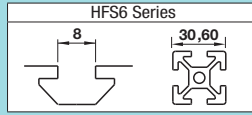




Brackets -Block Brackets · Brackets for Reinforcement-

-Slot Type: HFS6 Series (Aluminum Frames 30 · 60 Square)-



CAD Data

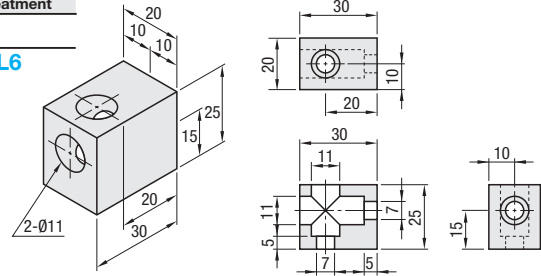
Features: The brackets do not protrude from extrusion widths when used to cross connect extrusions. Can be used in smaller spaces compared to the Tabbed Reversal Brackets.

Block Brackets

RoHS

Type	Material	Surface Treatment
HBLBL6	EN AC-51400/ AlMnSi0,7	Anodize

HBLBL6



Part Number	Mass (g)	Applicable Screws		Allowable Load (N)	€ Unit Price	Volume Discount
		Screw	Qty.			
HBLBL6	31	CBM6-12	2	980	1-99 pcs.	100~



Alterations
HBLBL6

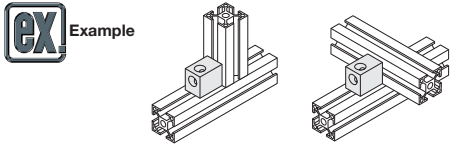
Part Number - (SET · SST · SEU · SSU · SEP · SSP)
HBLBL6 - SET

Alterations	Code	Spec.	Applicable Brackets	Price Adder					
				SET	SST	SEU	SSU	SEP	SSP
Applicable Screws and Nuts come as a set.	SET (Stainless Steel) SEU (Pre-Assy. Insertion Spring Nuts) SSU (Pre-Assy. Insertion Spring Nuts Stainless Steel) SEP (Post-Assy. Insertion Spring Nuts) SSP (Post-Assy. Insertion Spring Nuts Stainless Steel)	Supplies a set of applicable screws and nuts for fixing the bracket to an extrusion. (Adds to the bracket price)	HBLBL6	0,82	0,60	1,08	1,46	1,08	1,00

⊗ A set of mounting screws and nuts is not available for black anodized parts.
⊕ When -SET, -SEU or -SEP is specified, it is not RoHS compliant.

Order Example
Part Number
HBLBL6

Days to Ship
6 Days P87



Features: Reinforcement Brackets machined from extrusions. Usable on locations needing more strength after connecting with brackets.

Brackets for Reinforcement

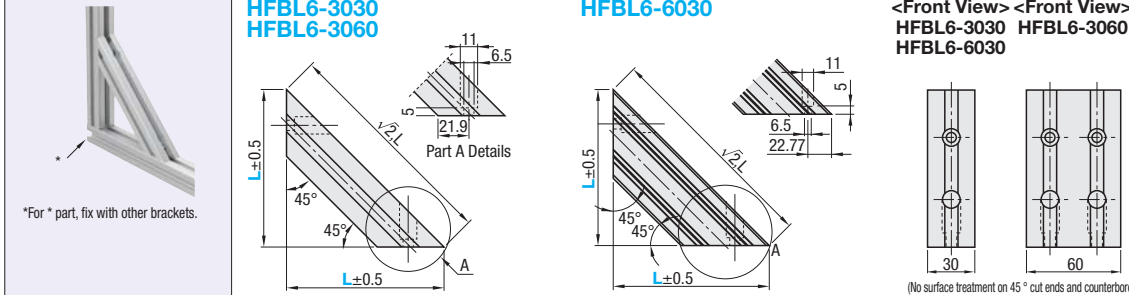
RoHS

Type	Material	Surface Treatment
HFBFL6	EN AC-51400/ AlMnSi0,7	Anodize

HFBFL6-3030
HFBFL6-3060

HFBFL6-6030

<Front View> <Front View>
HFBFL6-3030 HFBFL6-3060
HFBFL6-6030



*For * part, fix with other brackets.

(No surface treatment on 45° cut ends and counterbores.)

Part Number	Type	No.	L 1mm Increment	Applicable Screw-Nut		L100-300		L301-500	
				Screw	Nuts	€ Unit Price	Volume Discount	€ Unit Price	Volume Discount
HFBFL6 3030			100-500	CBM6-12	2	1-4 pcs.	5-20	1-4 pcs.	5-20
HFBFL6 3060			100-500	4	HNTT6-6	4			
HFBFL6 6030				2		2			

Order Example
Part Number - L
HFBFL6-3030 - 300

Days to Ship
8 Days



Alterations
HFBFL6-3030 - 300

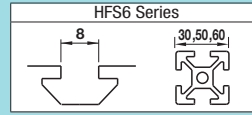
Part Number - L - (SET · SST · SEU · SSU · SEP · SSP)
HFBFL6-3030 - 300 - SET

Alterations	Code	Spec.	Applicable Brackets	Price Adder					
				SET	SST	SEU	SSU	SEP	SSP
Applicable Screws and Nuts come as a set.	SET (Stainless Steel) SEU (Pre-Assy. Insertion Spring Nuts) SSU (Pre-Assy. Insertion Spring Nuts Stainless Steel) SEP (Post-Assy. Insertion Spring Nuts) SSP (Post-Assy. Insertion Spring Nuts Stainless Steel)	Supplies a set of applicable screws and nuts for fixing the bracket to an extrusion. (Adds to the bracket price)	HFBFL6-3030	1,42	-	1,68	-	1,68	-
			HFBFL6-3060	2,24	-	2,76	-	2,76	-
			HFBFL6-6030	1,42	-	1,68	-	1,68	-

⊗ A set of mounting screws and nuts is not available for black anodized parts.
⊕ When -SET, -SEU or -SEP is specified, it is not RoHS compliant.

Brackets -Thin Brackets-

-Slot Type: HFS6 Series (Aluminum Frames 30 · 50 · 60 Square)-



CAD Data

Features: Extruded Brackets to connect extrusions at angles.

Angled Brackets

RoHS

Type	Material	Surface Treatment
HBL45T_6	EN AC-51400/ AlMnSi0,7	Anodize

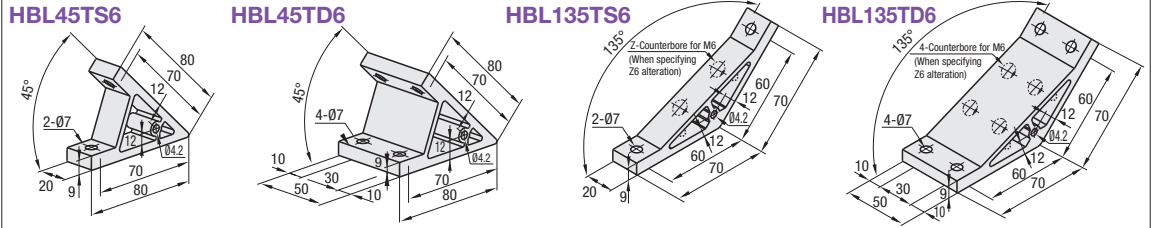


HBL45TS6

HBL45TD6

HBL135TS6

HBL135TD6



Part Number	Mass (g)	Applicable Screw · T Nut		Allowable Load (N)	€ Unit Price	Volume Discount
		Screw	T Nut			
HBL45TS6	58	2	2	1176	1-99 pcs.	100~
HBL45TD6	147	4	4	1960		
HBL135TS6	68	2	2	1176		
HBL135TD6	172	4	4	1960		

Order Example
Part Number
HBL45TS6

Days to Ship
6 Days 2 Days P87

Alterations
HBL45TS6 - (C · SET · SST · SEU · SSU · SEP · SSP · Z6)

⊕ Z6 Only (Items other than Z5 are in stock.)
8 Days

Alterations	Code	Spec.	Applicable Brackets	Price Adder
Mounting Holes for Cover	C	Adds a tap for a bracket for cover mounting. (M5 on Both Sides, Depth 15mm) (Mounting screw P644 HCBM)	HBL45TS6 HBL45TD6 HBL135TS6	0,30
Machines 2 counterbored holes on 135 degree bracket	Z6	Machines 2 counterbored holes on 135 degree bracket HBL135T_5. (Applicable screw: M6)	HBL135TS6	1,60
			HBL135TD6	3,20

Alterations	Code	Spec.	Applicable Brackets	Price Adder					
				SET	SST	SEU	SSU	SEP	SSP
Applicable Screws and Nuts come as a set.	SET (Stainless Steel) SST (Pre-Assy. Insertion Spring Nuts) SSU (Pre-Assy. Insertion Spring Nuts Stainless Steel) SEP (Post-Assy. Insertion Spring Nuts) SSP (Post-Assy. Insertion Spring Nuts Stainless Steel)	Supplies a set of applicable screws and nuts for fixing the bracket to an extrusion. (Adds to the bracket price) (Ex.) When HBL45TS6 is specified.	HBL45TS6	0,88	0,98	1,14	1,84	1,14	1,38
			HBL45TD6	1,76	1,95	2,28	3,67	2,28	2,75
			HBL135TS6	0,88	0,98	1,14	1,84	1,14	1,38
			HBL135TD6	1,76	1,95	2,28	3,67	2,28	2,75

⊕ When -SET, -SEU or -SEP is specified, it is not RoHS compliant.

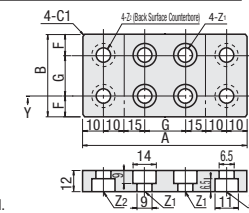
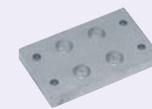
Features: Direct bolt-on brackets to use on tapped extrusions.

Plate Brackets

RoHS

Type	Material	Surface Treatment
HBLPL6	1.0038/S235JR	Electroless Nickel Plating

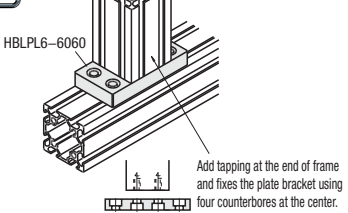
HBLPL6



* Screws are not included.



Example
Part Number - Extrusions - (DC)
HBLPL6 - 5050 - DC12



Part Number	Extrusions	A	B	Z1	Z2	G	Mass (g)	€ Unit Price	Volume Discount
HBLPL6	5050	90	50	M8	M6	20	350		
	6060	100	60			30	470		

Order Example
Part Number - Extrusions
HBLPL6 - 5050

Days to Ship
8 Days



Alterations
DC

Alteration	Code	Spec.	Price Adder
Through Hole	DC	Add a through hole. DC=Hole Dia. 1 mm Increment ⊕ 10≤DC≤20 (Ordering Code) DC12	6,00



Brackets -Corner Brackets · Corner Blind Brackets-

-Slot Type: HFS6 Series (Aluminum Frames 30 Square)-

■Features: A bracket can connect extrusions in 2 and 3-ways.

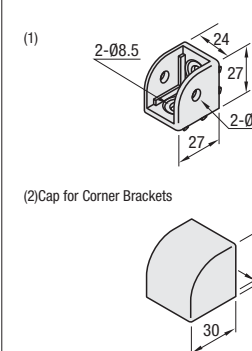
■Corner Bracket Set



Type	M Material	S Surface Treatment
HBLCS6	(1) EN AC-46100/G-AISI12Cu (2) Polyamide	
HBLCR6	(1) ZC0400/ZnAl4 (2) Polyamide	
HBLCD6	(1) 1.4308/G-X6CrNi18-9 (2) Polyamide	

Two-Way Type HBLCS6-B

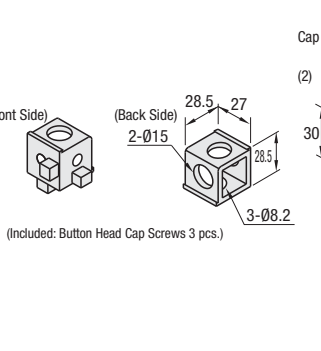
(1) (2) Cap for Corner Brackets



(Hexagon Socket Head Cap Screw 2 pcs. included)

Three-Way Type HBLCR6-B (Cap: Black) HBLCR6-S (Cap: Gray)

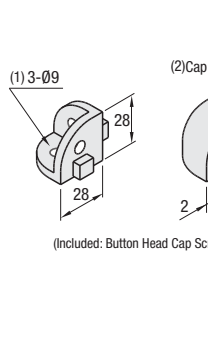
(1) (Front Side) (2) (Back Side) (3) Cap for Corner Brackets



(Included: Button Head Cap Screws 3 pcs.)

HBLCD6-S (Cap: Gray)

(1) (2) Cap for Corner R Brackets



(Included: Button Head Cap Screws 3 pcs.)

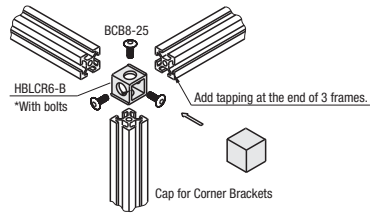
Part Number	Mass (g)	Included Screw		Allowable Load (N)	€ Unit Price 1-99 pcs.	Volume Discount 100~
		Screw	Qty.			
HBLCS6-B	27	SCB8-25	2	500		
HBLCR6-B	59	BCB8-25	3	999		
HBLCR6-S						
HBLCD6-S	45	Button Head Cap Screw M8 x 25	3	1862		



Example

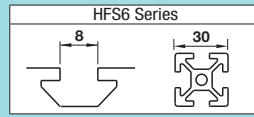
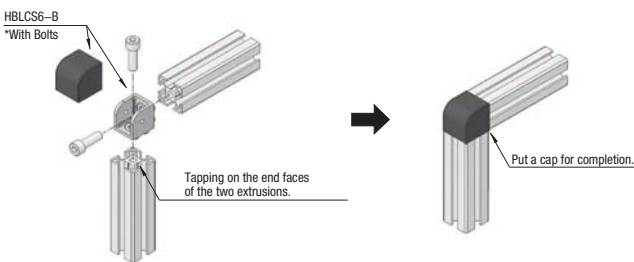
■Example of use: Corner Brackets HBLCR

Hexagon Socket Button Head Cap Screw



Order Example Part Number HBLCR6-B

Days to Ship 6 Days P.87 2 Days



CAD Data

■Features: Brackets for internal connection without alterations, including function as frame end caps.

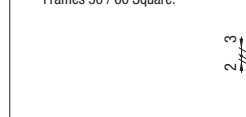
■Corner Blind Brackets



(Two-Way Type)

HBLBCA6 SHBLBCA6 (Stainless Steel)

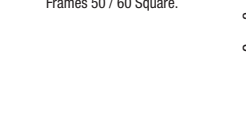
⊕ Not applicable to Aluminum Frames 50 / 60 Square.



(Three-Way Type)

HBLBCB6 SHBLBCB6 (Stainless Steel)

⊕ Not applicable to Aluminum Frames 50 / 60 Square.



Part Number	Mass (g)	Included Screw		Allowable Load (N)	€ Unit Price 1-99 pcs.	Volume Discount 100~
		Screw	Qty.			
HBLBCA6 SHBLBCA6 (Stainless Steel)	53	Set Screw M6x8	2	500		
HBLBCB6 SHBLBCB6 (Stainless Steel)	71		4	1000		

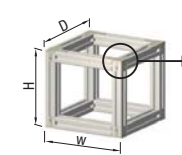
Order Example Part Number SHBLBCA6

Days to Ship 6 Days P.87 2 Days



Example

■Example of use: Corner Blind Brackets



Length of extrusion fitted like below (mm)
 - Extrusion length L used for W
 $L=W-(\text{Extrusion Thickness} \times 2)$
 - Extrusion length L used for D
 $L=D-(\text{Extrusion Thickness} \times 2)$
 - Extrusion length L used for H
 $L=H-10$
 (Thickness of corner blind brackets x Upper and Lower 2 pcs.)

