLE**

Catalog Number	Net Weight g
MAKT46MTHA298	220

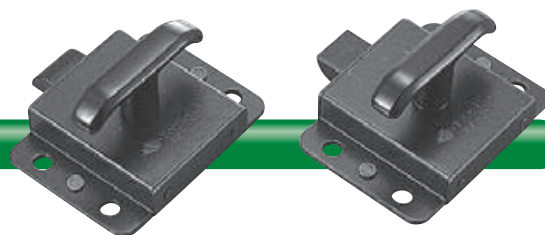
• **PARTS LIST**

No.	Part Name	Material	Finish	Qty.
1	Mounting Plate for Handle	Steel	Zinc Plated	1
2	Shaft		Black Galvanized	
3	Cross Hole Countersunk Screw	Zinc Die Cast	Black Paint	
4	Handle		Black Paint	
5	Handle Cover	Steel	Black Paint	
6	Washer	Brass	Chrome Plated	



HANDLES, TEE HANDLE SLAM LATCH

RoHS
COMPLIANT



1

• PARTS LIST

No.	Part Name	Material	Finish	Qty.
1	Case	Steel	Galvanized, Black	1
2	Cover			
3	Guide Pin			
4	Rivet			
5	Pan Head Screw	Zinc Die Cast	Zinc Plated	1
6	Latch		Galvanized, Black	
7	Cam		Black Paint	
8	Handle		Zinc Plated	
9	Spring	Piano Wire	Zinc Plated	2

• APPLICATIONS

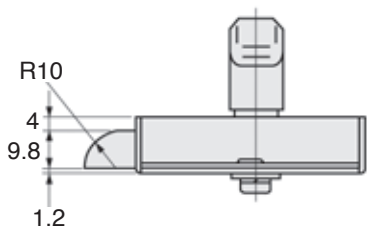
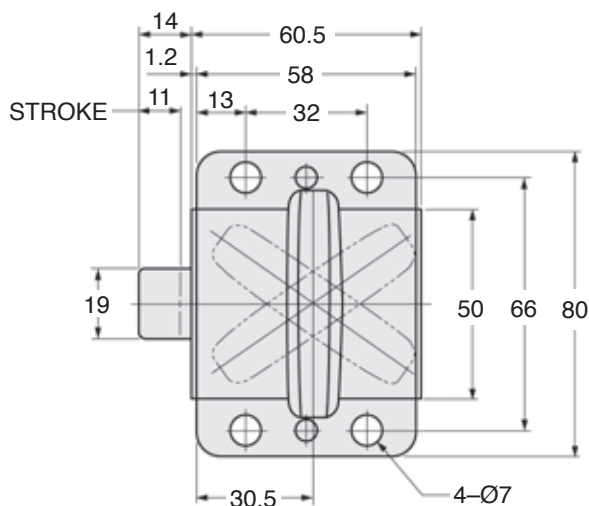
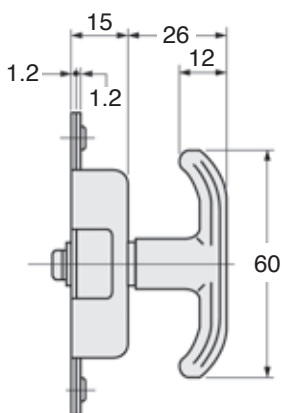
Construction machines (windshields on operator cabs) /
Machine tools / Maintenance inlets

• CHARACTERISTICS

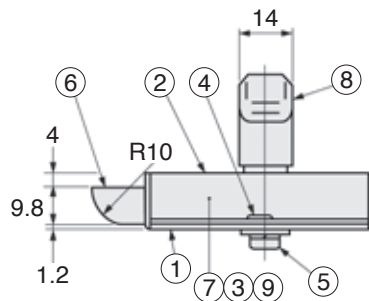
Two types, push-in and pull-out, are available. The latch will retract when the handle is rotated approximately 55°. It can be mounted on the right or left side. The handle can easily be replaced.

• HANDLES

Catalog Number	Type	Net Weight g
MAKT45MTHA299-1	Push-in the handle to close	260
MAKT45MTHA299-2	Pull-in the handle to close	



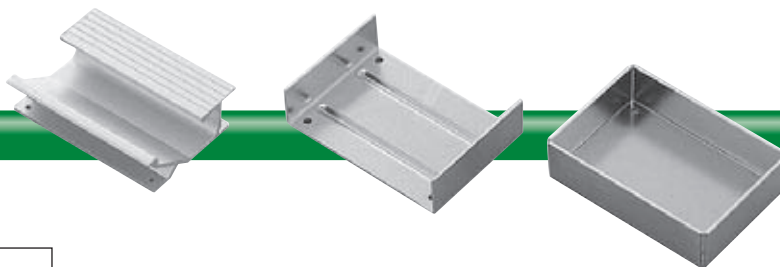
MAKT45MTHA299-2



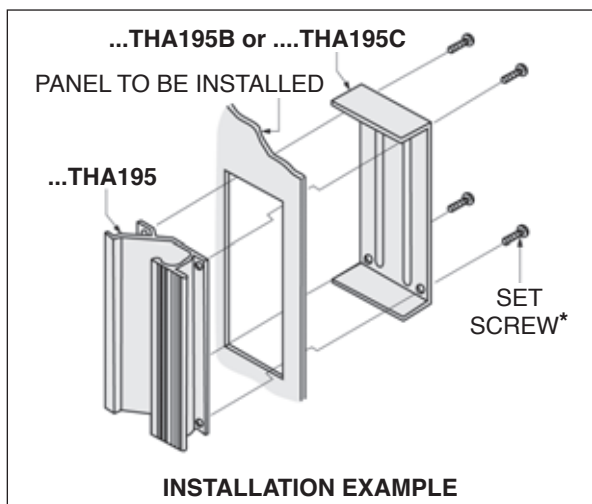
MAKT45MTHA299-1

BRACKETS, FLUSH PULL

RoHS
COMPLIANT



1



*Set Screws not included.

• APPLICATIONS

Measuring instruments / Controller devices /
Office utility equipment

• CHARACTERISTICS

The pull has a small protrusion on the surface, approx. 2 mm.
Two types of brackets are available.

