TAKACHI

New self-clinching standoffs available!

Introducing the self-clinching standoffs that can be attached onto 0.8mm thick stainless steel enclosures!

With the newly introduced self-clinching standoffs, it is now possible for standoffs to be installed onto 0.8mm thick custom sized MBS and TCS series enclosures as well!

CASE BOX RACK & CUSTOM
TAKACHI ELECTRONICS ENCLOSURE CO., LTD.

TAKACHI

Clinching Fastener

Self-clinching Standoff / Stud / Nut

Easy attaching of self-clinching fasteners into simple through-holes.

Need standoffs for mounting PCB/ Components in metallic enclosures.

Using threaded standoffs.

Self-clinching standoffs reduces assembly processes.

Need studs in/on aluminium enclosures.

A screw fastened with a nut and used as a stud.

Self-clinching stud makes for a flat and beautiful finish.

Need tough thread hole(s) on 1.0mm thick aluminium.

Using burred holes.

Self-clinching nuts provide tougher thread holes.

●A wide variety of self-clinching fasteners are available for selection.

ST・STS series

Self-clinching Standoffs
(Through-hole type)

SB・SBS series

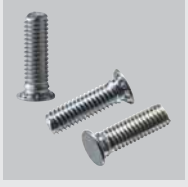
Self-clinching Standoffs
(Blind type)

NM・NS series

Self-clinching nuts
(Round type)

NR series

Self-clinching nuts
(Hex type)



CS series

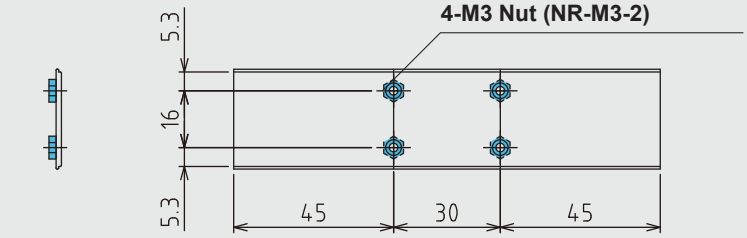
Self-clinching studs

BN series

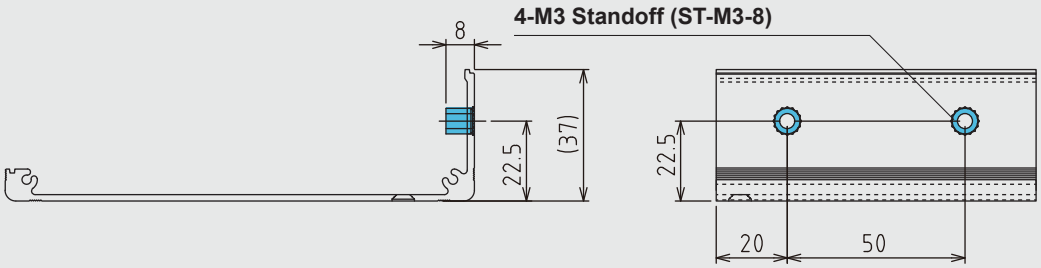
Self-clinching nuts
(Blind type)

●See "Thread and length size chart" on page clinching-3 to clinching-6. Kindly specify and put the relevant "Part #" in your drawings.

Example

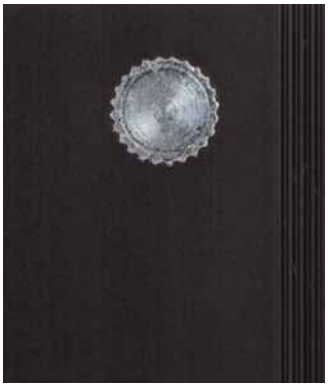


Example



EXAMPLE

ST・STS Through-hole type



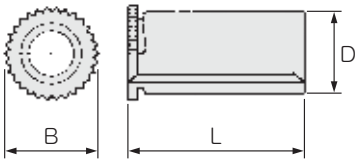
SB・SBS Blind type

Thread and length size chart

NEW SIZE

ST·STS series — Standoffs (Through-hole type)

Drawing



Material : Steel / Trivalent zinc plated
Stainless steel / Passivated

For length (L) up to 12mm, it will be fully threaded.
For length (L) 13mm or longer, threading is only up to 10mm.

Stainless steel models are BTO (built-to-order) . New sizes.