■Features: Formed Aluminum Frames with a 140mm R.

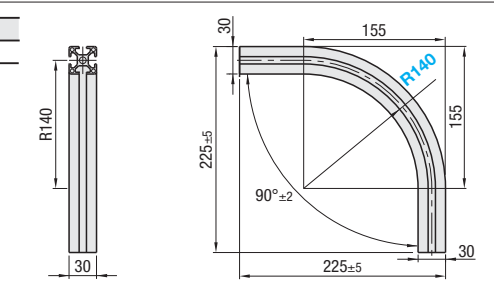
■90-degree Curved Aluminum Frames for Corner



⊕ The slot shape may change during the bending process, resulting in narrow slot width.

Type	M Material	S Surface Treatment
HFSMGQ	EN AC-51400/AlMgSi0,7	Anodize

HFSMGQ



Part Number	R	Slot Width	Mass kg	Sectional Area mm²	Cross Sectional Moment of Inertia mm⁴		€ Unit Price 1-8	Volume Discount 9~pcs.
					Ix	Iy		
HFSMGQ6-3030	140	8	0.8	333	2.83x10⁴	2.83x10⁴		

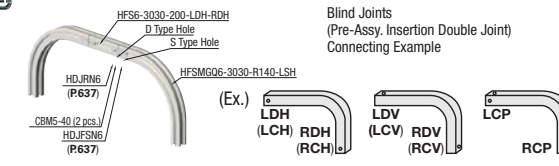


Order Example Part Number HFSMGQ6-3030 - R 140

Days to Ship 6 Days P.87

Alterations

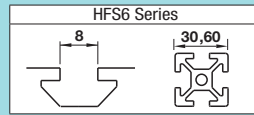
Part Number HFSMGQ6-3030 - R 140 - (LTP, RTP, TPW...etc.) 8 Days



Alterations Code	Tapping (P647)			D Hole (P654)				M Hole (P656)				S Hole (P655)				Wrench Hole (P651)				
	LTP	RTP	TPW	LDH	LDV	RDH	RDV	LMH	LMV	RMH	RMV	LSH	LSV	RSH	RSV	LCH	LCV	LCP	RCH	RCV
Spec.	Tapping to the center hole Tap Shape M8 Depth 24 LTP: Tapping on the Left End Face RTP: Tapping on the Bottom End Face TPW: Tapping on the Both Ends Ex. LTP			Adds D type hole in specified position. LDH, RDH: D hole is machined on the left (bottom) of the extrusion from the horizontal direction. Ex. LDH				Adds M type hole in specified position. LMH, RMH: M hole is machined on the left (bottom) of the extrusion from the horizontal direction. Ex. LMH				Adds S type hole in the specified position. LSH, RSH: S hole is machined on the left (bottom) of the extrusion from the horizontal direction. Ex. LSH				Blind Joints (Pre-Asy. Insertion Double Joint) Connecting Example LCH, RCH: Wrench hole is machined on the left (bottom) of the extrusion from the horizontal direction. Ex. RCH				
Applicable Extrusions	HFSMGQ6-3030			2,70 5,40				1,20				1,20				3,90 1,20 2,40 1,20 2,40				



Brackets -Blind Brackets · Free Angle Brackets- -Slot Type: HFS6 Series (Aluminum Frames 30 · 60 Square)-



CAD Data

Features: No need for alterations to hide brackets inside of the slot.

RoHS

Type	Material	Surface Treatment
HBLBS6	1.1191/C45E	Trivalent Chromate
HBLBSL6	1.4308/G-X6CrNi18-9	-
SHLBS6	1.4308/G-X6CrNi18-9	-
HBLPBS6	1.0330/DC01	Trivalent Chromate

Blind Brackets

HBLBS6
SHLBS6
(Stainless Steel)

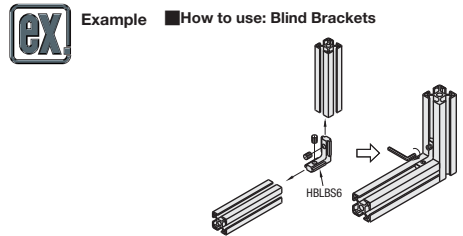
Sheet Metal Blind Brackets

HBLPBS6

Blind Brackets - Long Type

HBLBSL6

Part Number	Mass (g)	Included Screw	Allowable Load (N)	€ Unit Price	Volume Discount
Type		Screw Qty.		1-99 pcs.	100~
HBLBS6	30	Set Screw M6 x 8	2	686	
SHLBS6 (Stainless Steel)			4	957	
HBLBSL6	38				
HBLPBS6	16	2	500		



Features: Post-Assembly Insertion Type for Blind Brackets.

RoHS

Type	Components	Material	Surface Treatment
HABLBS6	Post-Assembly Insertion BB Body	1.4308/G-X6CrNi18-9	-
	Post-Assembly Insertion BB Nut	1.4301/X5CrNi18-10 Sintered Alloy	-
	Set Screw	1.4301/X5CrNi18-10	-

Part Number	Mass (g)	Included Screw	Allowable Load (N)	€ Unit Price	Volume Discount
Type		Screw Qty.		1-99 pcs.	100~
HABLBS6	28	Nut · Set Screw M6 x 5	2	500	

Example ■ How to Use Post-Assembly Insertion Blind Brackets

- Fit the post-assy. insertion BB body in the slot of extrusions.
- Tilt two pieces of post-assy. insertion nut and fit them in both ends of post-assembly insertion BB body.
- Fix post-assy. insertion BB body and post-assy. insertion BB nuts with set screws.

Features: Blind Brackets to connect Extrusions 30 / 20 square.

RoHS

Type	Material	Surface Treatment
HBLBS6-5	1.1191/C45E	Trivalent Chromate

HBLBS6-5
(For 30 Square-20 Square Connection)

Part Number	Mass (g)	Connectable Extrusion Series	Included Screw	€ Unit Price	Volume Discount
Type			Screw Qty.	1-99 pcs.	100~
HBLBS6-5	20	HFS6 and HFS5	Set Screw M4 x 5 Set Screw M6 x 8		

Features: Extrusions can be connected at any arbitrary angles.

Free Angle Brackets

RoHS

Type	Material	Surface Treatment
HBLTBA30	EN AC-51400/AlMgSi0,7	Anodize
HBLTBBN30		
HBLTBC30		
HBLTBD30		
Included Screws	1.7220/34CrMo4	Trivalent Chromate

HBLTBA30

HBLTBBN30

HBLTBC30 (1)+(2)

HBLTBD30 (2)+(3)

(1)

(2)

(3)

Part Number	Applicable Extrusion	Mass (g)	Accessories	Qty.	€ Unit Price	Volume Discount
Type	No.				1-14 pcs.	15~
HBLTBA30	30 Square (HFS6)	33	M8x12	1		
HBLTBBN30		35				
HBLTBC30		86	CLDMC6-32-M	1		
HBLTBD30		88				

Alterations (SET · SET1 · SET2 · SET3 · SET4 · SET5)

Alterations	Code	How to use	Part Number	No.	Screw Qty.	Accessories	Qty.	Price Adder	
Applicable Screws and Nuts come as a set.	SET	Use the hole 1.	HBLTBBN	CBM5-25	2	HDJFSNG	1	1,40	
	SET1	Use the hole 1.	HBLTBA	CBM6-15	2	HNTT6-6	2	0,95	
	SET2	Use the hole 2.	HBLTBA	CBM6-15	1	HNTT6-6	1	0,45	
	SET3	Use the hole 1.	HBLTBC	CBM5-25	2	HDJFSNG	1	2,35	
	SET4	Use the hole 2.	HBLTBC	CBM6-15	2	HNTT6-6	2		
	SET5	Use the hole 2.	HBLTBC	CBM5-25	2	HDJFSNG	1	1,85	
				HBLTBD	CBM6-15	1	HNTT6-6	1	
				HBLTBD	CBM5-25	4	HDJFSNG	2	2,80

Order Example Part Number **HBLTBA30**

Days to Ship **6 Days** P87

Example

- Connection of Two End Sections**
Two pieces of HBLTBBN are used to connect two end sections using Pre-Assy. Insertion Double Joints. Refer to (P.637)
- Connection of Two Side Faces**
One piece of HBLTBA and one piece of HBLTBBN are used to connect HBLTBA with the frame side face using a screw and a nut, and to connect HBLTBBN with the frame end section using the pre-assembly double joint.
- Connection of Two Side Faces**
Two pieces of HBLTBA are used to connect them with frame side using bolts and nuts.

Features: Sheet Metal Brackets to fix at arbitrary positions.

Free Angle Sheet Metal Brackets

RoHS

Type	Material	Surface Treatment
HBLPBL	1.0330/DC01	Trivalent Chromate
HBLPBL6		
HBLPBR6		

Part Number	Applicable Extrusion	Applicable Screw · Nut	€ Unit Price	Volume Discount
Type	No.	Hexagon Socket Head Cap Screws with Captured Washers	1-99 pcs.	100~
HBLPBL	30 Square (HFS6)	CBST6-12	4	HNTT6-6
HBLPBR				

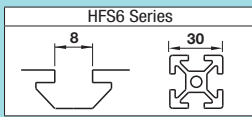
Alterations	Code	Spec.	Applicable Brackets	Price Adder
Set of Applicable Screws and Nuts	SET	Supplies a set of applicable screws and nuts for fixing the bracket to an extrusion.	HBLPBL6 HBLPBR6	2,80
Set with applicable screws, nuts and clamp levers	SET1	Applicable Screws 3 pcs. Clamp Lever (LNP) 1 Pc. Flat Washer (PWF) 1 Pc. Applicable Nuts 4 Pcs. Set with the above items.	HBLPBL6 HBLPBR6	7,50

Order Example Part Number **HBLBS6**

Days to Ship **6 Days** P87 **2 Days**



Sheet Metal Plates -HFS6 series-



CAD Data

Features: Can be used for reinforcement of connecting extrusions.

**HPTSS6
SHPTSS6**

**HPTSSL6
SHPTSSL6**

**HPTSD6
SHPTSD6**

Type	Material	Surface Treatment
HPTSS	1.0320/St.22	Carbon Steel Bright Chromate Plating
HPTSSL	1.4301/ X5CrNi18-10	-
HPTSD	1.4301/ X5CrNi18-10	-
SHPTSS	1.4301/ X5CrNi18-10	-
SHPTSSL	1.4301/ X5CrNi18-10	-
SHPTSD	1.4301/ X5CrNi18-10	-

Not RoHS compliant **RoHS**

Part Number	Mass g	T	Applicable Screw - Nut			€ Unit Price 1-99 pcs.	Volume Discount 100~
			Screw	Qty.	Nuts		
HPTSS6	32	3.2	M6-10	2	2		
SHPTSS6		3					
HPTSSL6	64	3.2	M6-10	4	4		
SHPTSSL6		3					
HPTSD6	70	3.2	M6-10	4	4		
SHPTSD6		3					

**HPTLN6
SHPTLN6**
(Trivalent Chromate)

**HPTLS6
SHPTLS6**

**HPTLD6
SHPTLD6**

**HPTLD6-50
SHPTLD6-50**

Type	Material	Surface Treatment
HPTLN	1.0320/St.22	Trivalent Chromate
HPTLS	1.0320/St.22	Carbon Steel Bright Chromate Plating
HPTLD6	1.0320/St.22	Trivalent Chromate
SHPTLN	1.4301/ X5CrNi18-10	-
SHPTLS	1.4301/ X5CrNi18-10	-
SHPTLD6	1.4301/ X5CrNi18-10	-

Not RoHS compliant **RoHS**

Part Number	Mass g	T	Applicable Screw - Nut			€ Unit Price 1-99 pcs.	Volume Discount 100~
			Screw	Qty.	Nuts		
HPTLN6	56	3.2	M6-10	3	3		
SHPTLN6		3					
HPTLS6	92	3.2	M6-10	4	4		
SHPTLS6		3					
HPTLD6	250	3.2	M6-10	8	8		
SHPTLD6-50	230	3.2					

**HPTCUL6
SHPTCUL6**
(Trivalent Chromate)

**HPTUL6
SHPTUL6**
(Trivalent Chromate)

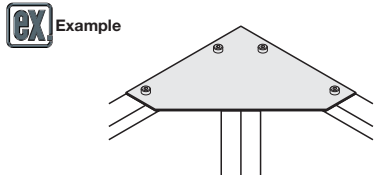
**HPTWUL6
SHPTWUL6**
(Trivalent Chromate)

Type	Material	Surface Treatment
HPTCUL	1.0320/St.22	Trivalent Chromate
HPTUL	1.0320/St.22	Trivalent Chromate
HPTWUL	1.0320/St.22	Trivalent Chromate
SHPTCUL	1.4301/ X5CrNi18-10	-
SHPTUL	1.4301/ X5CrNi18-10	-
SHPTWUL	1.4301/ X5CrNi18-10	-

Not RoHS compliant **RoHS**

Part Number	Mass g	T	Applicable Screw - Nut			€ Unit Price 1-99 pcs.	Volume Discount 100~
			Screw	Qty.	Nuts		
HPTCUL6	150	2.3	M6-10	4	4		
SHPTCUL6		2					
HPTUL6	600	2.3	M6-10	7	7		
SHPTUL6		2					
HPTWUL6	598	2.3	M6-10	12	12		
SHPTWUL6		2					

Order Example Part Number **HPTSS6** Days to Ship **6 Days** P87



Alterations Part Number - (SET) **HPTSS6** - SET

When -SET is specified, it is not RoHS compliant.