• BRACKET SETS

Catalog Number	Set Component	Allowable Load N (kgf)
MAKT01MTHA195001	...THA195-1 ...THA195B-1	—
MAKT01MTHA195002	...THA195-2 ...THA195B-2	294 (30)
MAKT01MTHA195003	...THA195-1 ...THA195C-1	—
MAKT01MTHA195004	...THA195-2 ...THA195C-2	—

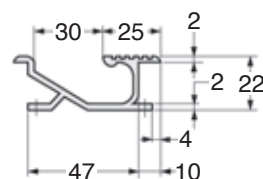
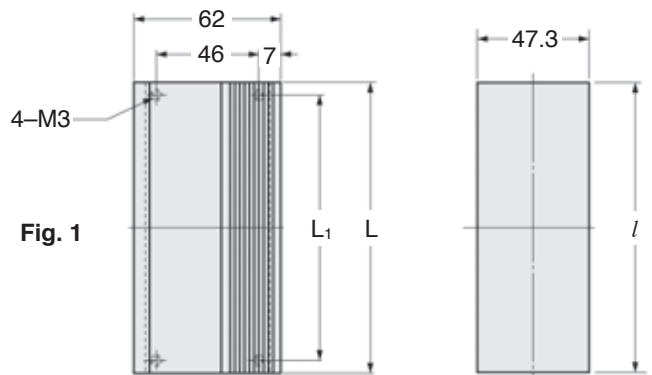


Fig. 2

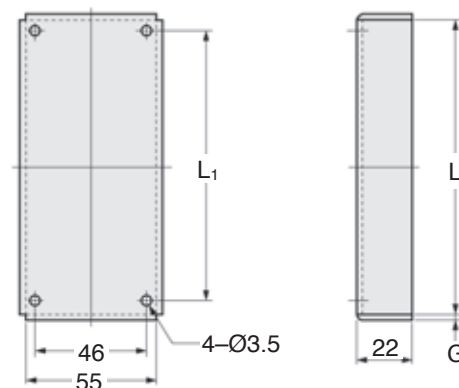


Fig. 3

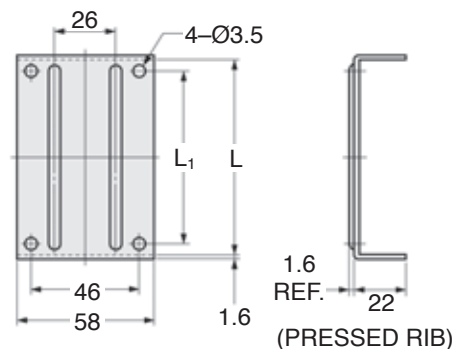
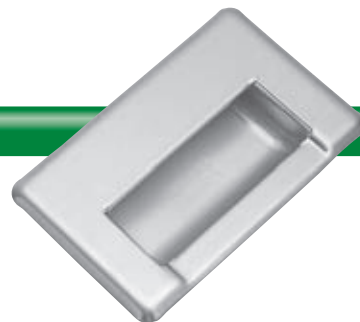


Fig. 1 • HANDLE – Aluminum, White Alumite Brushed Finish
Fig. 2 & Fig. 3 • BRACKET – Steel, Bright Zinc Plated Finish

Catalog Number	Fig.	L	L ₁	l	G	Net Weight g
MAKT01MTHA195-1	1	80	70	—	—	55.1
MAKT01MTHA195-2		120	110	—	—	82.8
MAKT01MTHA195B-1	2	80.5	70	80.5	1.6	118.2
MAKT01MTHA195B-2		120.5	110	120.5	1.8	192
MAKT01MTHA195C-1	3	80.5	70	80.5	See	85.9
MAKT01MTHA195C-2		120.5	110	120.5	Drawing	114.2



1

• APPLICATIONS

Measuring instruments / Medical equipment

• CHARACTERISTICS

Both the threaded stud type and the nut type are offered.

Please choose according to your installation preference.

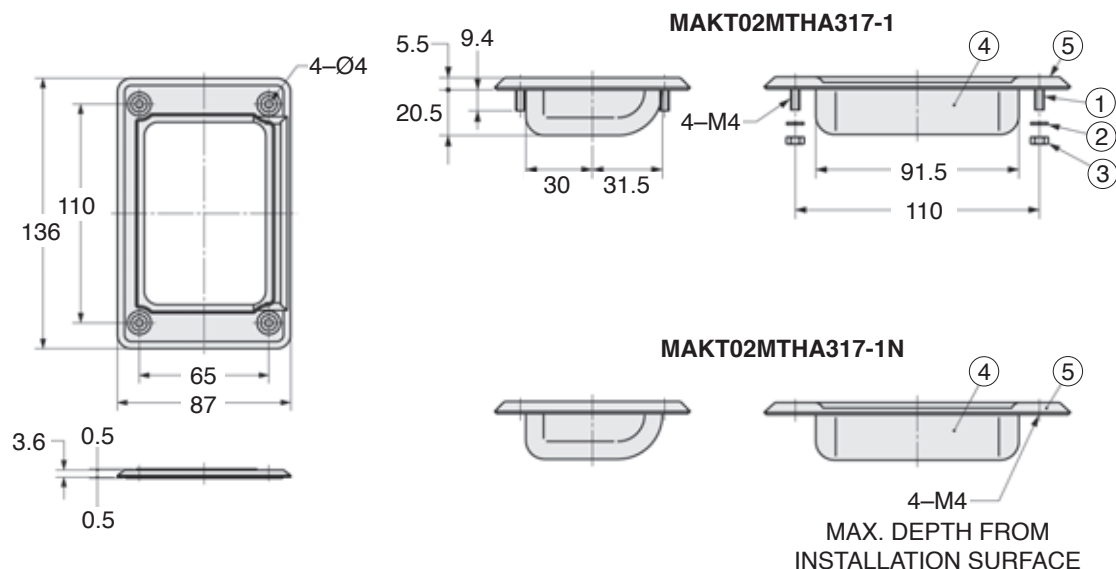
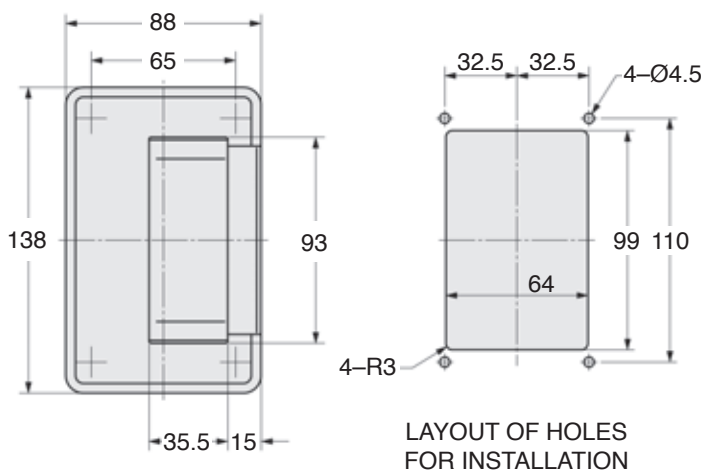
• PARTS LIST

No.	Part Name		Material	Finish	Qty.
	...THA317-1	...THA317-1N			
1	Threaded Stud	Hexagonal Nut	Stainless Steel	—	4
2	Spring Washer*	—			
3	Nut*	—			
4	Case	—			
5	Cover	—	Brushed	—	1

*Numbers 2 & 3 in the parts list are for catalog number **MAKT02MTHA317-1** only.