All dimensions are in mm

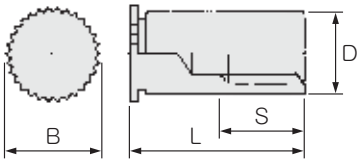
Part # (Steel)	Part # (Stainless steel) for use with panel thickness t=1.0mm+	Part # (Stainless steel) for use with panel thickness t=0.8mm	Thread code	Thread pitch	D -0.08	B +/-0.2	L +/-0.1	Minimum sheet thickness	Hole size +0.08 / -0	*Minimum distance
ST-M2-6			M2	0.4	4.18	5.2	6	1.0	4.2	6.0
ST-M2-8							8			
ST-M2-10							10			
ST-M2-12							12			
ST-M2.5-6			M2.5	0.45	4.18	5.2	6	1.0	4.2	6.0
ST-M2.5-8							8			
ST-M2.5-10							10			
ST-M2.5-12							12			
ST-M3-3	STS-M3-3		M3	0.5	6.18	7.2	3	0.8-1.0	6.2	7.0
ST-M3-4	STS-M3-4						4			
ST-M3-5	STS-M3-5						5			
ST-M3-6	STS-M3-6	STS-M3-6-0.8					6			
ST-M3-7	STS-M3-7						7			
ST-M3-8	STS-M3-8	STS-M3-8-0.8					8			
ST-M3-9	STS-M3-9						9			
ST-M3-10	STS-M3-10	STS-M3-10-0.8					10			
ST-M3-11	STS-M3-11						11			
ST-M3-12	STS-M3-12	STS-M3-12-0.8					12			
ST-M3-13							13			
ST-M3-14							14			
ST-M3-15							15			
ST-M3-16							16			
ST-M3-17							17			
ST-M3-18							18			
ST-M3-20							20			
ST-M4-6	STS-M4-6		M4	0.7	7.18	8.2	6	1.0	7.2	8.0
ST-M4-7							7			
ST-M4-8	STS-M4-8						8			
ST-M4-9	STS-M4-9						9			
ST-M4-10	STS-M4-10						10			
ST-M4-12							12			
ST-M4-14							14			
ST-M4-16							16			
ST-M5-6			M5	0.8	7.18	8.2	6	1.0	7.2	8.0
ST-M5-8							8			
ST-M5-10							10			
ST-M5-12							12			

*Minimum distance = Minimum distance from hole center to edge. Installation requirements vary.
Only available together with installation services. Not available separately.

Thread and length size chart

SB·SBS series — Standoffs (Blind type)

Drawing



Material : Steel / Trivalent zinc plated
Stainless steel / Passivated

All dimensions are in mm

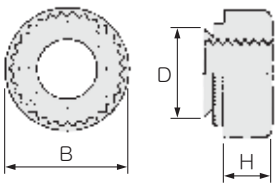
Part # (Steel)	Part # (Stainless steel)	Thread code	Thread pitch	D -0.08	B +/-0.2	L +/-0.1	Minimum S	Min. sheet thickness	Hole size +0.08 / -0	*Minimum distance
SB-M2-6		M2	0.4	4.18	5.2	6	3	1.0	4.2	6.0
SB-M2-8						8	4			
SB-M2-10						10	4			
SB-M2-12						12	5			
SB-M2.5-6		M2.5	0.45	4.18	5.2	6	3	1.0	4.2	6.0
SB-M2.5-8						8	4			
SB-M2.5-10						10	4			
SB-M2.5-12						12	5			
SB-M3-6	SBS-M3-6	M3	0.5	6.18	7.2	6	3	1.0	6.2	7.0
SB-M3-7	SBS-M3-7					7	3			
SB-M3-8	SBS-M3-8					8	4			
SB-M3-9	SBS-M3-9					9	4			
SB-M3-10	SBS-M3-10					10	4			
SB-M3-11						11	4			
SB-M3-12	SBS-M3-12					12	5			
SB-M3-13						13	5			
SB-M3-14	SBS-M3-14					14	6.5			
SB-M3-15						15	6.5			
SB-M3-16	SBS-M3-16					16	6.5			
SB-M3-17						17	6.5			
SB-M3-18						18	9.5			
SB-M3-20						20	9.5			
SB-M4-6	SBS-M4-6	M4	0.7	7.18	8.2	6	3	1.0	7.2	8.0
SB-M4-7						7	3			
SB-M4-8	SBS-M4-8					8	4			
SB-M4-9						9	4			
SB-M4-10	SBS-M4-10					10	4			
SB-M4-12						12	5			
SB-M4-14						14	6.5			
SB-M4-16						16	6.5			
SB-M5-8		M5	0.8	7.18	8.2	8	4	1.0	7.2	8.0
SB-M5-10						10	4			
SB-M5-12						12	5			

*Minimum distance = Minimum distance from hole center to edge. Installation requirements vary.
Only available together with installation services. Not available separately.