Alteration	Code	Spec.	Part Number	Price Adder
Applicable Screws and Nuts come as a set.	SET	Applicable screws and nuts for mounting each plate on extrusions come in a set.	HPTSS6	0,95
			SHPTSS6	1,05
			HPTSSL6	1,90
			SHPTSSL6	2,10
			HPTSD6	1,90
			SHPTSD6	2,10
			HPTLN6	1,40
			SHPTLN6	1,55
			HPTLS6	1,90
			SHPTLS6	2,10
			HPTLD6	3,80
			SHPTLD6-50	3,80
			HPTCUL6	1,90
			SHPTCUL6	2,10
HPTUL6	3,30			
SHPTUL6	3,70			
HPTWUL6	5,25			
SHPTWUL6	6,20			

**HPTTS6
SHPTTS6**

**HPTTD6
SHPTTD6**

**HPTPS6
SHPTPS6**

Type	Material	Surface Treatment
HPTTS	1.0320/St.22	Carbon Steel Bright Chromate Plating
HPTTD	1.0320/St.22	Carbon Steel Bright Chromate Plating
HPTPS	1.4301/ X5CrNi18-10	-
SHPTTS	1.4301/ X5CrNi18-10	-

Not RoHS compliant **RoHS**

Part Number	Mass g	T	Applicable Screw - Nut			€ Unit Price 1-99 pcs.	Volume Discount 100~
			Screw	Qty.	Nuts		
HPTTS6	106	3.2	M6-10	4	4		
SHPTTS6		3					
HPTTD6	217	3.2	M6-10	8	8		
SHPTTD6		3					
HPTPS6	140	3.2	M6-10	6	6		
SHPTPS6		3					

**HPTBS6
SHPTBS6**

**HPTBD6
SHPTBD6**

**HPTBD6-50
SHPTBD6-50**

**HPTBDW6
SHPTBDW6**

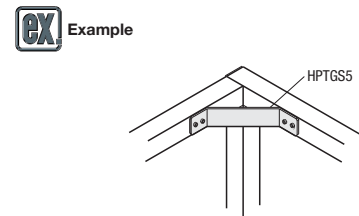
**HPTGS6
SHPTGS6**

Type	Material	Surface Treatment
HPTBS	1.0320/St.22	Carbon Steel Bright Chromate Plating
HPTBD6	1.0320/St.22	Carbon Steel Bright Chromate Plating
HPTBD6-50	1.0320/St.22	Trivalent Chromate
HPTGS	1.0320/St.22	Carbon Steel Bright Chromate Plating
SHPTBS	1.4301/ X5CrNi18-10	-
SHPTBD	1.4301/ X5CrNi18-10	-
SHPTBDW	1.4301/ X5CrNi18-10	-

Not RoHS compliant **RoHS**

Part Number	Mass g	T	Applicable Screw - Nut			€ Unit Price 1-99 pcs.	Volume Discount 100~
			Screw	Qty.	Nuts		
HPTBS6	31	3.2	M6-10	2	2		
SHPTBS6		3					
HPTBD6	69	3.2	M6-10	4	4		
SHPTBD6		3					
HPTBD6-50	64	3.2	M6-10	4	4		
SHPTBD6-50		3					
HPTBDW6	197	4.5	M6-10	8	8		
SHPTBDW6		4					
HPTGS6	213	3.2	M6-10	4	4		
SHPTGS6		3					

Order Example Part Number **HPTTS6** Days to Ship **6 Days** P87



Alterations Part Number - (SET) **HPTTS6** - SET

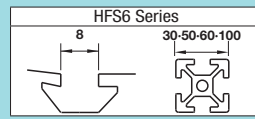
When -SET is specified, it is not RoHS compliant.

Alteration	Code	Spec.	Part Number	Price Adder
Applicable Screws and Nuts come as a set.	SET	Applicable screws and nuts for mounting each plate on extrusions come in a set.	HPTTS6	1,90
			SHPTTS6	2,10
			HPTTD6	3,80
			HPTPS6	1,90
			HPTBS6	0,95
			SHPTBS6	1,05
			HPTBD6	1,90
			SHPTBD6	2,10
			HPTBD6-50	2,10
			HPTGS6	1,90



Pre-Assembly Insertion Nuts · Stoppers for Aluminum Frames Others

-For HFS6 Series Aluminum Frames 30 · 50 · 60 · 100 Square-



CAD Data

Tightening Torque **P.676**

Pre-Assembly Insertion Lock Nuts

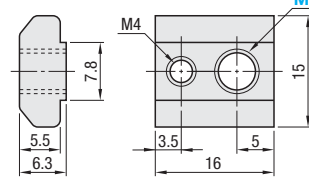
RoHS



M Material: 1.0301/C10
S Surface Treatment: Trivalent Chromate

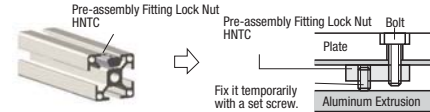
HNTC6

Reference Tightening Torque (N·m)	
M	1.0301/C10
6	11.7



Example

Pre-Assembly Insertion Lock Nuts
The position of post-assembly insertion lock nuts can be fixed temporarily with the set screw.



Part Number	M	Accessories	€ Unit Price				Volume Discount				
			1-499 pcs.	500-749	750-999	1000~	1-499 pcs.	500-749	750-999	1000~	
HNTC6	6	M4 Set screw 1 pc.									

-Overall length is shorter than Pre-Assembly Insertion Nuts HNTT.
Suitable for installing sensors or other components closely together.
-Stopper is not included.

Part Number	M	L	€ Unit Price				Volume Discount				
			1-499 pcs.	500-749	750-999	1000~	1-499 pcs.	500-749	750-999	1000~	
HNTJ6	6	8									

① The pre-assy. insertion offset nut, used in combination with a post-assy. insertion double joint, can be fixed in such a way that the nut, even if connected at the corner of the extrusion, does not protrude from the extrusion (frame).

Part Number	€ Unit Price		Volume Discount	
	1-99 pcs.	100~	1-99 pcs.	100~
HNTHS6				

* Electrically conductive

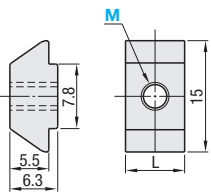
Pre-Assembly Insertion Short Nuts

RoHS



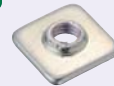
M Material: 1.0301/C10
S Surface Treatment: Trivalent Chromate

HNTJ6



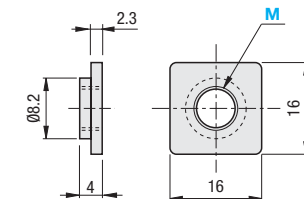
Pre-Assembly Insertion Square Nuts

RoHS



M Material: 1.0330/DC01
S Surface Treatment: Trivalent Chromate Plating

HNKK6



Example



Part Number	M	€ Unit Price			Volume Discount		
		1-9 package	10-19	20-29	1-9 package	10-19	20-29
HNKK6	6						

① 100 pcs. per package. Insert it into the extrusion upside down.

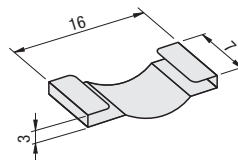
Metal Stoppers for Pre-Assembly Insertion Square Nuts

RoHS



M Material: 1.4319/X3CrNiN17-8

HNKKST6



Example



Part Number	Applicable Pre-Assembly Insertion Nuts	€ Unit Price		Volume Discount			
		1-9 package	10-19	20-29	1-9 package	10-19	20-29
HNKKST6	HNKK6						

① 100 pcs. per package

Order Example	Part Number	M
	HNTC6	6
	HNTJ6	6
	HNTHS6	6
	HNKK6	6
	HNKKST6	6

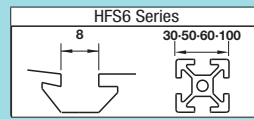
- Applicable Extrusions and Brackets (Ex.)
Pre-Assembly Insertion Nut
Pre-Assembly Insertion Stoppers
Extrusions
Brackets

Part Number	Days to Ship
HNTT6	6 Days P.87
HNST6	2 Days
HFS6	
HBLFSN6	



Post-Assy. Insertion Nuts · Stoppers for Aluminum Frames Standard

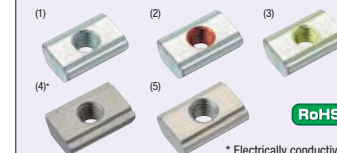
-For HFS6 Series Aluminum Frames 30 · 50 · 60 · 100 Square-



CAD Data

Tightening Torque **P.676**

Post-Assembly Insertion Stopper Nuts

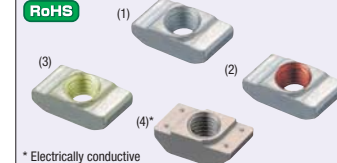


Type	M Material	S Surface Treatment
(1) HNTA6	1.0301/C10	Trivalent Chromate
(2) HNTAV6	1.0301/C10	Trivalent Chromate
(3) HNTAZ6	1.0301/C10	Trivalent Chromate
(4) HNTASN6*	1.4401/X5CrNiMo17-12-2 (Sintering)	-
(5) HNTASS6	1.4305/X10CrNiS18-9	-

Part Number	M	€ Unit Price				Volume Discount			
		1-499 pcs.	500-749	750-999	1000~	1-499 pcs.	500-749	750-999	1000~
HNTA6 (1.0301/C10)	6								
HNTAV6 (Thread Locking / 1.0301/C10)	6								
HNTAZ6 (Thread Locking / 1.0301/C10)	6								
HNTASN6 (1.4401/X5CrNiMo17-12-2 · Sintering)	6								
HNTASS6 (1.4305/X10CrNiS18-9)	6								

* Bulk-packages are cost effective for in-house stock and large qty. uses. (P508)

Post-Assembly Insertion Nuts



Type	M Material	S Surface Treatment
(1) HNTF6	1.0301/C10	Trivalent Chromate
(2) HNTFV6	1.0301/C10	Trivalent Chromate
(3) HNTFZ6	1.0301/C10	Trivalent Chromate
(4) HNTFSN6*	1.4401/X5CrNiMo17-12-2 (Sintering)	-

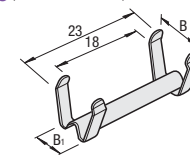
Part Number	M	E	T	€ Unit Price				Volume Discount			
				1-499 pcs.	500-749	750-999	1000~	1-499 pcs.	500-749	750-999	1000~
HNTF6 (1.0301/C10)	6	5.5	6.3								
HNTFV6 (Thread Locking / 1.0301/C10)	6	5.5	6.3								
HNTFZ6 (Thread Locking / 1.0301/C10)	6	5.5	6.3								
HNTFSN6 (1.4401/X5CrNiMo17-12-2 · Sintering)	6	6.4	7.4								

Post-Assy. Insertion Stoppers · Metal Stoppers



Type	M Materials
(1) HNAST6	Polypropylene
(2) HNBST6	1.4319/X3CrNiN17-8

HNAST6 (Polypropylene) HNBST6 (301 Stainless Steel)

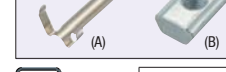


Post-Assembly Insertion Nut · Stopper Set



Type	(B) Stopper Nuts	(A) Stoppers
HNTAT6	HNTA6	HNAST6
HNTATS6*	HNTASN6	HNAST6

Post-Assembly Insertion Nut · Metal Stopper Set

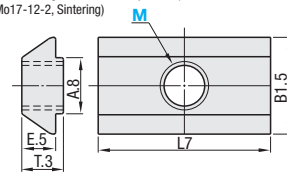


Type	(B) Stopper Nuts	(A) Stoppers
HNTBT6	HNTA6	HNBST6
HNTBTS6*	HNTASN6	HNBST6

Order Example	Part Number	M
	HNTAT6	6

Days to Ship **2 Days** P.87

HNTA6 (1.0301/C10) HNTAV6 (Thread Locking Adhesive · 1.0301/C10 Equivalent) HNTAZ6 (Thread Locking Resin Coating · 1.0301/C10 Equivalent) HNTASN6 (1.4401/X5CrNiMo17-12-2 · Sintering) HNTASS6 (1.4305/X10CrNiS18-9)



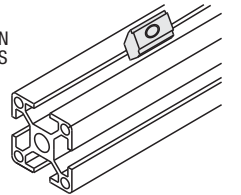
Reference Tightening Torque (N · m)	
M	1.0301/C10 · 1.4305/X10CrNiS18-9 · NiMo17-12-2/(Sintering) · 1.4305/X10CrNiS18-9
6	11.7

① Details of Thread Locking Type P547

Example

- Post-Assy. Insertion Stopper Nuts

HNTA
HNTAV
HNTAZ
HNTASN
HNTASS



Order Example	Part Number	M
	HNTA6	6

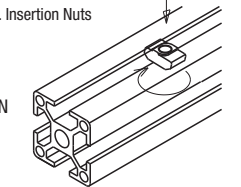
Days to Ship **6 Days** P.87

2 Days

Example

- Post-Assy. Insertion Nuts

HNTF
HNTFV
HNTFZ
HNTFSN



Order Example	Part Number	M
	HNTF6	6

Days to Ship **6 Days** P.87

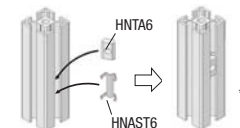
2 Days

Part Number	Applicable Stopper Nuts	Color	B	B1	€ Unit Price			Volume Discount		
					1-499 pcs.	500-999	1000~	1-499 pcs.	500-999	1000~
HNAST6	HNTA6 HNTAV6 HNTASN6 HNTASS6	White	9.3	7.8						
HNBST6	-	-	10.5	6						

Part Number	M	€ Unit Price				Volume Discount			
		1-499 pcs.	500-749	750-999	1000~	1-499 pcs.	500-749	750-999	1000~
HNTAT6	6								
HNTATS6	6								

Part Number	M	€ Unit Price				Volume Discount			
		1-499 pcs.	500-749	750-999	1000~	1-499 pcs.	500-749	750-999	1000~
HNTBT6	6								
HNTBTS6	6								

Example



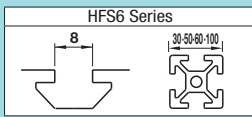
* Insert a stopper into the extrusion and put into a nut on it.

* Does not fall even if the extrusion is placed vertically.



Post-Assy. Insertion Nuts for Aluminum Frames With Temporary Holding Function

-For HFS6 Series Aluminum Frames 30 · 50 · 60 · 100 Square-



CAD Data

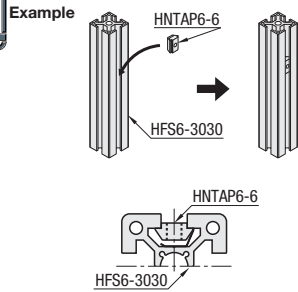
Tightening Torque **P676**

Post-Assembly Insertion Nuts with Leaf Springs

RoHS

HNTAP6

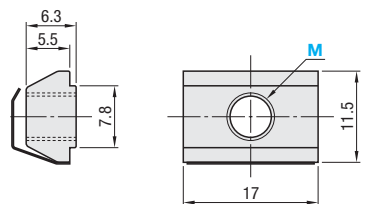
Reference Tightening Torque (N·m)	
M	1.0301/C10
6	11.7



Welded Leaf Springs prevent the nuts from slipping off even inserted into the vertically-placed extrusions.



Part	Material	Surface Treatment
Body	1.0301/C10	Trivalent Chromate
Wing Part	1.4301/X5CrNi18-10	-



Part Number	M	€ Unit Price				Volume Discount			
		1~499 pcs.	500~749	750~999	1000~	500~749	750~999	1000~	
HNTAP6	3 4 5 6								

Order Example: Part Number **HNTAP6** - M **6** Days to Ship **6 Days** P87

Post-Assembly Insertion Spring Nuts

RoHS

HNTP6 (1.0301/C10)

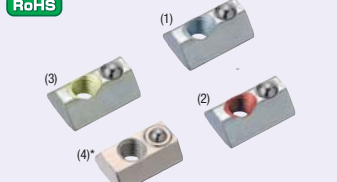
HNTPV6 (Thread Locking Adhesive · 1.0301/C10)
Equivalent Thread Locking Resin Coating · 1.0301/C10 Equivalent)
SHNTP6 (1.4401/X5CrNiMo17-12-2 · Sintering)



The built-in spring prevents slips. Moves easily in the slot when pressed slightly by hand.

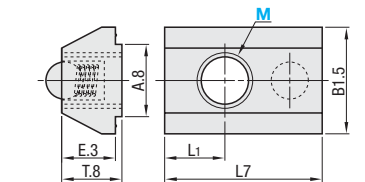


*Does not fall even if the extrusion is placed vertically.