• PULLS

Catalog Number	Net Weight g
MAKT02MTHA317-1N	177
MAKT02MTHA317-1	185



PULLS, FLUSH - With Threaded Studs

RoHS
COMPLIANT



1

• APPLICATIONS

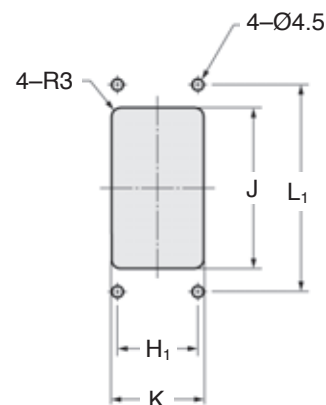
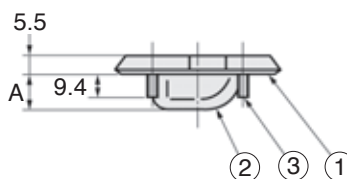
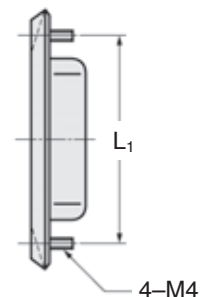
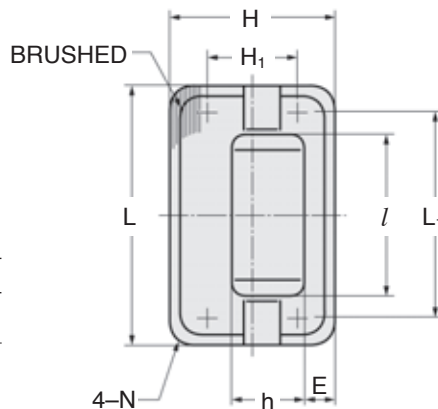
Devices for food-related industries / Cabinets /
Measuring instruments

• CHARACTERISTIC

The embedded stainless steel construction
provides excellent corrosion resistance.

• PARTS LIST

No.	Part Name	Material	Finish	Qty.
1	Cover	Stainless Steel	Brushed	1
2	Case		—	—
3	Threaded Studs		—	4



LAYOUT OF HOLES
FOR INSTALLATION

• PULLS

Catalog Number	L	L ₁	H	H ₁	l	h	J	K	E	A	N	Net Weight g
MAKT03M1THA425-3	94	76	60	32	60	28	63	43	12	12	R7	82
MAKT03M2THA425-2	111	88	64.5	38	70	28	73	42	13	14.5	R10	100
MAKT03M3THA425-1	138	110	88	65	95	36.5	99	64	13.5	20.5	R10	168

PULLS, FLUSH - With Nuts

RoHS
COMPLIANT



• APPLICATIONS

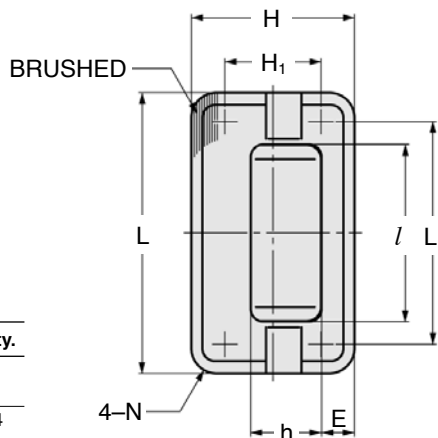
Devices for food related industries / Cabinets /
Measuring instruments

• CHARACTERISTIC

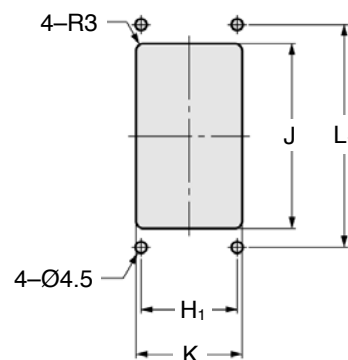
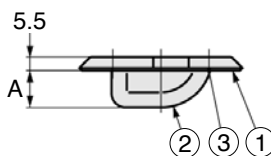
An embedded pull made of Stainless Steel for
excellent corrosion resistance.

• PARTS LIST

No.	Part Name	Material	Finish	Qty.
1	Cover	Stainless Steel	Brushed	1
2	Case		—	—
3	Hexagon Nuts		—	4



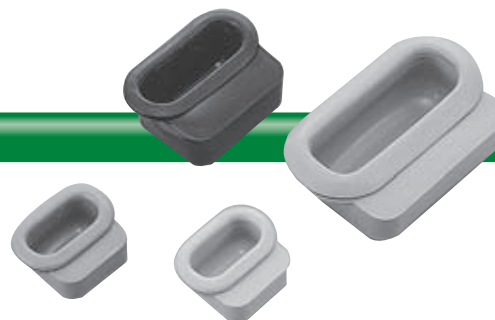
4-M4
(MAXIMUM
DEPTH IS 4
FROM PANEL
SURFACE)



LAYOUT OF HOLES
FOR INSTALLATION

• PULLS

Catalog Number	L	L ₁	H	H ₁	I	h	J	K	E	A	N	Net Weight g
MAKT03M1THA4253N	94	76	60	32	60	28	63	43	12	12	R7	80
MAKT03M2THA4252N	111	88	64.5	38	70	28	73	42	13	14.5	R10	96
MAKT03M3THA4251N	138	110	88	65	95	36.5	99	64	13.5	20.5	R10	166



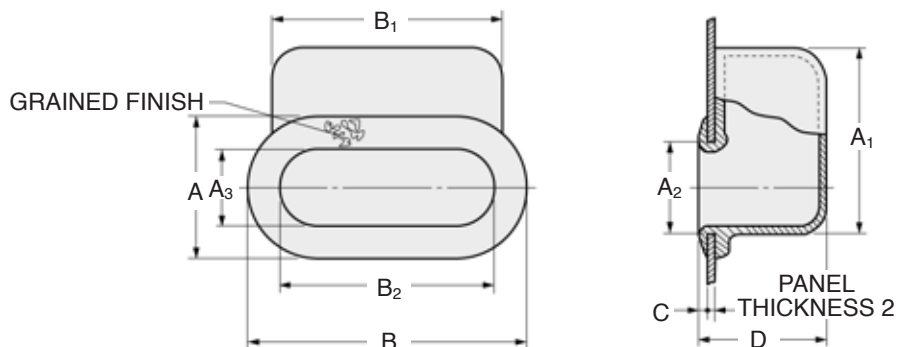
1

• **APPLICATIONS**

Rear panels / Front panels / Interior panels /
Inspection holes / Distribution boards /
General industrial machines

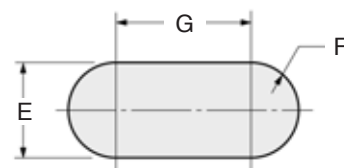
• **CHARACTERISTICS**

One hole is all you need to install these
handles. Four color choices are available.