Thread and length size chart

NM·NS series — Nuts (Round through-hole type)

Drawing



Material : Steel / Trivalent zinc plated
Stainless steel / Passivated

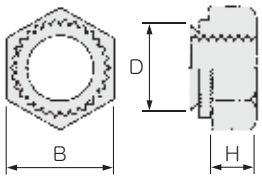
All dimensions are in mm

Part # (Steel)	Part # (Stainless steel)	Thread code	Thread pitch	Maximum D	B +/-0.2	H +/-0.1	Min. sheet thickness	Hole size +0.08 / -0	*Minimum distance
NM-M2-1		M2	0.4	4.22	6.3	1.5	1.0	4.25	4.8
NM-M2.5-1		M 2.5	0.45	4.22	6.3	1.5	1.0	4.25	4.8
NM-M2.5-2							1.4		
NM-M3-1	NS-M3-1	M3	0.5	4.22	6.3	1.5	1.0	4.25	4.8
NM-M3-2							1.4		
NM-M4-1	NS-M4-1	M4	0.7	5.38	7.9	2.0	1.0	5.4	6.9
NM-M4-2							1.4		
NM-M5-1	NS-M5-1	M5	0.8	6.38	8.7	2.0	1.0	6.4	7.1
NM-M5-2							1.4		

*Minimum distance = Minimum distance from hole center to edge. Installation requirements vary.
Only available together with installation services. Not available separately.

NR series — Nuts (Hex through-hole type)

Drawing



Material : Steel / Trivalent zinc plated

All dimensions are in mm

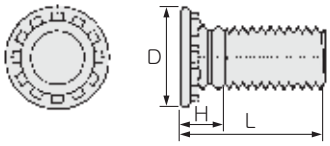
Part #	Thread code	Thread pitch	Maximum D	B -0.2	H +/-0.1	Min. sheet thickness	Hole size +0.08 / -0	*Minimum distance
NR-M2-1	M2	0.4	4.45	5.5	2.0	1.0	4.5	4.5
NR-M2.5-1	M 2.5	0.45	4.45	5.5	2.0	1.0	4.5	4.5
NR-M3-1	M3	0.5	4.45	5.5	2.0	1.0	4.5	4.5
NR-M3-2						1.4		
NR-M4-1	M4	0.7	5.45	7.0	2.2	1.0	5.5	5.5
NR-M4-2						1.4		
NR-M5-1	M5	0.8	6.45	8.0	3.0	1.0	6.5	6.5
NR-M5-2						1.4		

*Minimum distance = Minimum distance from hole center to edge. Installation requirements vary.
Only available together with installation services. Not available separately.

Thread and length size chart

CS series — Studs (Flush-head type)

Drawing



Material : Steel / Trivalent zinc plated

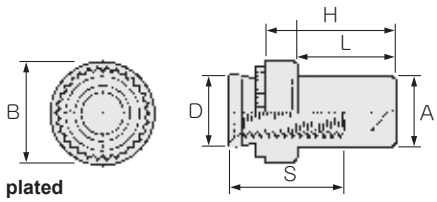
All dimensions are in mm

Part #	Thread code	Thread pitch	D +/-0.4	Maximum H	L +/-0.4	Min. sheet thickness	Hole size +0.08 / -0	*Minimum distance
CS-M3-8	M3	0.5	4.6	2.1	8	t1.0	3.0	5.6
CS-M3-10					10			
CS-M3-12					12			
CS-M3-15					15			
CS-M4-8	M4	0.7	5.9	2.4	8	t1.0	4.0	7.2
CS-M4-10					10			
CS-M4-12					12			
CS-M4-15					15			

*Minimum distance = Minimum distance from hole center to edge. Installation requirements vary. Only available together with installation services. Not available separately.

BN series — Nuts (Blind type)

Drawing



Material : Steel / Trivalent zinc plated

A specialized press machine for clinching is utilized to ensure that the standoffs / studs / nuts are securely attached.