*Electrically conductive

Type	Body	Material	Ball	Surface Treatment
(1)HNTP6		1.4301	JIS SWP-A	Trivalent Chromate
(2)HNTPV6	1.0301/C10	1.4301	X5CrNi18-10	Trivalent Chromate
(3)HNTPZ6		1.4301/	X5CrNi18-10	Trivalent Chromate
(4)SHNTP6*	1.4401 (Sintering)	1.4301/	X5CrNi18-10	Trivalent Chromate



Reference Tightening Torque (N·m)	
M	1.0301/C10 / 1.4401/X5CrNiMo17-12-2 / (Sinterin)
6	11.7

Part Number	M	L1	€ Unit Price				Volume Discount			
			1~499 pcs.	500~749	750~999	1000~	500~749	750~999	1000~	
HNTP6 (1.0301/C10)	3 4 5 6	6								
HNTPV6 (Thread Locking · 1.0301/C10)	6	6								
HNTPZ6 (Thread Locking · 1.0301/C10)	6	6								
SHNTP6 (1.4401/X5CrNiMo17-12-2 · Sintering)	3 4 5 6	6.5								

*Bulk-packages are cost-saving for in-house stock or large quantities. (Refer to P508)

Order Example: Part Number **HNTP6** - M **6** Days to Ship **6 Days** P87 **2 Days**

Thread Locking Type



Anti-loose agent applied inside of the tap

It is a Nut with Thread locker applied on the inside of tap. Reduce loosening caused by vibration at transportation or operation of equipment.
Thread Locking Adhesive is ---A microencapsulated anaerobic adhesive prevents thread loosening. Note that it requires a hardening time (72 hours at room temperature 25°C). The adhesive property is lost once loosened.
Resin Coating ---Resin is coated along the threads. Although the thread locking effect may be less than adhesive type, it can be used repeatedly without hardening time required.

Effect of Thread Locker (Reference)

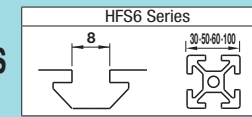
Loosening torque values are for reference. Difference may occur depending on the clearances between bolts and nuts.

Features	Loosening torque after tightening (1st time)	Remarks
Without Thread Locker	8.2 N·m	
Thread Locking Adhesive Type	11.7 N·m	Test Conditions Measured value (HNTPV6-6) when a bolt is loosened after drying for 72 hours at room temperature (25 °C), after tightened at 11.7N·m.
Thread Locking Resin Coating Type	9.4N·m	Thread locking effect decreases after repeated use. 5th loosening torque: 8.7N·m Measurement at HNTAZ6-6



Post-Assy. Insertion Nuts for Aluminum Frames Others

-For HFS6 Series Aluminum Frames 30 · 50 · 60 · 100 Square-



CAD Data

Tightening Torque **P676**

Post-Assembly Insertion Lock Nuts with Leaf Springs

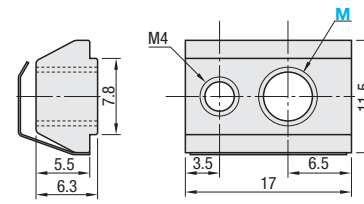
RoHS

HNTRP6

Reference Tightening Torque (N·m)	
M	1.0301/C10
6	11.7



Part	Material	Surface Treatment
Body	1.0301/C10	Trivalent Chromate
Wing Part	1.4301/X5CrNi18-10	-



Part Number	M	Accessories	€ Unit Price				Volume Discount			
			1~499 pcs.	500~749	750~999	1000~	500~749	750~999	1000~	
HNTRP6	6	M4 Set screw 1 pc.								

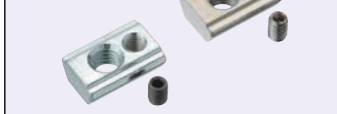
Post-Assembly Insertion Lock Nuts

RoHS

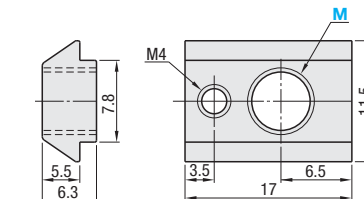
HNTR6 (1.0301/C10)

HNTRSN6 (1.4401/X5CrNiMo17-12-2 · Sintering)

Reference Tightening Torque (N·m)	
M	1.0301/C10 / 1.4401/X5CrNiMo17-12-2 / (Sinterin)
6	11.7



Type	Material	Surface Treatment
HNTR6	1.0301/C10	Trivalent Chromate
HNTRSN6	1.4401/X5CrNiMo17-12-2 (Sintering)	-



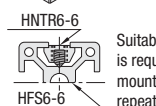
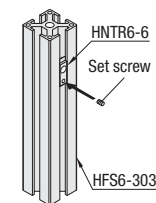
Part Number	M	Accessories	€ Unit Price				Volume Discount			
			1~499 pcs.	500~749	750~999	1000~	500~749	750~999	1000~	
HNTR6 (1.0301/C10)	3 4 5 6	M4 Set screw 1 pc.								
HNTRSN6 (1.4401/X5CrNiMo17-12-2 · Sintering)	3 4 5 6	M4 Set screw 1 pc.								

Order Example: Part Number **HNTR6** - M **6** Days to Ship **6 Days** P87 **2 Days**



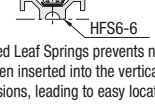
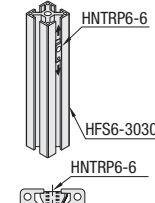
Post-Assy. Insertion Lock Nuts (HNTR)

Post-Assembly Insertion Lock Nuts with Leaf Springs (HNTRP)



The nut can be fixed in place by itself by tightening the included set screw.

Suitable for use where high repeatability is required. Usable for use when mounting sensor or removing panels repeatedly.



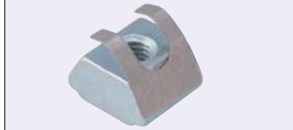
Welded Leaf Springs prevents nuts from slipping off even inserted into the vertically-placed extrusions, leading to easy locating.

Also, the nut can be fixed in place by tightening the included set screw.

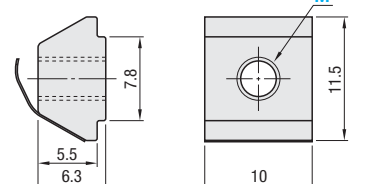
Post-Assembly Insertion Short Nuts

RoHS

HNTAJ6



Part	Material	Surface Treatment
Body	1.0301/C10	Trivalent Chromate
Wing Part	1.4301/X5CrNi18-10	-



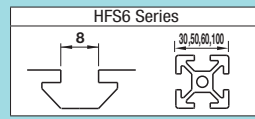
-Overall length is shorter than the Pre-Assembly Insertion Nuts HNTT. Convenient for installing sensors or other components closely in combination.

Part Number	M	€ Unit Price				Volume Discount			
		1~499 pcs.	500~749	750~999	1000~	500~749	750~999	1000~	
HNTAJ6	3 4 5 6								

Order Example: Part Number **HNTAJ6** - M **6** Days to Ship **6 Days** P87

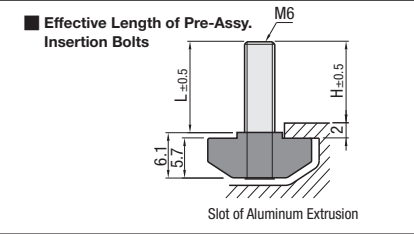
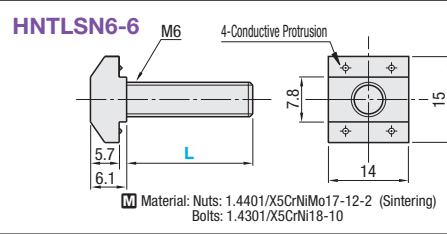
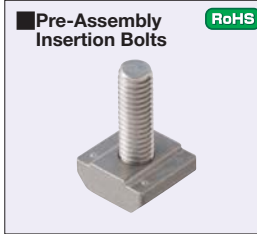
Pre-Assy. Insertion Bolts / Post-Assy. Insertion Bolts / Conductive Washers / Toothed Washer / Flanged Nuts

-For HFS6 Series Aluminum Frames 30 · 50 · 60 · 100 Square-



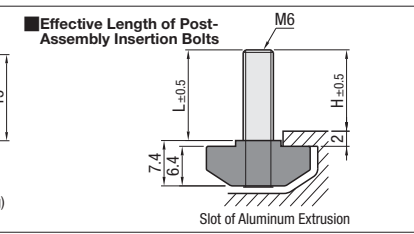
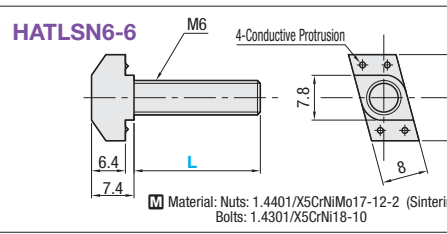
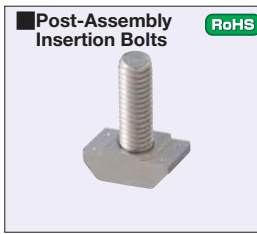
CAD Data

Tightening Torque **P.676**



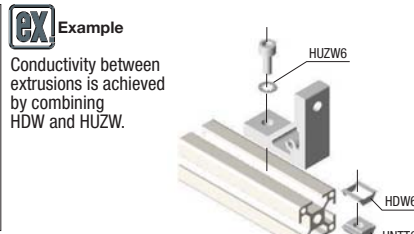
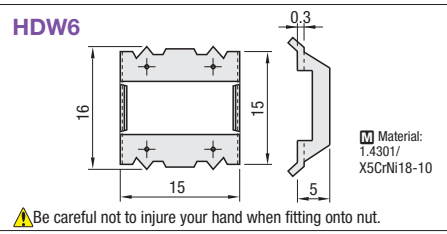
Part Number	L	H	Applicable Extrusion (Series)	Reference Tightening Torque (N·m)	€ Unit Price	Volume Discount
HNTLSN6-6	13	11.8	HFS6	11.7	1-299 pcs.	300-499
	17	16.8			500-	
	22	21.8				

*Electrically conductive



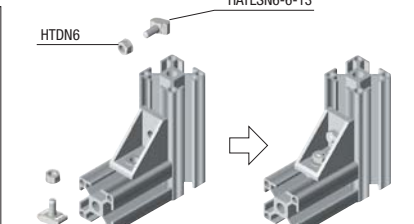
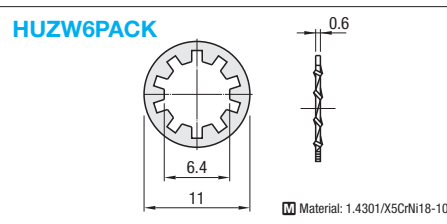
Part Number	L	H	Applicable Extrusion (Series)	Reference Tightening Torque (N·m)	€ Unit Price	Volume Discount
HATLSN6-6	13	12.0	HFS6	11.7	1-299 pcs.	300-499
	17	17.0			500-	
	22	22.0				

*Electrically conductive



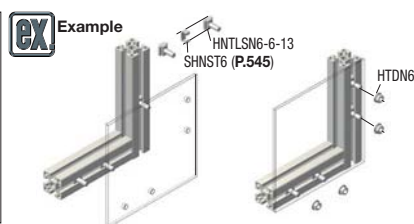
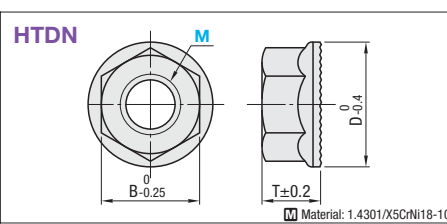
Part Number	Applicable Pre-Assy. Insertion Nut	€ Unit Price	Volume Discount
HDW6	HNTT6	1-99 pcs.	100-

*Electrically conductive



Part Number	€ Unit Price	Volume Discount
HUZW6PACK	1-4 package	5-

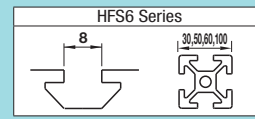
*100 pcs. per package



Part Number	Type	M	B	T	D	€ Unit Price	Volume Discount
HTDN (Stainless Steel)		4	7	4.2	10	1-499 pcs.	500-999
		5	8	5.5	12	1000-	
		6	10	6.0	13		

Long Nuts

-For HFS6 Series Aluminum Frames 30 · 50 · 60 · 100 Square-

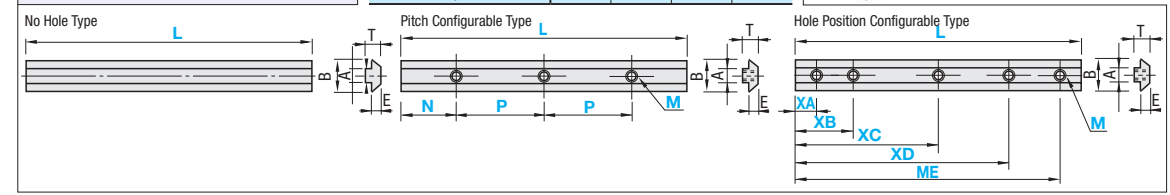
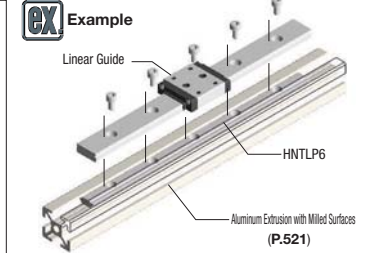


CAD Data

Tightening Torque **P.676**



Type	Material	Surface Treatment	Reference Tightening Torque (N·m)
Pre-Assy. Insertion	1.0301/C10	Trivalent Chromate	11.7
Post-Assy. Insertion	1.4305/X10CrNiS18-9	-	
HNTLF6	HNTALF6		
HNTLP6	HNTALP6		
HNTLS6	HNTALS6		
SHNTLF6	SHNTALP6		
SHNTLP6	SHNTALS6		



Part Number	L 1mm Increment	HNTLF		SHNTLF		HNTALF	
		€ Unit Price Less than 300mm	€ Unit Price/m 300mm or more	€ Unit Price Less than 300mm	€ Unit Price/m 300mm or more	€ Unit Price Less than 300mm	€ Unit Price/m 300mm or more
(Pre-Assy. Insertion) HNTLF6	50-2000						
(Post-Assy. Insertion) HNTALF6	50-2000						
(Pre-Assy. Insertion) SHNTLF6	50-1000						
(Post-Assy. Insertion) SHNTALF6	50-1000						

Part Number	L 1mm Increment	M	N 1mm Increment	P 1mm Increment	Number of Taps S	HNTLP		SHNTLP		HNTALP		SHNTALP	
						€ Unit Price Less than 300mm	€ Unit Price/m 300mm or more	€ Unit Price Less than 300mm	€ Unit Price/m 300mm or more	€ Unit Price Less than 300mm	€ Unit Price/m 300mm or more	€ Unit Price Less than 300mm	€ Unit Price/m 300mm or more
(Pre-Assy. Insertion) HNTLP6	3	4	5	6	5 ≤ N ≤ L-5	2M: P ≤ L-2M	2 ≤ S ≤ 20						
(Post-Assy. Insertion) HNTALP6	3	4	5	6	5 ≤ N ≤ L-5	2M: P ≤ L-2M	2 ≤ S ≤ 20						
(Pre-Assy. Insertion) SHNTLP6	3	4	5	6	5 ≤ N ≤ L-5	2M: P ≤ L-2M	2 ≤ S ≤ 20						
(Post-Assy. Insertion) SHNTALP6	3	4	5	6	5 ≤ N ≤ L-5	2M: P ≤ L-2M	2 ≤ S ≤ 20						

Part Number	L 1mm Increment	M	XA-XE 1mm Increment	HNTLS		SHNTLS		HNTALS		SHNTALS	
				€ Unit Price Less than 300mm	€ Unit Price/m 300mm or more	€ Unit Price Less than 300mm	€ Unit Price/m 300mm or more	€ Unit Price Less than 300mm	€ Unit Price/m 300mm or more		
(Pre-Assy. Insertion) HNTLS6	3	4	5	6	5-L-5						
(Post-Assy. Insertion) HNTALS6	3	4	5	6	5-L-5						
(Pre-Assy. Insertion) SHNTLS6	3	4	5	6	5-L-5						
(Post-Assy. Insertion) SHNTALS6	3	4	5	6	5-L-5						

*Number of tapped holes can be specified between 1 to 5.