• **PULLS**

Catalog Number	Material	Color	Net Weight g
MAKT04MTHA173-1	Elastomer	Grayish Green	83
MAKT04MTHA173-1A		Black	
MAKT04MTHA173-1B		Beige	
MAKT04MTHA173-1G		Gray	
MAKT04MTHA173-2		Grayish Green	38.7
MAKT04MTHA173-2A		Black	
MAKT04MTHA173-2B		Beige	
MAKT04MTHA173-2G		Gray	
MAKT04MTHA173-3		Grayish Green	20.2
MAKT04MTHA173-3A		Black	
MAKT04MTHA173-3B		Beige	
MAKT04MTHA173-3G		Gray	



LAYOUT OF A HOLE FOR INSTALLATION

Catalog Number	A	A ₁	A ₂	A ₃	B	B ₁	B ₂	C	D	E	F REF.	G
MAKT04MTHA173-1	58	64	38	30	120	96	92	6	43	39	19.5	67
MAKT04MTHA173-1A												
MAKT04MTHA173-1B												
MAKT04MTHA173-1G												
MAKT04MTHA173-2	40	52	26	22	80	66	62	3	37	27	13.5	40
MAKT04MTHA173-2A												
MAKT04MTHA173-2B												
MAKT04MTHA173-2G												
MAKT04MTHA173-3	34	40	22	18	55	43	39	4	30	23	11.5	24
MAKT04MTHA173-3A												
MAKT04MTHA173-3B												
MAKT04MTHA173-3G												

HANDLES, FLUSH

RoHS
COMPLIANT



1

• PARTS LIST

No.	Part Name	Material	Finish		Qty.
			...MTHA172-1	...MTHA172-2	
1	Flange Cover	Aluminum Alloy	Melamine Baked Hammered Silver Tone	—	1
2	Handle		—	—	
3	Cover	Steel	Chrome Plated	—	2
4	Truss Screws		Zinc Plated	—	
5	Hexagonal Nuts	Brass	Nickel Plated	—	2
6	Flat Washers		—	—	
7	Support	ABS	Black	—	1
8	Spring	Stainless Steel	—	—	
9	Spring		—	—	
10	Cushion	Polyurethane	Clear	—	1

• APPLICATIONS

Controller devices / Measuring instruments

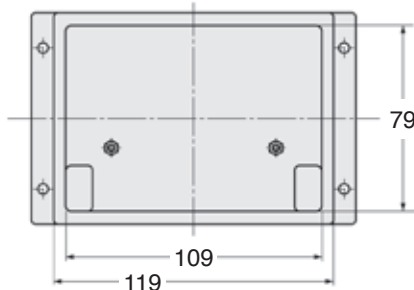
• CHARACTERISTICS

High grade Melamine baked finish. Installation can be made either from the front or from the rear of the panel. Installation surface becomes flush after installation.

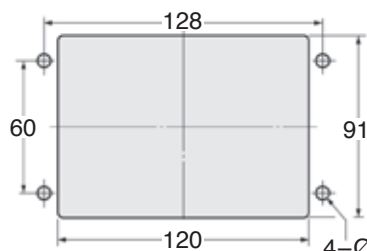
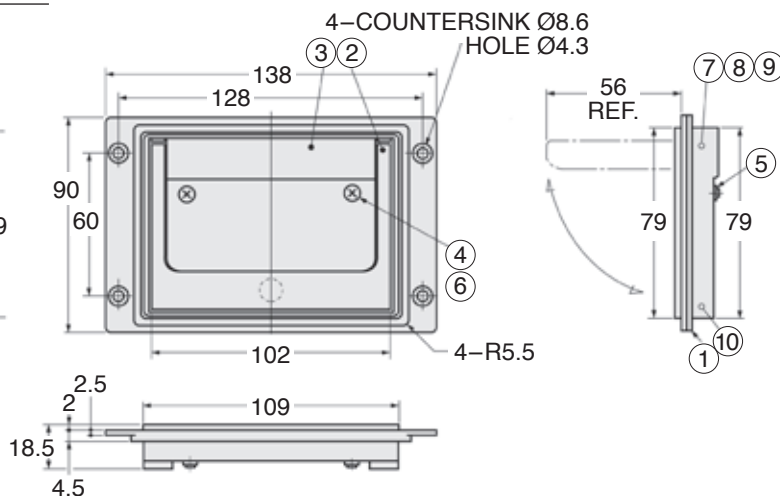
• HANDLES

Catalog Number	Allowable Load N (kgf)	Net Weight g
MAKT40MTHA172-1	245 (25)	232.6
MAKT40MTHA172-2		

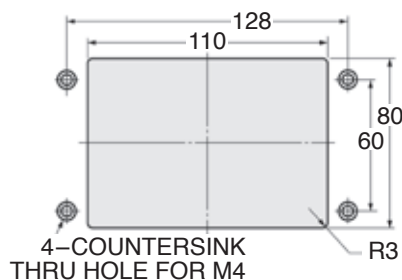
REAR



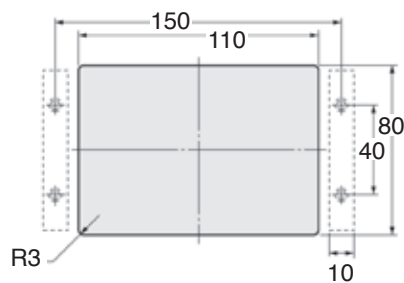
FRONT



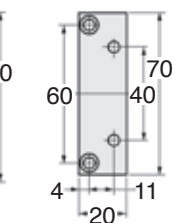
LAYOUT OF HOLES FOR INSTALLATION (ATTACHING FROM THE FRONT OF THE PANEL)



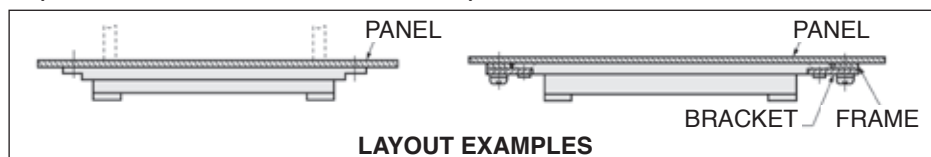
LAYOUT OF HOLES FOR INSTALLATION (ATTACHING FROM THE REAR OF THE PANEL)



LAYOUT OF HOLES FOR INSTALLATION (ATTACHING WITH BRACKET FROM THE REAR OF THE PANEL)



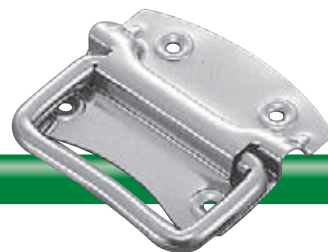
BRACKET (CUSTOM-MADE)



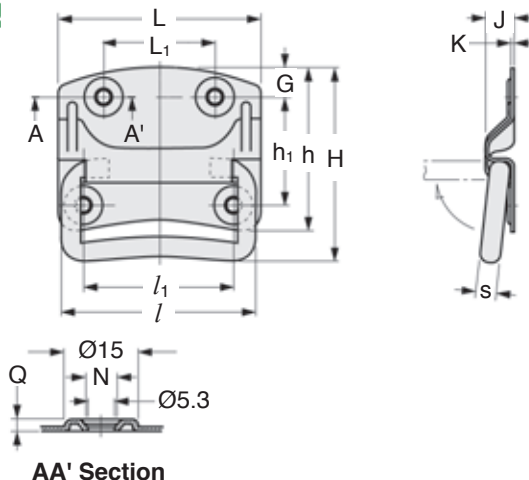
LAYOUT EXAMPLES

HANDLES, CHEST

RoHS
COMPLIANT



1



- **APPLICATIONS**

Measuring instruments / Small boxes

- **CHARACTERISTIC**

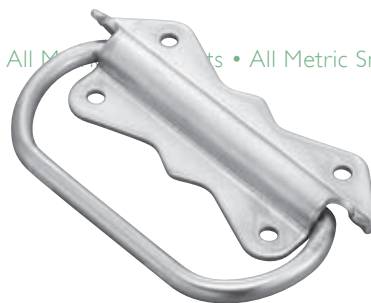
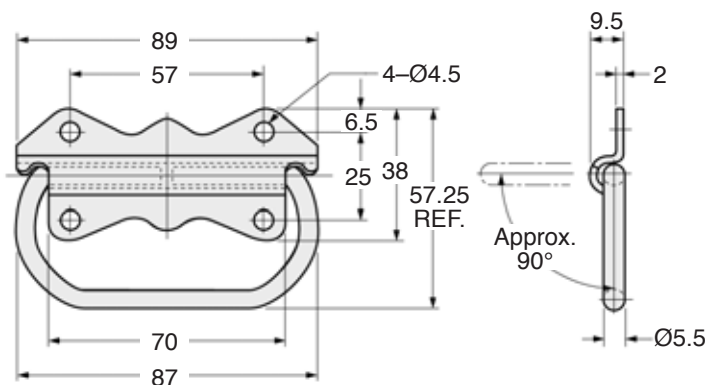
Typical handles for carrier boxes.