All dimensions are in mm

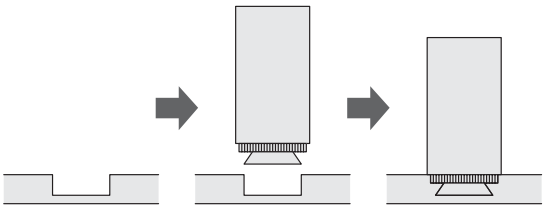
Part #	Thread code	Thread pitch	Maximum D	Maximum A	B +/-0.25	Minimum S	H +/-0.25	Min. sheet thickness	Hole size +0.08 / -0	*Minimum distance
BN-M3-1	M3	0.5	4.22	3.8	6.35	5.3	9.6	1.0	4.25	4.8
BN-M3-2								1.4		
BN-M4-1	M4	0.7	5.38	5.2	7.95	6.8	11.2	1.0	5.4	6.9
BN-M4-2								1.4		

*Minimum distance = Minimum distance from hole center to edge. Installation requirements vary. Only available together with installation services. Not available separately.

Clinching fastener

Concealed-head Self-clinching Standoffs (Non-through-hole type)

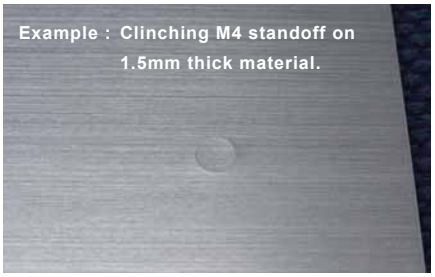
**Installed into recessed pockets so that one side of the panel remains unmarred.
Standoffs can be mounted onto 1.5mm or thicker material without requiring a through-hole to be milled.
Concealed-head standoffs/studs ensure that the IP rating (if the enclosure is a waterproof series) is maintained.**



Concealed-head standoffs/studs give an aesthetically better finish on the enclosure.
A recess cut is made on the internal side, and the standoffs are press-inserted in.

Mounting Mark Visibility

板厚	取付跡	
	M3	M4
1.5㎜	△	×
2.0㎜	◎	○
2.5㎜	◎	◎
3.0㎜～	◎	◎

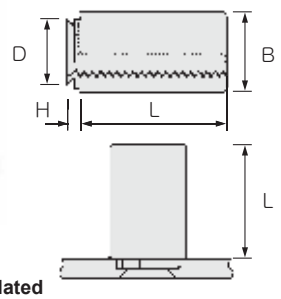


Mounting is possible on 1.5mm thick material.
Mounting mark would be almost invisible on 2.5mm or thicker material.

◎ Almost invisible
○ Barely visible
△ Somewhat visible
× Very visible

MK series Concealed-head Clinching Standoffs

Drawing



Material : Steel / Nickel plated

All dimensions are in mm

Part #	Thread code	Thread pitch	Maximum D	B +/-0.1	H +0 -0.1	L +/-0.1	Min. sheet thickness	Hole size +0.08 / -0	*Minimum distance
MK-M3-3	M3	0.5	4.45	6.0	0.95	3	1.5	4.5	4.5
MK-M3-4						4			
MK-M3-5						5			
MK-M3-6						6			
MK-M3-7						7			
MK-M3-8						8			
MK-M3-9						9			
MK-M3-10						10			
MK-M3-11						11			
MK-M3-12						12			
MK-M4-3	M4	0.7	5.45	8.0	0.95	3	1.5	5.5	5.5
MK-M4-4						4			
MK-M4-5						5			
MK-M4-6						6			
MK-M4-7						7			
MK-M4-8						8			
MK-M4-10						10			
MK-M4-12						12			
MK-M4-14						14			

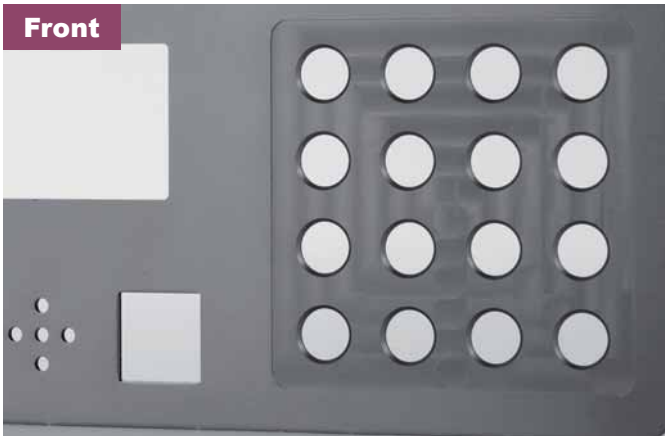
*Minimum distance = Minimum distance from hole center to edge. Installation requirements vary.
Only available together with installation services. Not available separately.