Part Number	L	M	N	P	S
HNTLF6	1800				
HNTALF6	400				
HNTLP6	200	M3	N10	P30	7
HNTALP6	210	M5	N8	P15	8
HNTLS6	1050	M5	XA20	XB105	
SHNTLS6	1050	M5	XA20	XB105	
HNTALS6	1000	M5	XA25	XB55	XC78
SHNTALS6	1000	M5	XA25	XB55	XC78

Pitch Configurable Type	€ Unit Price / 1 Hole	Hole Position Configurable Type	€ Unit Price / 1 Hole
HNTLP - HNTALP		HNTLS - HNTALS	
SHNTLP - SHNTALP		SHNTLS - SHNTALS	

Days to Ship **8 Days**

Price Express A 5.00 EUR/ piece P.88

*A Express Charge of 13.50 EUR for 3 or more identical pieces.

*The prices of Pitch Configurable Type and Hole Position Configurable Type are found by adding the unit prices in the table to the hole machining charges.

(Ex.) Part Number - L - M - XA - XB

HNTLS6 - 400 - M5 - XA10 - XB70

When

(€ Unit Price/m x Specified Full Length) + (Hole Machining Charge) = Price

= 8.40 EUR (Round down to ten Cent.)

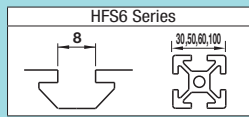
Part Number	€ Unit Price	Volume Discount	Reference Tightening Torque (N·m)	
			M	6
HNTK6	1-499 pcs.	500-999	1.0301/C10	1.4305/X10CrNiS18-9
HNTLG6			11.7	
SHNTLG6				

Part Number	€ Unit Price	Volume Discount
HNTK6	1-499 pcs.	500-999
HNTLG6		
SHNTLG6		

Alteration	Code	Spec.	Type	Price Adder
Hexagon Socket Set Screw Set	SET	Hexagon socket set screws come with as a set.	HNTLG6	0,50
		Type	Set Screw	Qty.
		HNTLG	MSSK	4
		SHNTLG	MSSU	4

Extrusion End Caps

-For HFS6 Series Aluminum Frames 30 · 50 · 60 · 100 Square-



Features: Standard caps for protecting frame end faces. Alterations are not required. When the cap is hard to insert, tap with a wooden or plastic hammer.

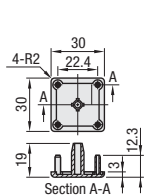
RoHS

Some products are not required to specify colors, since there was no color configuration in the former catalogs. In that case, color is black.

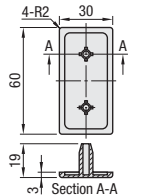
The pin's shape and numbers of extrusion end caps may be changed to prevent caps from easily falling off.

Type	Material
HFC	Polyamide
HFCL	Low Density Polyethylene

HFC6-3030
HFCL6-3030

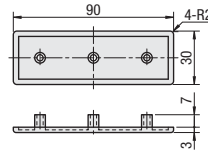


HFC6-3060
HFCL6-3060

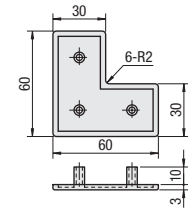


The shapes are changed to be less likely to fall off.
HFC: A tool is required to remove.
HFCL: Removable by hand.

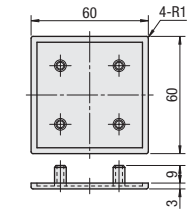
HFC6-3090



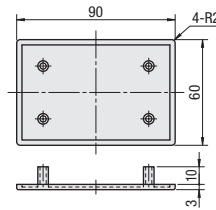
HFC6-606030



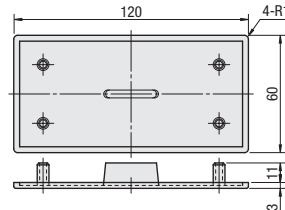
HFC6-6060



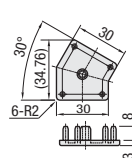
HFC6-6090



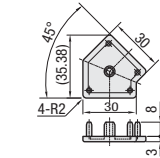
HFC6-60120



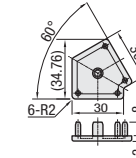
HFC30A6



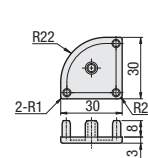
HFC45A6



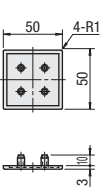
HFC60A6



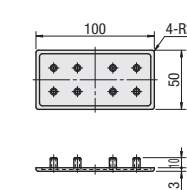
HFCR6-3030



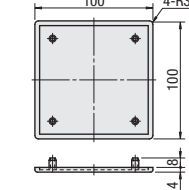
HFC6-5050



HFC6-50100



HFC6-100100



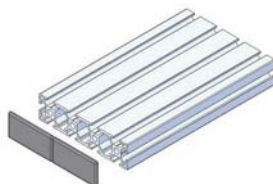
Part Number	Color	€ Unit Price	Volume Discount	Applicable Extrusions
Type	No.	1-14 pcs.	15-19	20~
HFC6	3030			HFS6-3030
	3060			HFS6-3060
	3090			HFS6-3090
	606030			HFS6-606030
	6060			HFS6-6060
	6090			HFS6-6090
	60120			HFS6-60120
HFCL6	3030			HFS6-3030
	3060			HFS6-3060
HFC30A6	S (Light Gray)			HFS30A6-30
HFC45A6		HFS45A6-30		
HFC60A6		HFS60A6-30		
HFCR6-3030		HFSR6-3030		
HFC6	5050			HFS6-5050
	50100			HFS6-50100
	100100			HFS6-100100

Order Example Part Number - Color
HFC30A6 - B

Days to Ship 6 Days 2 Days

Example

When using Aluminum Extrusion HFS6-30120, please use 2 pieces of HFC6-3060.



*For Aluminum Extrusion EFS Series, the same frame caps as of HFS Series can be used.

Features: Three-Sided Frame Caps for protecting 3 corners. Alterations are not required.

Three-Sided Caps for Corners **RoHS** **HFC6-3030**

The shape and the number of extrusion end cap pin may be changed to prevent caps from easily falling off.

Example

Tapping on extrusion is not required.

Part Number	Color	Accessories	Applicable Extrusion*	€ Unit Price	Volume Discount
HFC6-3030	B (Black)	HFBMB4-12	HFS6-3030	1-14 pcs.	15-19 20~

*For Aluminum Extrusion EFS Series, the same frame caps as of HFS Series can be used.

Order Example Part Number - Color
HFC6-3030 - B

Days to Ship 6 Days P87

Features: Frame End Caps, Screw Mounting Type. Excels in safety, prevent caps from falling off without alterations.

Screw Mounted **RoHS** **HFCB6-3030** (Screw Fixing Type) **HFCB6-3060** (Screw Fixing Type)

Material: Polyamide (Black, Light Gray, Yellow)

Part Number	Color	€ Unit Price	Volume Discount	Applicable Extrusions*
Type	No.	1-14 pcs.	15-19	20~
HFCB6	3030	B (Black) S (Light Gray) Y (Yellow)		HFS6-3030
	3060	Yellow Type is only available for 3030.		HFS6-3060

*For Aluminum Extrusion EFS Series, the same frame caps as of HFS Series can be used.
*For Screw Retained Type, flat head screws are included. (Black: HFBMB4 - 12, Light Gray, Yellow: SHFBS4 - 12)

Order Example Part Number - Color
HFCB6-3030 - B

Days to Ship 6 Days 2 Days P87

Example

Tapping on extrusion is not required.

Features: End plates for HFCR6-606030. Alterations are required on the extrusions.

End Plates **RoHS** **HFCR6-606030**

Material: 1.4301/X5CrNi18-10

End plates mounting for HFSR6-606030

Alterations Code	Hole Machining for End Plate Mounting		
	LTS	RTS	TSW
Spec.	The standard extrusion position is shown below. LTS: Machined on the left end RTS: Machined on the right end TSW: Machined on both ends Ex. LTS		
Applicable Extrusions	Applicable Screw	760	1,520
HFSR6-606030	SHFBS8-12	760	1,520

Part Number	Applicable Screw (Not included)	€ Unit Price	Volume Discount	Applicable Extrusions
Type		1-14 pcs.	15-19	20~
HFCR6-606030	SHFBS8-12			HFSR6-606030

*For HFCR6-606030, alteration on the extrusion section and applicable screws are required for mounting. (Screws are not attached.)

Features: Frame Caps only for High Rigidity Aluminum Frames GFS6-3030 and GFS6-3060.

Plates for High Rigidity Type **RoHS** **HFCD6-3030** **HFCD6-3060**

Material: 1.4301/X5CrNi18-10

Part Number	Applicable Screw (Not included)	Applicable Extrusion	€ Unit Price	Volume Discount
Type	No.		1-9 pcs.	10~
HFCD6	3030	GFS6-3030		
	3060	GFS6-3060		

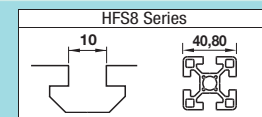
*Special alteration is required on cross sections of extrusions to mount frame caps. (Refer to P658)



HFS8 Series Aluminum Frames

40 · 80mm Square -1 Slot-

Price Reduction
Up to 2.7%



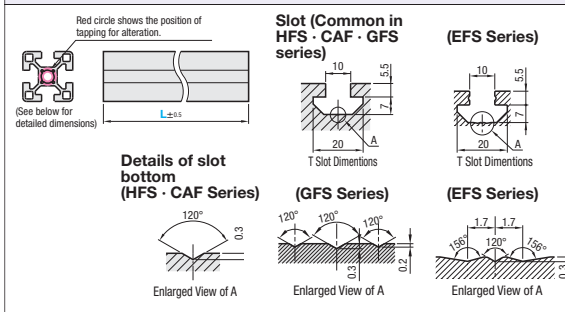
Fixing Parts			Others	
Brackets	Nuts	Joints	Extrusion End Caps	Alteration
P563 ~ P578	P581 ~ P588	P627 ~ P640	P589	P645 ~ P658

CAD Data

Features: Standard extrusions for equipment bases or etc.

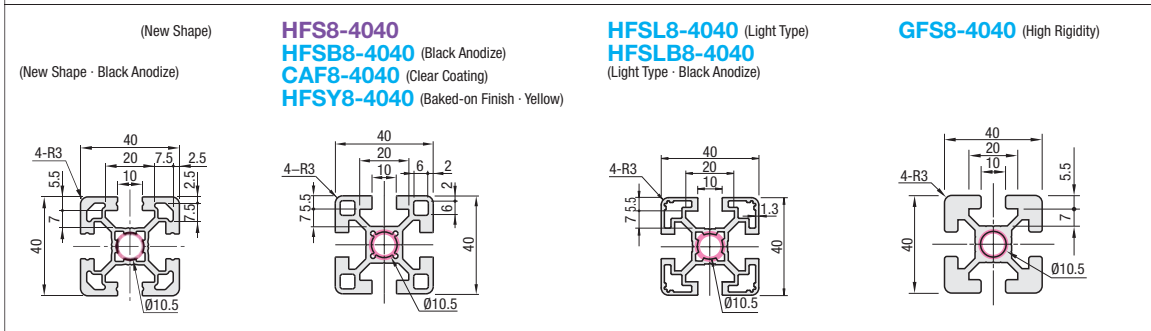
Type	Configurable Length	Fixed Length	Material	Surface Treatment	
				Material	Surface Treatment
GFS8	KGFS8	EN AW-6061-T6		Clear Anodize	
HFS8 HFSL8	KHFS8 KHFSL8	EN AC-51400/ AlMgSi0.7-T5		Clear Anodize	
HFSB8 CAF8	KHFSB8			Black Anodize	
HFSY8	-			Clear Coating (Clear Anodize + Clear Painting) Baked-on Finish (Yellow)	

ⓈCut surface and altered parts are not surface treated.



Features of Extrusions

Cross Section Shape	Surface Treatment	Description
EFS Extrusions	Common surface treatment.	New shape with the same or higher rigidity as conventional HFS series. Weight saving and price reduction realized. Migration from HFS Series extrusions realizes cost savings.
HFS Extrusions	Standard cross section shape.	
HFSL Extrusions	Although having thin walls lowers the allowable load, excels in cost savings offered.	
GFS Extrusions	Suitable for heavier devices due to the thick walls.	
Clear Anodize	Effective in where light reflection is not desirable.	
Black Anodize	More luster and better appearance than anodizing.	
Clear Coating	Can be used on doors or hazardous areas as a warning color. The color is D22 - 80V (Munsell Value Reference 2.5YR6/14) by Japan Paint Manufacturers Association.	
Baked-on Finish - Yellow		



Configurable Length Extrusions

Part Number	L 0.5mm Increment	Mass kg/m	Sectional Area mm²	Cross Sectional Moment of Inertia mm⁴		€ Unit Price Less than 300mm 1-9 pcs.	Volume Discount Less than 300mm 10-49	€ Unit Price/m 300mm or more 50~	Volume Discount/m 300mm or more 10-49	50~	
				lx	ly						
HFS8 HFSB8 (Black Anodize) CAF8 (Clear Coating) HFSY8 (Baked-on Finish - Yellow) HFSL8 (Light Type) HFSLB8 (Light Type - Black Anodize) GFS8 (High Rigidity)	4040	50-4000	1.61	596	10.5x10⁴	10.5x10⁴					
			1.73	640	10.4x10⁴	10.4x10⁴					
			1.27	478	7.54x10⁴	7.54x10⁴					
			2.17	806	13.76x10⁴	13.76x10⁴					

Fixed Length Extrusion (1000mm)

ⓈPart numbers beginning with the character "K" indicate Fixed Length Extrusion.

Part Number	L mm	Sectional Area mm²	Cross Sectional Moment of Inertia mm⁴	€ Unit Price	Volume Discount		
KHFS8	4040	1000	640	10.4x10⁴	10.4x10⁴	1-19 pcs.	16,00

Fixed Length Extrusions (Effective Length 4000mm) ⓈPart numbers beginning with the character "K" indicate Fixed Length Extrusion.

Part Number	L mm	Sectional Area mm²	Cross Sectional Moment of Inertia mm⁴	€ Unit Price	Volume Discount	
(New Shape)	4040	4000	596	10.5x10⁴	10.5x10⁴	
(New Shape / Black Anodize)						
KHFS8			640	10.4x10⁴	10.4x10⁴	
KHFSB8 (Black Anodize)						
KHFSL8 (Light Type)			478	7.54x10⁴	7.54x10⁴	
KHFSLB8 (Light Type / Black Anodize)						
KGFS8 (High Rigidity)	806	13.76x10⁴	13.76x10⁴			

Order Example Part Number - L
HFS8-4040 - 800
KHFS8-4040 - 4000

Days to Ship **6 Days** **5 Days**

Configurable Length Extrusions
Up to 79 pcs.
ⓈShipping of 2nd business day is available for orders of 80-160 pcs.

Fixed Length Extrusion (KHFS8-4040-1000)
6 Days ⓈP87

Fixed Length Extrusion (Effective Length 4000mm)
7 Days ⓈFor orders of 20 or more identical pieces, please request a quotation.
(KHFS8-4040-4000)

Aluminum Frames with 4000mm or more
Applicable to 6000mm depending on products.
Refer to Information of Special Orders (P97), and contact the person in charge of Special Orders at MISUMI OCT Center.
ⓈSome extrusions are not applicable.