- **HANDLE – Stainless Steel**

Catalog Number	L	L ₁	l	l ₁	H	h	h ₁	G
MAKT17MTHA92-3	84	46	81	64	81	67	44	12
MAKT17MTHA93-3	92	50	89	70	93	77	47	17

Catalog Number	J	K	s	N REF.	Q Approx.	Allowable Load N (kgf)	Net Weight g
MAKT17MTHA92-3	11.5	1	Ø8	Ø6.5	Ø2.5	98.1 (10)	109.7
MAKT17MTHA93-3	13	1.2	Ø9	Ø8	Ø2.2	157 (16)	164.1

All Metric Small Parts • All Metric Small Parts • All Metric Small Parts • All Metric Small Parts • All Metric Small Parts • All Metric Small Parts • All Metric Small Parts



- **APPLICATIONS**

Measuring instruments / Small boxes

- **CHARACTERISTIC**

A round shaped handle with an accent on the base plate.

- **HANDLE – Steel, Zinc Plated**

Catalog Number	Allowable Load N (kgf)	Net Weight g
MAKT18MTHA30	177 (18)	83

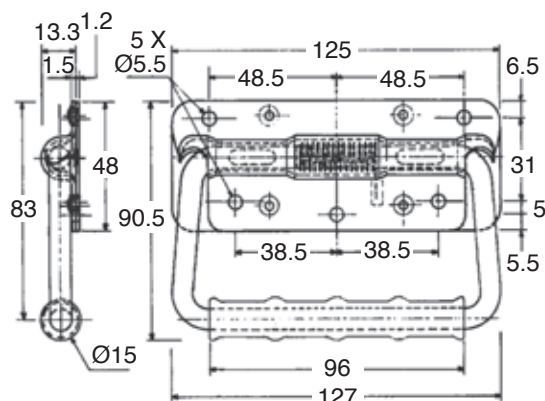


Fig. 1

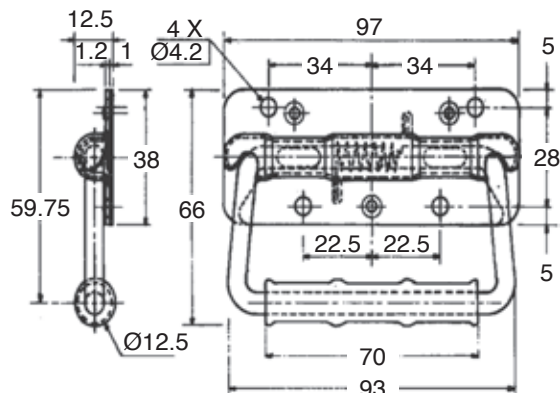


Fig. 2



MAKYAFM6040U13PC
MAKEAFM6040U13JB



MAKYAFM6040U53PC

Fig. 2



MAKYAFM6040U14JB*
MAKEAFM6040U14PC*

Fig. 1

- **HANDLE** – Stainless Steel • **GRIP** – Polyethylene
- **BODY** – Stainless Steel, With Piano Wire Torsion Spring

Catalog Number	Fig.	Width	Max. Load N (kgf)
MAKYAFM6040U13PC MAKEAFM6040U14PC*	1	127	400 (40.8)
MAKYAFM6040U53PC	2	93	300 (30.6)

*Without piano wire torsion spring.

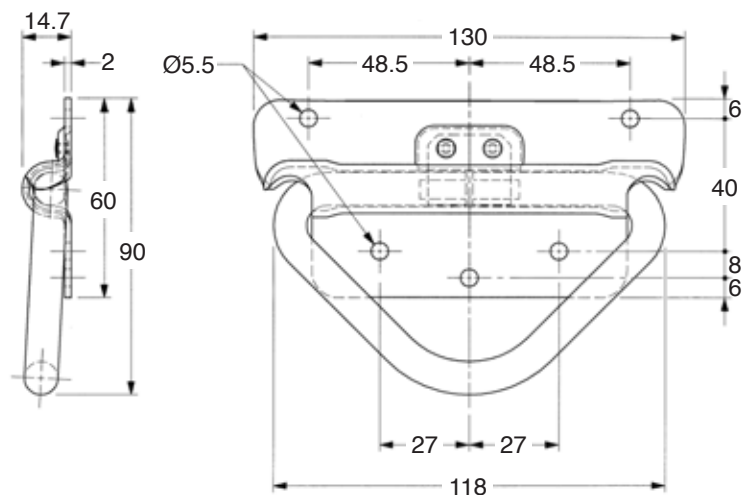
- **HANDLE** – Steel, Zinc Plated • **GRIP** – Polyethylene
- **BODY** – Steel, Zinc Plated, With Piano Wire Torsion Spring

Catalog Number	Fig.	Width	Max. Load N (kgf)
MAKEAFM6040U13JB MAKYAFM6040U14JB*	1	127	400 (40.8)

*Without piano wire torsion spring.