Aluminium stud welding

Welded Fasteners

Welded fasteners on aluminium objects.
Standoffs and studs with little surface weld marks can be achieved.

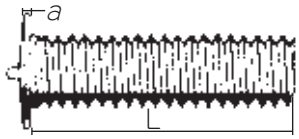
Front



Back

Weld marks may be more visible on plates thinner than 2.0mm.

Studs



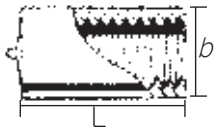
Material : Aluminium

All dimensions are in mm

Part #	Thread code	Thread pitch	a	L +/-0.2	*Minimum distance
AMS-M3-8	M3	0.5	0.8 ± 0.1	8	7.0
AMS-M3-10				10	
AMS-M3-12				12	
AMS-M3-15				15	
AMS-M4-8	M4	0.7	0.8 ± 0.1	8	7.0
AMS-M4-10				10	
AMS-M4-12				12	
AMS-M4-15				15	

*Minimum distance = Minimum distance from hole center to edge. Installation requirements vary.

Standoffs



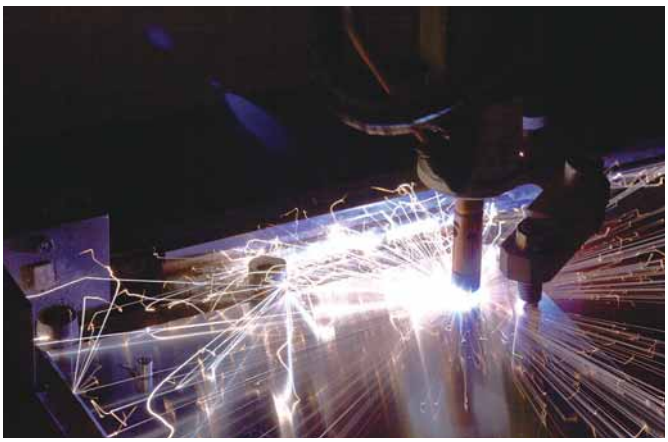
Material : Aluminium

All dimensions are in mm

Part #	Thread code	Thread pitch	b	L +/-0.2	Available screw length	*Minimum distance
AFS-M3-5	M3	0.5	6	5	2.0	7.0
AFS-M3-6				6	2.5	
AFS-M3-7				7	3.5	
AFS-M3-8				8	4.5	
AFS-M3-9				9	5.5	
AFS-M4-8	M4	0.7	8	8	3.5	7.0
AFS-M4-10				10	5.5	
AFS-M4-12				12	7.5	

*Minimum distance = Minimum distance from hole center to edge. Installation requirements vary.

Welding



Example

Stainless steel and steel weld fasteners are also available. Please inquire for more details.

Only available together with installation services. Not available separately.

Insert Nuts and Heliserts (for plastic)

Inserts for plastic

Simple and easy way for stable fastening.
Simply insert the nuts into the bosses, and it will be refastenable.

LINE-UP

Press-in inserts

Material : Brass / Unfinished

Part #	Size	Hole size in bosses	Length (mm)
SP-M3	M3×0.5P	8 ~ 10	5.3
SP-M4	M4×0.7P	9.5 ~ 12	7.4
SP-M5	M5×0.8P	12 ~ 14	8.3

Threaded inserts

Material : Brass / Nickel plated

Part #	Size	Hole size in bosses	Length (mm)
IRB-2603S	M2.6×0.45P	5.5 ~ 6	3.0
IRB-304S	M3×0.5P	5.5 ~ 6	4.0
IRB-404S	M4×0.7P	6 ~ 10	4.0

Heliserts

Material : Stainless steel / Unfinished

Part #	Size	Hole size in bosses	Length (mm)
2TNM-M2	M2×0.4P	4 ~ 5	2.0
2TMN-M2.6	M2.6×0.45P	4.8 ~ 6	2.6
2TMN-M3	M3×0.5P	4.8 ~ 6	3.0

●Comparison chart

Point \ Method	Press-in inserts	Threaded inserts	Heliserts
Strength	○	◎	◎
Cost	◎	▲	▲
Boss size	▲	○	◎

◎ : Excellent ○ : Good ▲ : Average

EXAMPLE

Press-in inserts

Threaded inserts

Heliserts