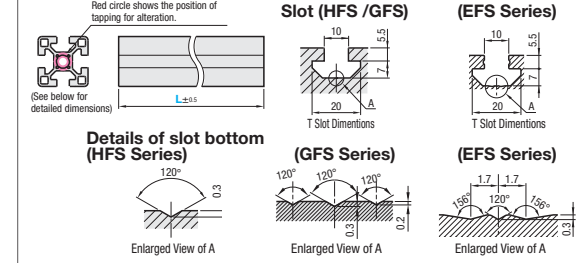
Alterations
Alterations are available for Configurable Length Extrusions.
For details, refer to P645

Price
When L is less than 300 Unit prices are indicated in the table regardless of the length.
ex: HFS8-4040-180=4,50 EUR
When L is 300 or more Prices are calculated as follows:
€ Unit Price/m x Specified Full Length = Price
ex: HFS8-4040-600
15,10x0.6m=4,50 EUR (Round down to ten Cent.)

Features: Standard extrusions for equipment bases or etc..

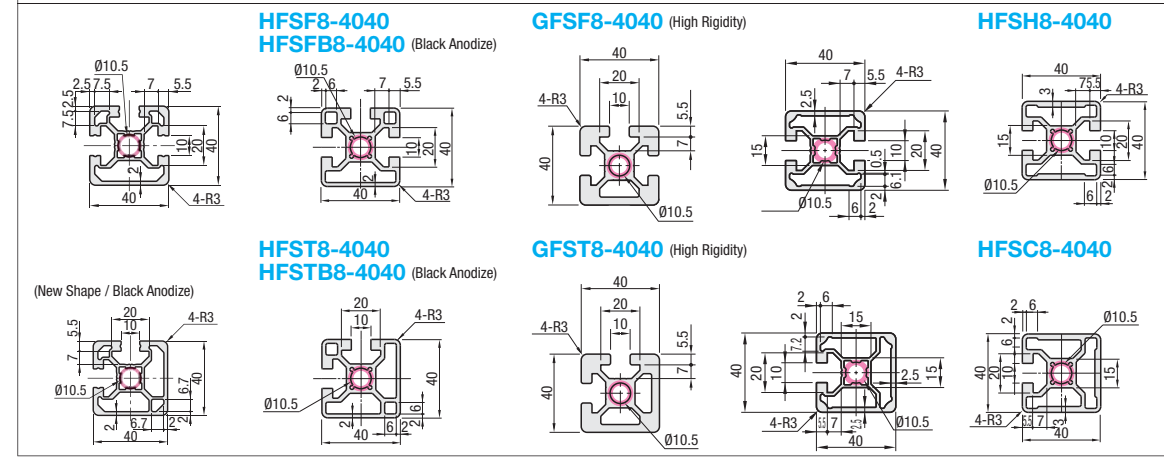
Type	Configurable Length	Fixed Length	Material	Surface Treatment	
				Material	Surface Treatment
GFS 8	KGFS 8	EN AW-6061-T6		Clear Anodize	
HFS 8 HFS B8	KHFS 8 KHFS B8	EN AC-51400/ AlMgSi0.7-T5		Clear Anodize Black Anodize	

ⓈCut surface and altered parts are not surface treated.



Features of Extrusions

Cross Section Shape	Surface Treatment	Description
EFS Extrusions	Common surface treatment.	New shape with the same or higher rigidity as conventional HFS series. Weight saving and price reduction realized. Migration from HFS Series extrusions realizes cost savings.
HFS Extrusions	Standard cross section shape.	
GFS Extrusions	Suitable for heavier devices due to the thick walls.	
Clear Anodize	Effective in where light reflection is not desirable.	
Black Anodize	More luster and better appearance than anodizing.	
Clear Coating	Can be used on doors or hazardous areas as a warning color. The color is D22 - 80V (Munsell Value Reference 2.5YR6/14) by Japan Paint Manufacturers Association.	
Baked-on Finish - Yellow		



Configurable Length Extrusions

Part Number	L 0.5mm Increment	Mass kg/m	Sectional Area mm²	Cross Sectional Moment of Inertia mm⁴		€ Unit Price Less than 300mm 1-9 pcs.	Volume Discount Less than 300mm 10-49	€ Unit Price/m 300mm or more 50~	Volume Discount/m 300mm or more 10-49	50~	
				lx	ly						
HFSF8 HFSFB8 (Black Anodize) GFSF8 (High Rigidity)	4040	50-4000	1.53	568	9.96x10⁴	10.12x10⁴					
			1.63	601	9.63x10⁴	9.94x10⁴					
			2.21	820	14.61x10⁴	13.6x10⁴					
			1.51	558	9.92x10⁴	9.92x10⁴					
			1.61	596	9.86x10⁴	9.82x10⁴					
			2.28	846	14.57x10⁴	14.57x10⁴					
HFST8 HFSTB8 (Black Anodize) GFST8 (High Rigidity)	4040	50-4000	1.56	579	10.37x10⁴	10.57x10⁴					
			1.65	612	9.74x10⁴	10.44x10⁴					
			1.54	571	10.22x10⁴	10.52x10⁴					
HFSH8			1.66	617	9.97x10⁴	10.51x10⁴					
HFSC8											

Fixed Length Extrusions (Effective Length 4000mm) ⓈPart numbers beginning with the character "K" indicate Fixed Length Extrusion.

Part Number	L mm	Sectional Area mm²	Cross Sectional Moment of Inertia mm⁴	€ Unit Price	Volume Discount	
KHFSF8 KHFSFB8 (Black Anodize) KGFSF8 (High Rigidity)	4040	4000	586	9.96x10⁴	10.12x10⁴	
			601	9.63x10⁴	9.94x10⁴	
			601	9.63x10⁴	9.94x10⁴	
			820	14.61x10⁴	13.6x10⁴	
			558	9.92x10⁴	9.92x10⁴	
			596	9.86x10⁴	9.82x10⁴	
			596	9.86x10⁴	9.82x10⁴	
			846	14.57x10⁴	14.57x10⁴	
			579	10.37x10⁴	10.57x10⁴	
			612	9.74x10⁴	10.44x10⁴	
			571	10.22x10⁴	10.52x10⁴	
KHFSH8			617	9.97x10⁴	10.51x10⁴	
KHFSB8						

Order Example Part Number - L
HFSF8-4040 - 800
KHFSF8-4040 - 4000

Days to Ship **6 Days** **5 Days**

Configurable Length Extrusions
Up to 79 pcs.
ⓈShipping of 2nd business day is available for orders of 80-160 pcs.

Fixed Length Extrusions (Effective Length 4000mm)
7 Days ⓈFor orders of 20 or more identical pieces, please request a quotation.
(KHFSF8-4040-4000)

Aluminum Frames with 4000mm or more
Applicable to 6000mm depending on products.
Refer to Information of Special Orders (P97), and contact the person in charge of Special Orders at MISUMI OCT Center.
ⓈSome extrusions are not applicable.

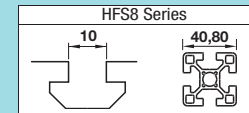
Alterations
Alterations are available for Configurable Length Extrusions.
For details, refer to P645

Price
When L is less than 300 - Unit prices are indicated in the table regardless of the length.
ex: HFSF8-4040-180=4,40 EUR
When L is 300 or more Prices are calculated as follows:
€ Unit Price/m x Specified Full Length = Price
ex: HFSF8-4040-600
14,80x0.6m=4,40 EUR (Round down to ten Cent.)



HFS8 Series Aluminum Frames 40 · 80mm Square

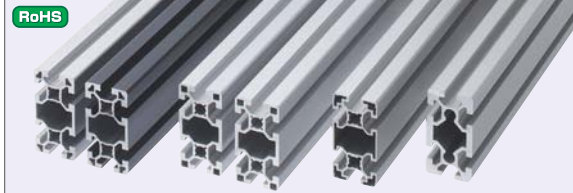
-2 Slots-



Fixing Parts			Others	
Brackets	Nuts	Joints	Extrusion End Caps	Alteration
P563 ~ P578	P581 ~ P588	P627 ~ P640	P589	P645 ~ P658

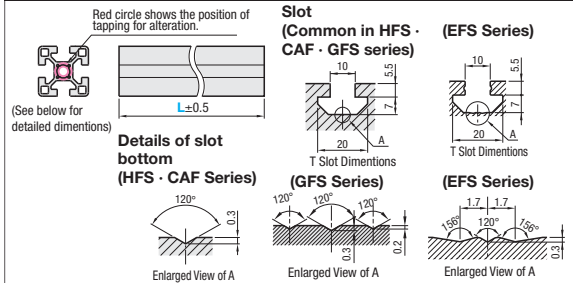
CAD Data

Features: Extrusions shaped with [1 x 2 slots]. Effective where forces apply.

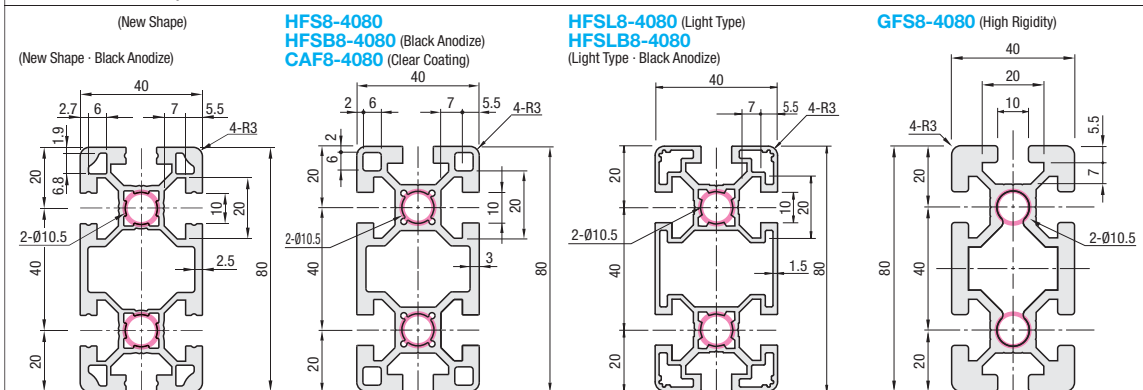


Type		Material	Surface Treatment
Configurable Length	Fixed Length		
GFS8	KGFS8	EN AW-6061-T6	Clear Anodize
HFSL8	KHFSL8	EN AC-51400/ AlmgSi0,7-T5	
HFSB8 HFSLB8	KHFSB8 KHFSLB8		Black Anodize
CAF8	-		Clear Coating (Clear Anodize + Clear Painting)

Ⓢ Cut surface and altered parts are not surface treated.



Features of Extrusions	
Cross Section Shape	EFS Extrusions: New shape with the same or higher rigidity as conventional HFS series. Weight saving and price reduction realized. Migration from HFS Series extrusions realizes cost savings. HFS Extrusions: Standard cross section shape. HFSL Extrusions: Although having thin walls lowers the allowable load, excels in cost savings offered. GFS Extrusions: Suitable for heavier devices due to the thick walls.
Surface Treatment	Clear Anodize: Common surface treatment. Black Anodize: Effective in where light reflection is not desirable. Clear Coating: More luster and better appearance than anodizing.

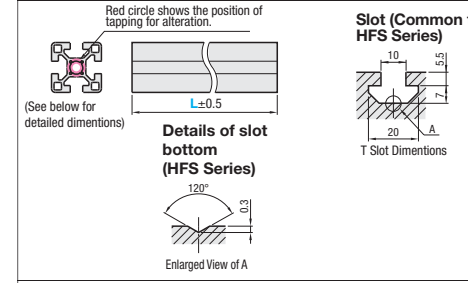


Features: Extrusions shaped with [1 x 2 slots]. Has Flat Sides.

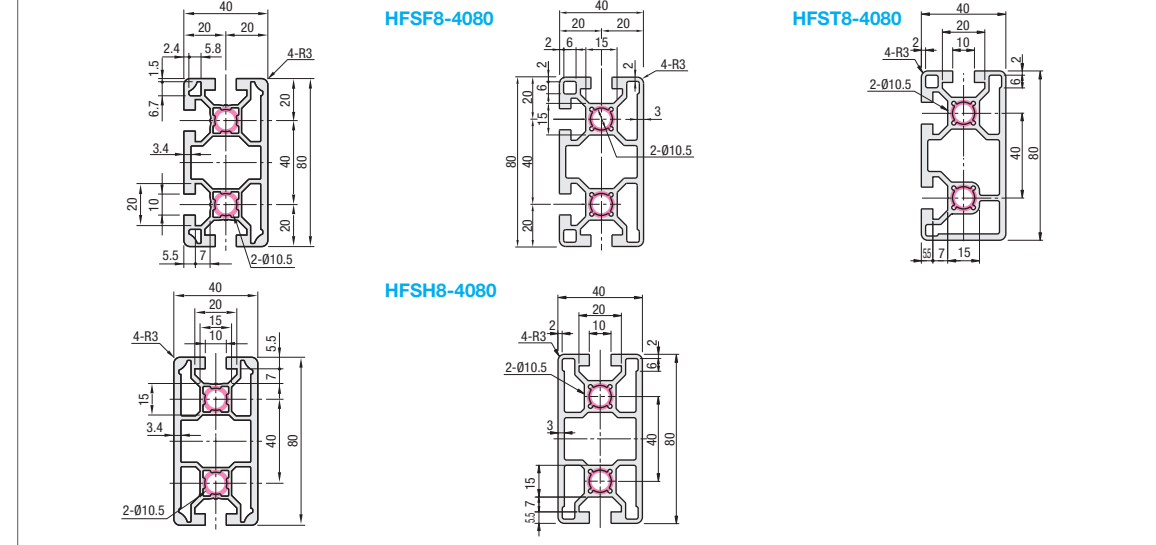


Type		Material	Surface Treatment
Configurable Length	Fixed Length		
HFS_8	KHFS_8	EN AC-51400/ AlmgSi0,7-T5	Clear Anodize

Ⓢ Cut surface and altered parts are not surface treated.



Features of Extrusions	
Cross Section Shape	EFS Extrusions: New shape with the same or higher rigidity as HFS series. Weight savings and cost reduction are realized. Transition from HFS extrusions realizes cost savings. HFS Extrusions: Standard cross section shape.
Surface Treatment	Clear Anodize: Common surface treatment.



Part Number	L 0.5mm Increment	Mass kg/m	Sectional Area mm²	Cross Sectional Moment of Inertia mm⁴		€ Unit Price Less than 300mm	Volume Discount Less than 300mm		€ Unit Price/m 300mm or more	Volume Discount/m 300mm or more	
				ℓx	ℓy		1-9 pcs.	10-49		50~	1-9 pcs.
(New Shape)	4080	50-4000	1034	19.9x10⁴	72.6x10⁴	1-9 pcs.	10-49	50~	1-9 pcs.	10-49	50~
(New Shape - Black Anodize)											
HFS8											
HFSB8(Black Anodize)											
CAF8(Clear Coating)											
HFSL8(Light Type)											
HFSLB8(Light Type - Black Anodize)											
GFS8(High Rigidity)	3.62	1340	25.21x10⁴	90.87x10⁴							

Part Number	L mm	Sectional Area mm²	Cross Sectional Moment of Inertia mm⁴		€ Unit Price 1-19 pcs.	Volume Discount 20~
			ℓx	ℓy		
KHFS8	4080	1109	19.8x10⁴	71.9x10⁴		

Part Number	L mm	Sectional Area mm²	Cross Sectional Moment of Inertia mm⁴		€ Unit Price 1-9 pcs.	Volume Discount 10-19
			ℓx	ℓy		
(New Shape)	4080	1034	19.9x10⁴	72.6x10⁴	1-9 pcs.	10-19
KEFSB8(New Shape - Black Anodize)						
KHFS8						
KHFSB8(Black Anodize)						
KHFSL8(Light Type)						
KHFSLB8(Light Type - Black Anodize)						
KGFS8(High Rigidity)	1340	25.21x10⁴	90.87x10⁴			

Order Example Part Number - L
HFS8-4080 - 800
KHFS8-4080 - 4000

Days to Ship 6 Days

Price When L is less than 300 Unit prices are indicated in the table regardless of the length. ex:HFS8-4080-180=8,10 EUR When L is 300 or more Prices are calculated as follows: € Unit Price/m x Specified Full Length = Price ex:HFS8-4080-800 27,30x0.8m=8,10 EUR (Round down to ten Cent.)