HANDLE, SLINGING RING

RoHS
COMPLIANT



• **HANDLE** – Stainless Steel

Catalog Number

MAKE01M6040U80PC

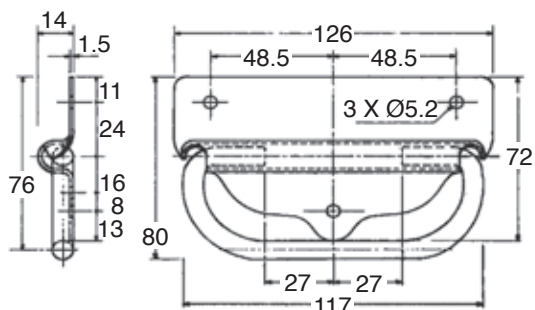


Fig. 1



Fig. 1

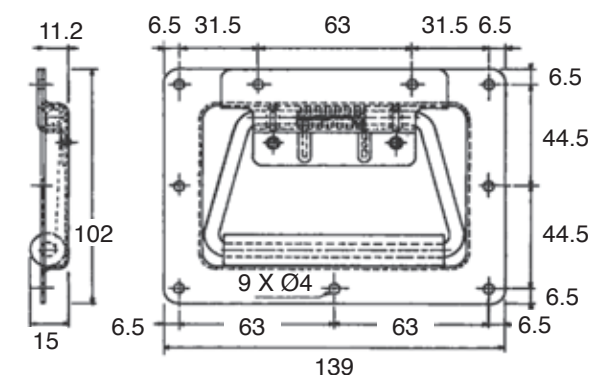


Fig. 2

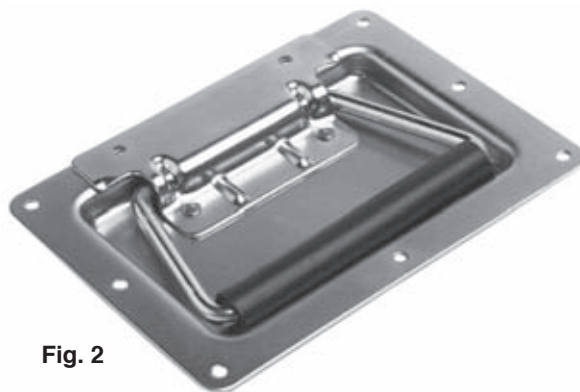


Fig. 2

Fig. 1 • HANDLE – Steel, Zinc Plated

Catalog Number	Width	Max. Load N (kgf)
MAKYAFM6040U11JB	117	400 (40.8)

Fig. 2 • HANDLE – Steel, Zinc Plated

- **GRIP** – Polyethylene
- **BODY** – Steel, Zinc Plated, With Piano Wire Torsion Spring

Catalog Number	Width	Max. Load N (kgf)
MAKYAFM6040U41JB	139	400 (40.8)



Fig. 1

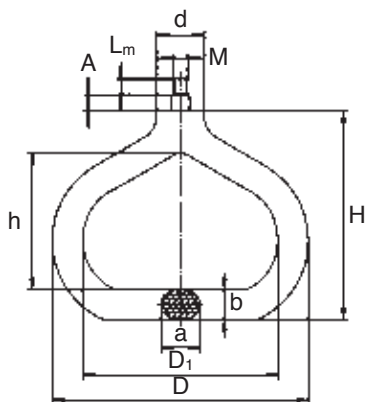


Fig. 1

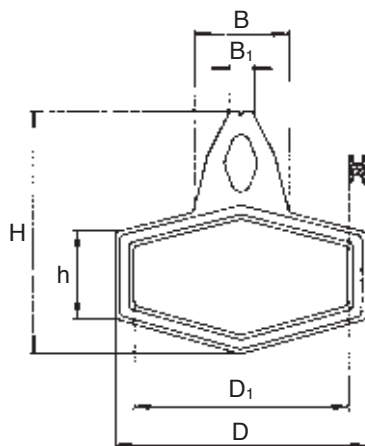


Fig. 2



Fig. 2

Fig. 1 • HANDLE – Nylon 6, Gray • **SCREW** – Steel, Zinc Plated

Catalog Number	D	D ₁	H	d	L _m	h
MAKX9MM9701	110	86	88	21	7	59

Catalog Number	A	a	b	M	Weight g
MAKX9MM9701	7	17	12	M6	58

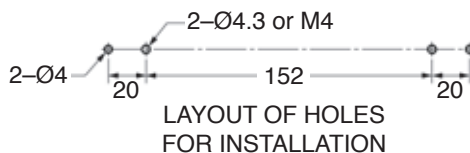
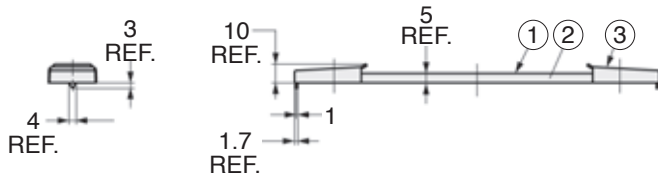
Fig. 2 • HANDLE WITH LOOP – Polyethylene, Black

Catalog Number	D	D ₁	H	h	B	B ₁	Weight g
MAKX9NM9702	110	93	106	38	42	10	24

HANDLES, CARRYING

RoHS
COMPLIANT

...THA318-2 SPIKED BOTTOM



• PARTS LIST

No.	Part Name	Material	Finish	Qty.
1	Grip	Elastomer	Black	1
2	Plate Spring	Tempered Material	—	1
3	Mounting End	Steel	Chrome Plated	2

• HANDLES

Catalog Number	Allowable Load N (kgf)	Spiked Bottom	Net Weight g
MAKT19MTHA318-2	300 (30)	Yes	42.8
MAKT19MTHA318-1	300 (30)	No	43.5

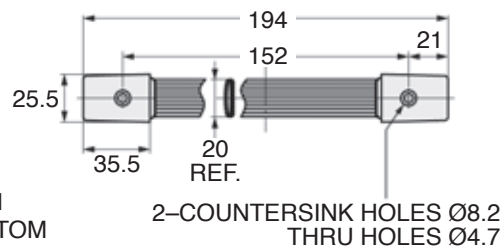
• APPLICATIONS

Measuring instruments / Telecommunication devices

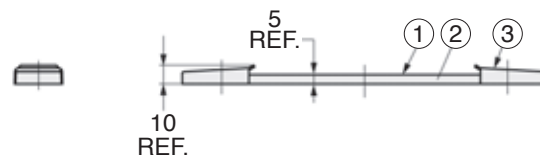
• CHARACTERISTIC

A plate spring is used in the handle.

...THA318-1 SMOOTH BOTTOM



2-COUNTERSINK HOLES Ø8.2
THRU HOLES Ø4.7



LAYOUT OF HOLES
FOR INSTALLATION

All Metric Small Parts • All Metric Small Parts • All Metric Small Parts • All Metric Small Parts • All Metric Small Parts • All Metric Small Parts

• APPLICATIONS

Measuring instruments / Telecommunication devices

• CHARACTERISTIC

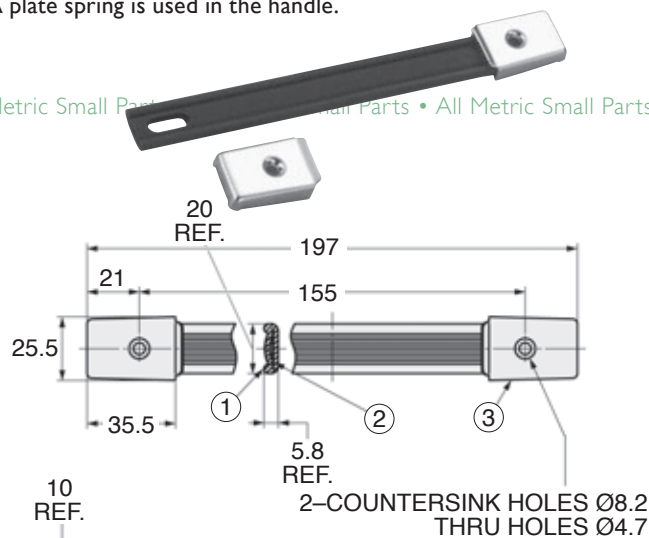
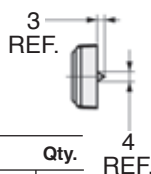
A plate spring is used in the handle.

• PARTS LIST

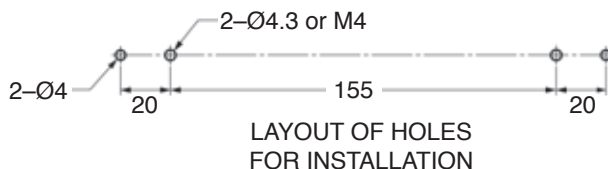
No.	Part Name	Material	Finish	Qty.
1	Grip	Elastomer	Black	1
2	Plate Spring	Tempered Material	—	1
3	Mounting End	Steel	Chrome Plated	2

• HANDLE

Catalog Number	Allowable Load N (kgf)	Net Weight g
MAKT19MTHA319	250 (25)	45.6

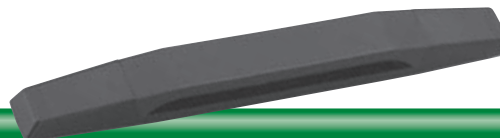


2-COUNTERSINK HOLES Ø8.2
THRU HOLES Ø4.7



LAYOUT OF HOLES
FOR INSTALLATION

HANDLES



RoHS
COMPLIANT 

1

• APPLICATIONS

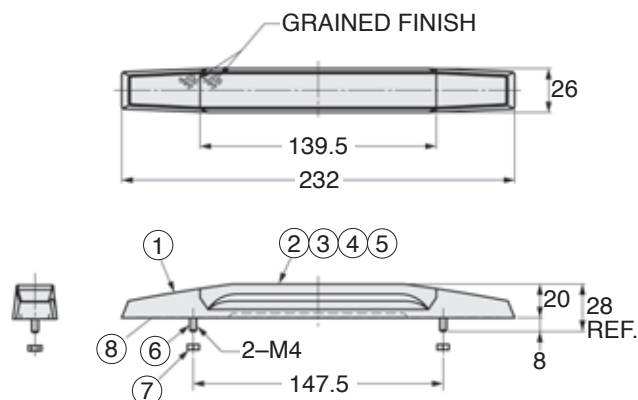
Measuring instruments / Telecommunication devices

- **CHARACTERISTIC**

A plate spring is used in the handle.

• PARTS LIST

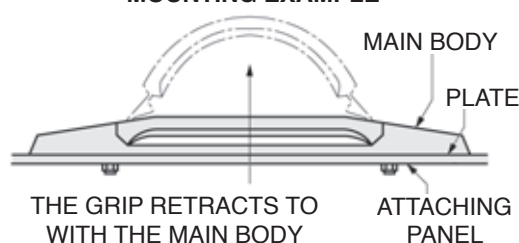
No.	Part Name	Material	Finish	Qty.
1	Handle Body	Elastomer	Black	1
2	Grip	ABS		
3	Plate Spring	Tempered Material	—	2
4	Rivet	ETP Copper		
5	Arm	Steel	Nickel Plated	
6	Stud		Zinc Plated	
7	Hexagonal Nut			
8	Plate		—	1



- **HANDLE**

Catalog Number	Allowable Load N (kgf)	Net Weight g
MAKT20MTHA323	192 (20)	88

MOUNTING EXAMPLE



All Metric Small Parts • All Metric Small Parts • All Metric Small Parts • All Metric Small Parts • All Metric Small Parts • All Metric Small Parts



• APPLICATIONS

Small measuring instruments or power supplies /

Various types of carrying cases

- **CHARACTERISTICS**

1. A labor saving handle using a push-in type mechanism.
2. With application of value engineering methodology, it uses only three parts.

• INSTALLATION INSTRUCTION

Push mounting end ② into holes to complete the installation.

INSTALLATION EXAMPLE



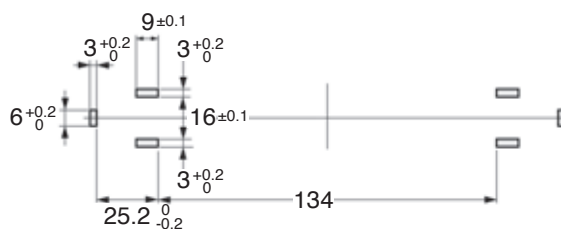
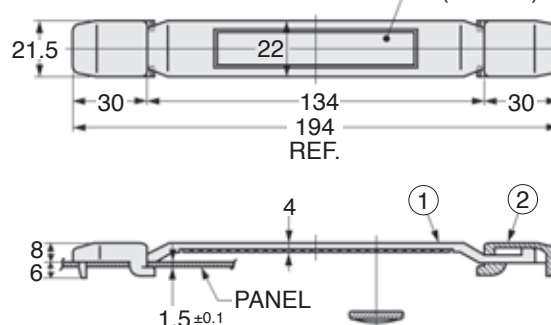
• PARTS LIST

No.	Part Name	Material	Finish	Qty.
1	Grip	Elastomer	—	1
2	Mounting End	Acetal		2

- HANDLES

Catalog Number	Color (Grip & Holder)	Allowable Load N (kgf)	Net Weight g
MAKT21MTHA246-1	Black	78.5 (8)	23.2
MAKT21MTHA246-2	Gray		
MAKT21MTHA246-3	Ivory		

NAME OR MARK CAN
BE PRINTED (15 X 80)



LAYOUT OF HOLES FOR INSTALLATION

HANDLE, CARRYING

RoHS
COMPLIANT

1

• APPLICATIONS

Various types of portable testing devices / Measuring instruments /
Office utilities / Optical devices / Medical instruments

• CHARACTERISTICS

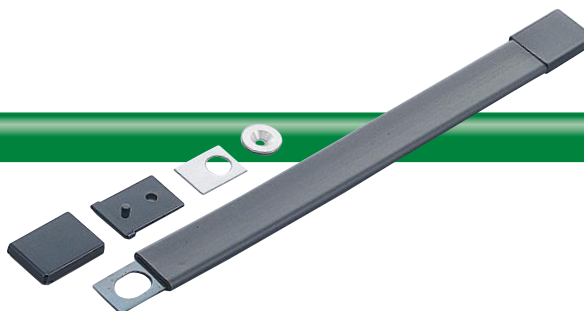
Handle has a sleek appearance; set screws are not visible from the outside. Suitable for any application due to its protrusion-free surface.

• PARTS LIST

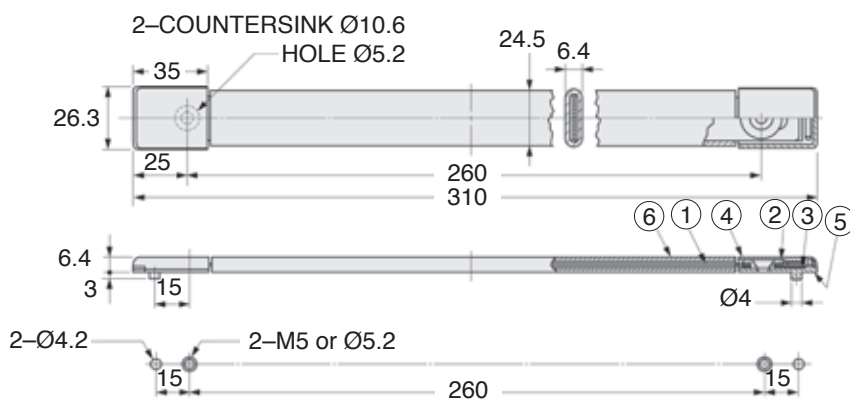
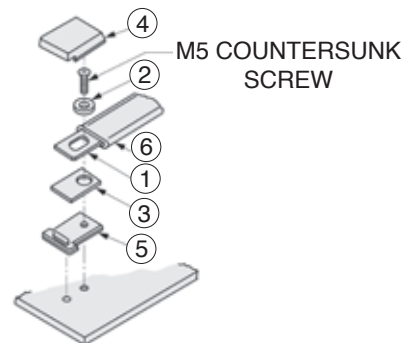
No.	Part Name	Material	Finish	Qty.
1	Plate Spring	Stainless Steel	—	1
2	Support		Natural Finish	2
3	Spacer			
4	End Cover	ABS	Black	1
5	Base	Elastomer		
6	Grip			