Alterations Alterations are available for Configurable Length Extrusions. For details, refer to P645

Configurable Length Extrusions Up to 79 pcs. Ⓢ Shipping of 2nd business day is available for orders of 80-160 pcs.

Fixed Length Extrusion (KHFS8-4080-1000) 6 Days ex: P87

Fixed Length Extrusions (Effective Length 4000mm) 7 Days Ⓢ For orders of 20 or more identical pieces, please request a quotation. (KHFS8-4080-4000)

Aluminum Frames with 4000mm or more Applicable to 6000mm depending on products. Refer to Information of Special Orders (P97), and contact the person in charge of Special Orders at MISUMI QCT Center. Ⓢ Some extrusions are not applicable.

Part Number	L 0.5mm Increment	Mass kg/m	Sectional Area mm²	Cross Sectional Moment of Inertia mm⁴		€ Unit Price Less than 300mm	Volume Discount Less than 300mm		€ Unit Price/m 300mm or more	Volume Discount/m 300mm or more	
				ℓx	ℓy		1-9 pcs.	10-49		50~	1-9 pcs.
(New Shape)	4080	50-4000	1041	20.37x10⁴	72.20x10⁴	1-9 pcs.	10-49	50~	1-9 pcs.	10-49	50~
HFSF8											
HFST8											
(New Shape)											
HFSH8	3.01	1113	20.67x10⁴	70.16x10⁴							

Part Number	L mm	Sectional Area mm²	Cross Sectional Moment of Inertia mm⁴		€ Unit Price 1-9 pcs.	Volume Discount 10-19
			ℓx	ℓy		
(New Shape)	4080	1041	20.37x10⁴	72.20x10⁴	1-9 pcs.	10-19
KHFSF8						
KHFSB8						
(New Shape)						
KHFSH8	1113	20.67x10⁴	70.16x10⁴			

Order Example Part Number - L
HFSF8-4080 - 800
KHFSF8-4080 - 4000

Days to Ship 6 Days

Price When L is less than 300 Unit prices are indicated in the table regardless of the length. ex: HFSF8-4080-180=9,40 EUR When L is 300 or more Prices are calculated as follows: € Unit Price/m x Specified Full Length = Price ex:HFSF8-4080-800 31,40x0.8m=9,40 EUR (Round down to ten Cent.)

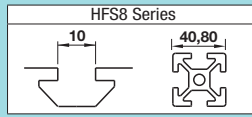
Alterations Up to 79 pcs. Ⓢ Shipping of 2nd business day is available for orders of 80-160 pcs. Alterations are available for Configurable Length Extrusions. For details, refer to P645

Fixed Length Extrusions (Effective Length 4000 mm) 7 Days Ⓢ For orders of 20 or more identical pieces, please request a quotation.

Aluminum Frames with 4000mm or more Applicable to 6000mm depending on products. Refer to Information of Special Orders (P97), and contact the person in charge of Special Orders at MISUMI QCT Center. Ⓢ Some extrusions are not applicable.



Pre-Assembly Insertion Nuts · Stoppers for Aluminum Frames Others
-For HFS8 Series Aluminum Frames 40 · 80 Square-



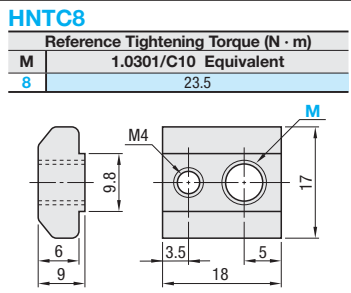
CAD Data

Pre-Assembly Insertion Lock Nuts RoHS

HNTC8

M	Reference Tightening Torque (N · m)
8	23.5

M Material: 1.0301/C10 Equivalent
S Surface Treatment: Trivalent Chromate



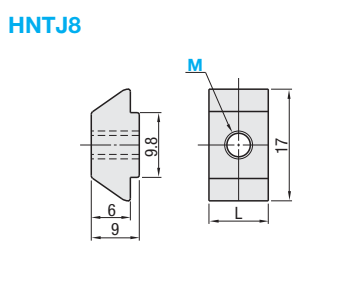
Example -Pre-Assembly Insertion Lock Nuts
The position of post-assembly insertion lock nuts can be fixed temporarily with the set screw.

Part Number	M	Accessory	€ Unit Price				€ Volume Discount Rate				
			1-499 pcs.	500-749	750-999	1000~	1-499 pcs.	500-749	750-999	1000~	
HNTC8	8	M4 Set screw 1 pc.									

Pre-Assembly Insertion Short Nuts RoHS

HNTJ8

M Material: 1.0301/C10 Equivalent
S Surface Treatment: Trivalent Chromate



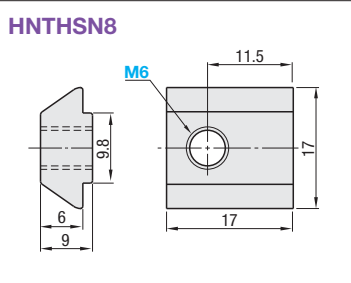
-Overall length is shorter than Pre-Assembly Insertion Nuts HNTT. Suitable for installing sensors or other components closely together.
-Stopper is not included.

Part Number	M	L	€ Unit Price				€ Volume Discount Rate				
			1-499 pcs.	500-749	750-999	1000~	1-499 pcs.	500-749	750-999	1000~	
HNTJ8	3 4 8	8									
			6	12							

Pre-Assy. Insertion Eccentric Nuts RoHS

HNTHSN8

* Electrically conductive
M Material: 1.4401/X5CrNiMo17-12-2 Equivalent (Sintering)



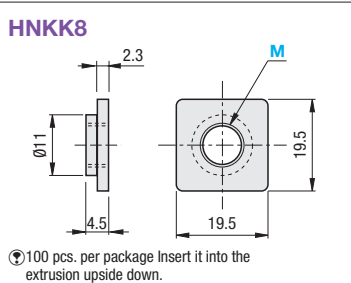
-The pre-assy. insertion offset nut, used in combination with a post-assy. insertion double joint, can be fixed in such a way that the nut, even if connected at the corner of the extrusion, does not protrude from the extrusion (frame).

Part Number	€ Unit Price				€ Volume Discount Rate				
	1-99 pcs.	100-199	200-299	300-399	1-99 pcs.	100-199	200-299	300-399	
HNTHSN8									

Pre-Assembly Insertion Square Nuts RoHS

HNKK8

M Material: 1.0330/DC01
S Surface Treatment: Trivalent Chromate



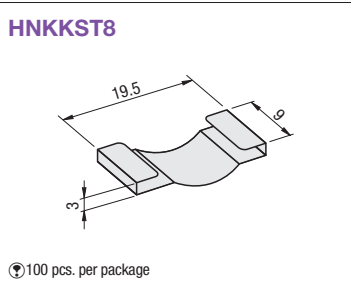
Example - Pre-Assembly Insertion Nuts HNKK

Part Number	M	€ Unit Price				€ Volume Discount Rate			
		1-9 package	10-19	20-29	30-39	1-9 package	10-19	20-29	30-39
HNKK8	4 5 6 8								

Metal Stoppers for Pre-Assembly Insertion Square Nuts RoHS

HNKKST8

M Material: 1.0330/DC01



Example

Part Number	Applicable Pre-Assembly Insertion Nuts	€ Unit Price				€ Volume Discount Rate			
		1-9 package	10-19	20-29	30-39	1-9 package	10-19	20-29	30-39
HNKKST8	HNKK8								

Order Example

Part Number	M
HNTC8	8
HNTJ8	8
HNTHSN8	8
HNKK8	8
HNKKST8	8

- Applicable Extrusions and Brackets
The number of a Part Number corresponds to each frame or bracket of the same number.

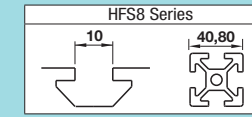
(Ex.) Pre-Assy. Insertion Nut
Pre-Assembly Insertion Stoppers
Extrusions
Brackets

Days to Ship

6 Days P87
2 Days



Post-Assy. Insertion Nuts · Stoppers for Aluminum Frames Standard
-For HFS8 Series Aluminum Frames 40 · 80 Square-



CAD Data

Post-Assembly Insertion Stopper Nuts RoHS

* Electrically conductive

Type	M Material	S Surface Treatment
(1)HNTA8	1.0301/C10 Equivalent	Trivalent Chromate
(2)HNTAV8		
(3)HNTAZ8		
(4)HNTASN8*	1.4401/X5CrNiMo17-12-2 Equivalent (Sintering)	-
(5)HNTASS8	1.4305/X10CrNiS18-9	-

HNTA8 (1.0301/C10 Equivalent)
HNTAV8 (Thread Locking Adhesive · 1.0301/C10 Equivalent)
HNTAZ8 (Thread Locking Resin Coating · 1.0301/C10 Equivalent)
HNTASN8 (1.4401/X5CrNiMo17-12-2 Equivalent · Sintering)
HNTASS8 (1.4305/X10CrNiS18-9)

Reference Tightening Torque (N · m)

M	Reference Tightening Torque (N · m)
8	23.5

Example - Post-Assy. Insertion Stopper Nuts

HNTA
HNTAV
HNTAZ
HNTASN
HNTASS

Part Number	Type	M	T	€ Unit Price				€ Volume Discount Rate			
				1-499 pcs.	500-749	750-999	1000~	1-499 pcs.	500-749	750-999	1000~
HNTA8	(1.0301/C10 Equivalent)	4 5 6 8	6.5								
HNTAV8	(Thread Locking · 1.0301/C10 Equivalent)	8									
HNTAZ8	(Thread Locking · 1.0301/C10 Equivalent)	8									
HNTASN8	(1.4401/X5CrNiMo17-12-2 Equivalent · Sintering)	4 5 6 8	6.0								
HNTASS8	(1.4305/X10CrNiS18-9)	8	6.5								

Ⓢ Bulk-packages are cost effective for in-house stock and large qty. uses. (P508)

Reference Tightening Torque (N · m)

M	Reference Tightening Torque (N · m)
8	23.5

Order Example

Part Number	M
HNTA8	8

Days to Ship

6 Days P87
2 Days

Post-Assembly Insertion Nuts RoHS

* Electrically conductive

Type	M Material	S Surface Treatment
(1)HNTF8	1.0301/C10 Equivalent	Trivalent Chromate
(2)HNTFV8		
(3)HNTFZ8		
(4)HNTFSN8*	1.4401/X5CrNiMo17-12-2 Equivalent (Sintering)	-

HNTF8 (1.0301/C10 Equivalent)
HNTFV8 (Thread Locking Adhesive · 1.0301/C10 Equivalent)
HNTFZ8 (Thread Locking Resin Coating · 1.0301/C10 Equivalent)
HNTFSN8 (1.4401/X5CrNiMo17-12-2 Equivalent · Sintering)

Reference Tightening Torque (N · m)

M	Reference Tightening Torque (N · m)
8	23.5

Example - Post-Assy. Insertion Nuts

HNTF
HNTFV
HNTFZ
HNTFSN

Order Example

Part Number	M
HNTF8	8

Days to Ship

6 Days P87
2 Days

Post-Assembly Insertion Stoppers RoHS

Type	M Material
(1) HNAST8	Polypropylene
(2) HNBST8	1.4319/X3CrNi17-8

HNAST8 (Polypropylene)
HNBST8 (1.4319/X3CrNi17-8)

Part Number	Applicable Stopper Nuts	Color	L	B	L1	B1	€ Unit Price				€ Volume Discount Rate			
							1-499 pcs.	500-999	1000~	1-499 pcs.	500-999	1000~		
HNAST8	HNTA8 HNTAV8 HNTAZ8	White	21	11.1	26	9.8								
HNBST8	HNTASN8 HNTASS8	-	23	12.5	28	8								

Post-Assembly Insertion Nut · Stopper Set RoHS

Type	(B) Stopper Nuts	(A) Stoppers
HNTAT8	HNTA8	HNAST8
HNTATS8*	HNTASN8	HNAST8

* Electrically conductive

HNTAT8 (1.0301/C10 Equivalent Set)
HNTATS8 (1.4401/X5CrNiMo17-12-2 Equivalent Set)

Part Number	M	€ Unit Price				€ Volume Discount Rate			
		1-499 pcs.	500-749	750-999	1000~	1-499 pcs.	500-749	750-999	1000~
HNTAT8	4 5 6 8								
HNTATS8	4 5 6 8								

Post-Assembly Insertion Nut · Metal Stopper Set RoHS

Type	(B) Stopper Nuts	(A) Stoppers
HNTBT8	HNTA8	HNBST8
HNTBTS8*	HNTASN8	HNBST8

* Electrically conductive

HNTBT8 (1.0301/C10 Set)
HNTBTS8 (1.4401/X5CrNiMo17-12-2 Set)

Part Number	M	€ Unit Price				€ Volume Discount Rate			
		1-499 pcs.	500-749	750-999	1000~	1-499 pcs.	500-749	750-999	1000~
HNTBT8	4 5 6 8								
HNTBTS8	4 5 6 8								

Order Example

Part Number	M
HNTAT8	8
HNAST8	8

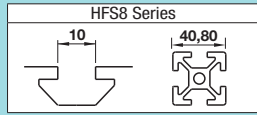
Days to Ship

6 Days P87
2 Days



Post-Assy. Insertion Nuts for Aluminum Frames With Temporary Holding Function

-For HFS8 Series Aluminum Frames 40 · 80 Square-



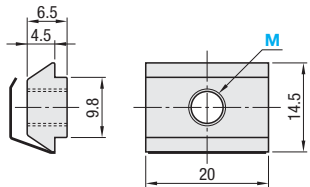
CAD Data

Post-Assembly Insertion Nuts with Leaf Springs

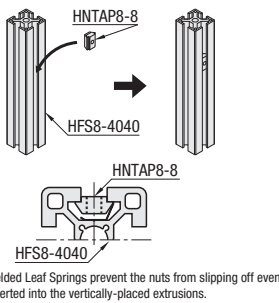
RoHS

HNTAP8

Reference Tightening Torque (N · m)	
M	1.0301/C10 Equivalent
8	23.5



Example



Welded Leaf Springs prevent the nuts from slipping off even inserted into the vertically-placed extrusions.