• HANDLE

Catalog Number	Allowable Vertical Load N (kgf)	Net Weight g
MAKT22MTHA238	638 (65)	75.2



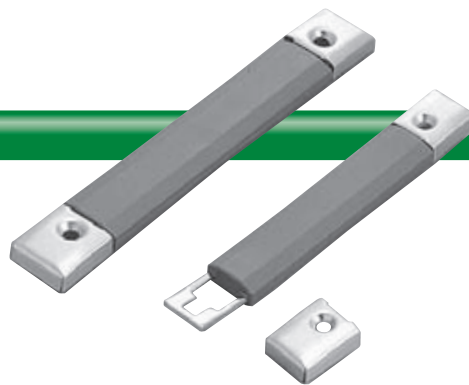
INSTALLATION EXAMPLE



LAYOUT OF HOLES FOR INSTALLATION

HANDLES, CARRYING

RoHS
COMPLIANT



1

• APPLICATIONS

Measuring instruments / Telecommunication devices

• CHARACTERISTIC

A plate spring is used in the handle.

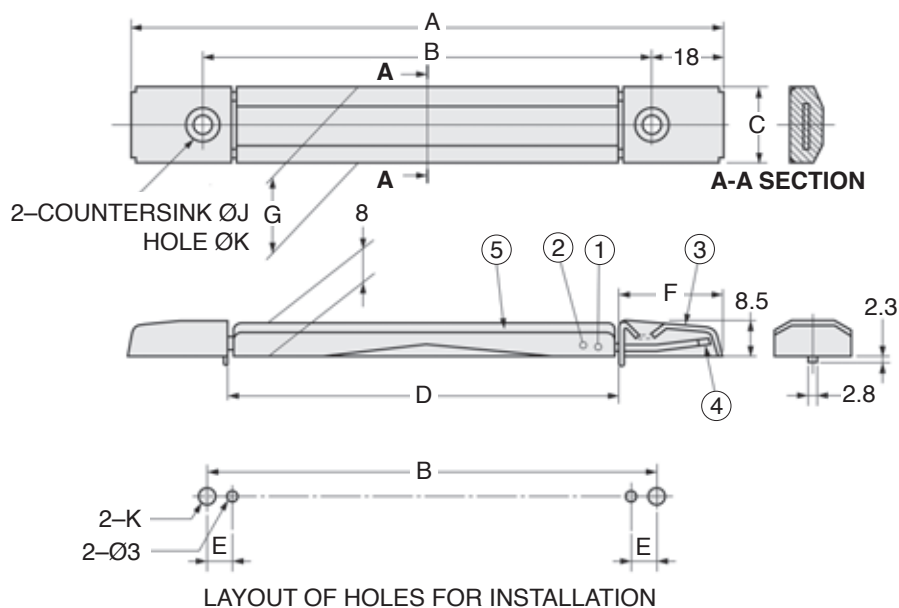
• PARTS LIST

No.	Part Name	Material	Finish	Qty.
1	Plate Spring	Steel	—	1
2	Rivet			4
3	Cover Plate	Brass	Chrome Plated, Satin Finish	2
4	Mounting End		Nickel Plated	
5	Molded Handle	Elastomer	—	1

• HANDLES

Catalog Number	Allowable Vertical Load N (kgf)	Net Weight g
MAKT23M1THA185-2	245 (25)	48
MAKT23M2THA185-1	294 (30)	65

Catalog Number	A Ref.	B	C	D	E	F	G	J	K
MAKT23M1THA185-2	148	112	20	98	6.5	25	20	Ø8.6	Ø4.3
MAKT23M2THA185-1	174	138	24	122	7.5	26	24	Ø10.6	Ø5.3



HANDLES, CARRYING

RoHS
COMPLIANT

1

• APPLICATIONS

Measuring instruments / Telecommunication devices

• CHARACTERISTIC

A plate spring is used in the handle.

• PARTS LIST

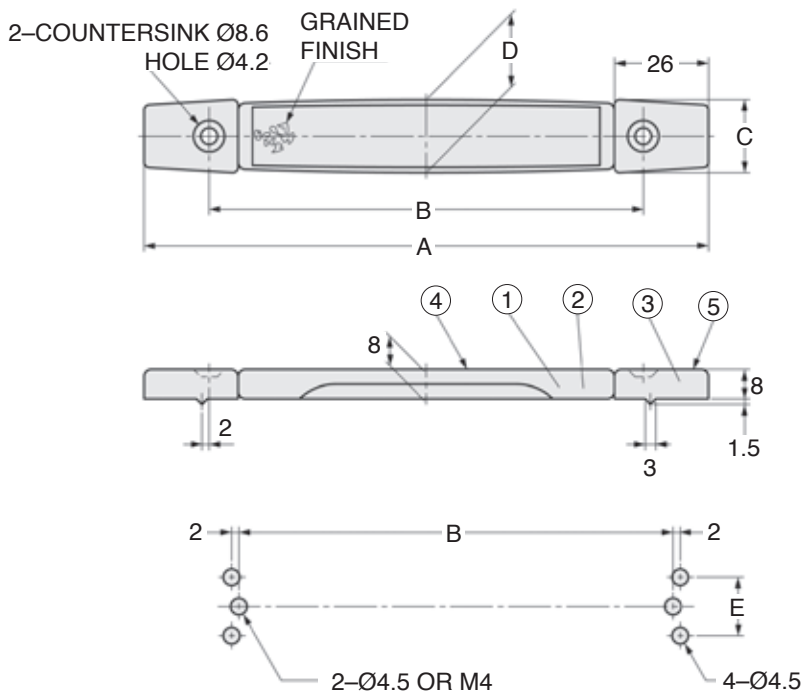
No.	Part Name	Material	Finish	Qty.
1	Plate Spring	Steel	—	1
2	Rivet		Zinc Plated	4
3	Mounting End	Stainless Steel	Barrel Polishing	2
4	Molded Handle	Elastomer	Brown Gray	1
5	Cover Plate	Brass	Chrome Plated, Satin Finish	2



• HANDLES

Catalog Number	Allowable Vertical Load N (kgf)	Net Weight g
MAKT23MTHA192-1	294 (30)	45
MAKT23MTHA192-2	441 (45)	66

Catalog Number	A	B	C	D	E
MAKT23MTHA192-1	156	120	20	20	16
MAKT23MTHA192-2	196	160	24	25	20



LAYOUT OF HOLES FOR INSTALLATION