Part	Material	Surface Treatment
Body	1.0301/C10 Equivalent	Trivalent Chromate
Wing Part	1.4301/X5CrNi18-10	-

Part Number	M	€ Unit Price				Volume Discount Rate			
		1~499 pcs.	500~749	750~999	1000~	500~749	750~999	1000~	
HNTAP8	4 5 6 8								

Order Example: Part Number **HNTAP8** - M **8**
Days to Ship: **6 Days** P.87

Post-Assembly Insertion Spring Nuts

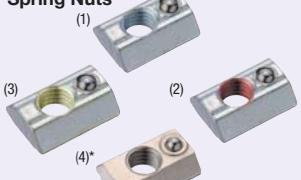
RoHS

HNTP8 (1.0301/C10 Equivalent)

HNTPV8 (Thread Locking Adhesive · 1.0301/C10 Equivalent)

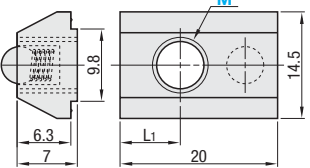
HNTPZ8 (Thread Locking Resin Coating · 1.0301/C10 Equivalent)

SHNTP8 (1.4401/X5CrNiMo17-12-2 Equivalent · Sintering)

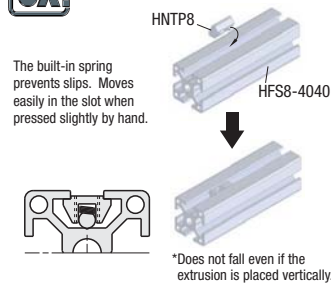


* Electrically conductive

Type	Material			Surface Treatment
	Body	Ball	Springs	
(1) HNTP8	1.0301/C10 Equivalent	1.4301	JIS SWP-A	Trivalent Chromate
(2) HNTPV8	1.0301/C10 Equivalent	1.4301	JIS SWP-A	Trivalent Chromate
(3) HNTPZ8	1.0301/C10 Equivalent	1.4301	JIS SWP-A	Trivalent Chromate
(4) SHNTP8*	1.4401 Equivalent (Sintering)	1.4301	1.4301 -WP8	-



Example



The built-in spring prevents slips. Moves easily in the slot when pressed slightly by hand.

*Does not fall even if the extrusion is placed vertically.

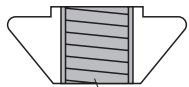
Reference Tightening Torque (N · m)	
M	1.0301/C10 Equivalent / 1.4401/X5CrNiMo17-12-2 Equivalent (Sintering)
8	23.5

Part Number	M	L1	€ Unit Price				Volume Discount Rate			
			1~499 pcs.	500~749	750~999	1000~	500~749	750~999	1000~	
HNTP8 (1.0301/C10 Equivalent)	4 5 6 8	8								
HNTPV8 (Thread Locking · 1.0301/C10 Equivalent)	8									
HNTPZ8 (Thread Locking · 1.0301/C10 Equivalent)	8									
SHNTP8 (1.4401/X5CrNiMo17-12-2 Equivalent, Sintering)	4 5 6 8		8.5							

Bulk-packages are cost-saving for in-house stock or large quantities. (P.508)

Order Example: Part Number **HNTP8** - M **8**
Days to Ship: **6 Days** P.87 **2 Days**

Thread Locking Type



Anti-loose agent applied inside of the tap

It is a Nut with Thread locker applied on the inside of tap. Reduce loosening caused by vibration at transportation or operation of equipment.
Thread Locking Adhesive is ----- A microencapsulated anaerobic adhesive prevents thread loosening. Note that it requires a hardening time (72 hours at room temperature 25°C). The adhesive property is lost once loosened.
Resin Coating ----- Resin is coated along the threads. Although the thread locking effect may be less than adhesive type, it can be used repeatedly without hardening time required.

Effect of Thread Locker (Reference)

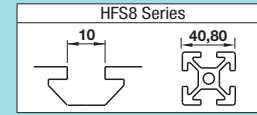
Loosening torque values are for reference. Difference may occur depending on the clearances between bolts and nuts.

	Features	Loosening torque after tightening (1st time)	Remarks
Without Thread Locker	-	17.9N · m	-
Thread Locking Adhesive Type	- Prevents loosening effectively. - Thread locking properties are lost once loosened. - Requires a hardening time for adhesives (72 hours at room temperature 25°C) after tightening.	25.6N · m	Test Conditions Measured value (HNTPV8-8) when a bolt is loosened after drying for 72 hours at room temperature (25 °C), after tightened at 23.5N · m.
Thread Locking Resin Coating Type	- Can be used repeatedly. (Thread locking effect decreases after repeated use.) - Thread locking effect is immediately seen right after tightening.	20.3N · m	Thread locking effect decreases after repeated use. 5th loosening torque: 19.1N · m Measurement with HNTAZ8-8



Post-Assy. Insertion Nuts for Aluminum Frames Others

-For HFS8 Series Aluminum Frames 40 · 80 Square-



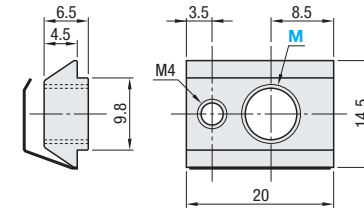
CAD Data

Post-Assembly Insertion Lock Nuts with Leaf Springs

RoHS

HNTRP8

Reference Tightening Torque (N · m)	
M	1.0301/C10 Equivalent
8	23.5



Part	Material	Surface Treatment
Body	1.0301/C10 Equivalent	Trivalent Chromate
Wing Part	1.4301/X5CrNi18-10	-

Part Number	M	Accessory	€ Unit Price				Volume Discount Rate			
			1~499 pcs.	500~749	750~999	1000~	500~749	750~999	1000~	
HNTRP8	8	M4 set screw for locking								

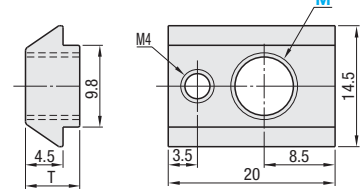
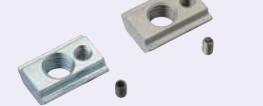
Order Example: Part Number **HNTRP8** - M **8**
Days to Ship: **6 Days** P.87

Post-Assembly Insertion Lock Nuts

RoHS

HNTR8 (1.0301/C10 Equivalent)

HNTRSN8 (1.4401/X5CrNiMo17-12-2 Equivalent · Sintering)

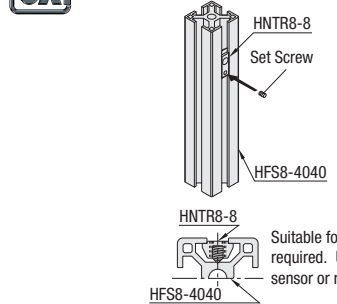


Type	Material	Surface Treatment
HNTR8	1.0301/C10 Equivalent	Trivalent Chromate
HNTRSN8	1.4401/X5CrNiMo17-12-2 Equivalent (Sintering)	-

Part Number	M	T	Accessories	€ Unit Price				Volume Discount Rate			
				1~499 pcs.	500~749	750~999	1000~	500~749	750~999	1000~	
HNTR8 (1.0301/C10 Equivalent)	4 5 6 8	6.5	M4 Set screw 1 pc.								
HNTRSN8 (1.4401/X5CrNiMo17-12-2 Equivalent · Sintering)	4 5 6 8	6.0	M4 Set screw 1 pc.								

Order Example: Part Number **HNTR8** - M **8**
Days to Ship: **6 Days** P.87 **2 Days**

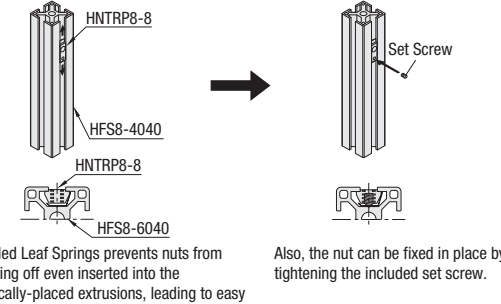
Post-Assembly Insertion Lock Nuts



The nut can be fixed in place by itself by tightening the included set screw.

Suitable for use where high repeatability is required. Usable for use when mounting sensor or removing panels repeatedly.

Post-Assembly Insertion Lock Nuts with Leaf Springs



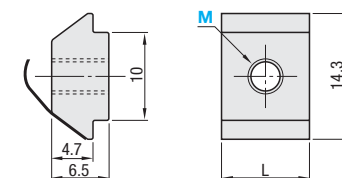
Welded Leaf Springs prevents nuts from slipping off even inserted into the vertically-placed extrusions, leading to easy locating.

Also, the nut can be fixed in place by tightening the included set screw.

Post-Assembly Insertion Short Nuts

RoHS

HNTAJ8



Part	Material	Surface Treatment
Body	1.0301/C10 Equivalent	Trivalent Chromate
Wing Part	1.4301/X5CrNi18-10	-

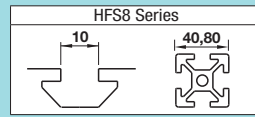
Overall length is shorter than the Pre-Assembly Insertion Nuts HNTT. Convenient for installing sensors or other components closely in combination.

Part Number	M	L	€ Unit Price				Volume Discount Rate			
			1~499 pcs.	500~749	750~999	1000~	500~749	750~999	1000~	
HNTAJ8	3 4 8	10 12								

Order Example: Part Number **HNTAJ8** - M **8**
Days to Ship: **6 Days** P.87

Pre-Assy. Insertion Bolts / Post-Assy. Insertion Bolts / Conductive Washers / Toothed Washer / Flanged Nuts

-For HFS8 Series Aluminum Frames 40 · 80 Square-



CAD Data

Tightening Torque **P676**

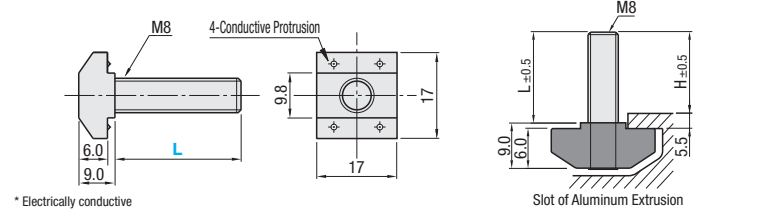
Pre-Assembly Insertion Bolts

RoHS



Material: Nuts: 1.4401/X5CrNiMo17-12-2 Equivalent (Sintering)
Bolts: 1.4301/X5CrNi18-10

HNTLSN8-8



* Electrically conductive

Part Number	L	H	Applicable Extrusion (Series)	Reference Tightening Torque (N·m)	€ Unit Price	Volume Discount Rate
HNTLSN8-8	20	17.5	HFS8	23.5	1-299 pcs.	300-499
	25	22.5			500-	

Order Example
Days to Ship

Part Number - L
HNTLSN8-8 - 20
2 Days P87

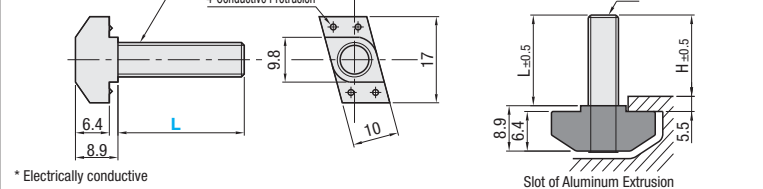
Post-Assembly Insertion Bolts

RoHS



Material: Nuts: 1.4401/X5CrNiMo17-12-2 Equivalent (Sintering)
Bolts: 1.4301/X5CrNi18-10

HATLSN8-8



* Electrically conductive

Part Number	L	H	Applicable Extrusion (Series)	Reference Tightening Torque (N·m)	€ Unit Price	Volume Discount Rate
HATLSN8-8	20	17.0	HFS8	23.5	1-299 pcs.	300-499
	25	22.0			500-	

Order Example
Days to Ship

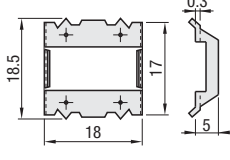
Part Number - L
HATLSN8-8 - 20
2 Days P87

Conductive Washers

RoHS



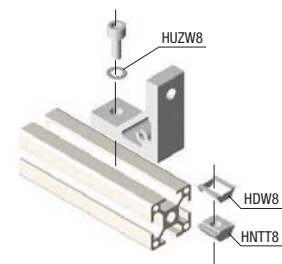
HDW8



Material: 1.4301/X5CrNi18-10
Be careful not to injure your hand when fitting onto nut.

Example

Conductivity between extrusions is achieved by combining HDW and HUZW.



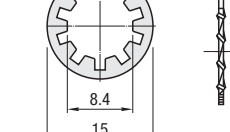
Part Number	Applicable Pre-Assy. Insertion Nut	€ Unit Price	Volume Discount Rate	Order Example	Part Number
HDW8	HNTT8	1-99 pcs.	100~	Days to Ship	HDW8
		2 Days P87			

Toothed Washer for Aluminum Frames

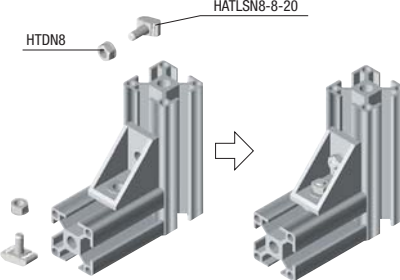
RoHS



HUZW8PACK



Material: 1.4301/X5CrNi18-10
100 pcs. per package



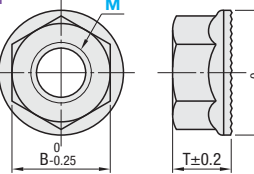
Part Number	€ Unit Price	Volume Discount Rate	Order Example	Part Number
HUZW8PACK	1-4 package	5~	Days to Ship	HUZW8PACK

Flanged Nuts

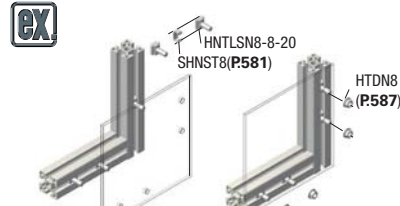
RoHS



HTDN



Material: 1.4301/X5CrNi18-10



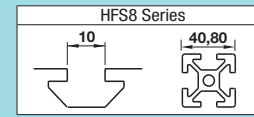
Part Number	M	B	T	D	€ Unit Price	Volume Discount Rate
HTDN (Stainless Steel)	4	7	4.2	10	1-499 pcs.	500-999
	5	8	5.5	12	1000-	
	6	10	6.0	13		
	8	12	7.5	17		

Order Example
Days to Ship

Part Number
HTDN6
2 Days P87

Long Nuts

-For HFS8 Series Aluminum Frames 40 · 80 Square-



CAD Data

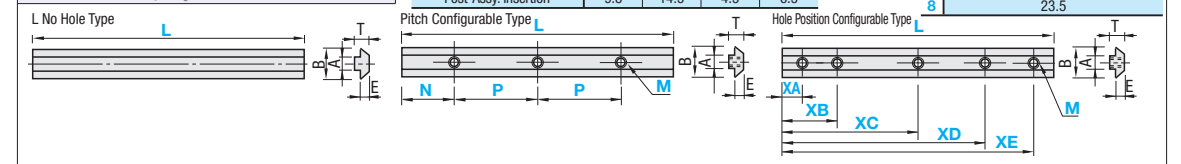
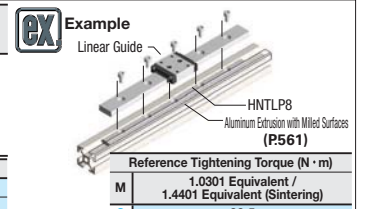
Tightening Torque **P676**

Long Nuts L Dimension Configurable Type

RoHS



Type	Material	Surface Treatment	Reference Tightening Torque
Pre-Assy. Insertion HNTLF8 HNTLP8 HNTLS8 SHNTLF8 SHNTLP8 SHNTLS8	1.0301/C10 Equivalent 1.4305/ X10CrNiS18-9	Trivalent Chromate	23.5



Part Number	L 1mm Increment	HNTLF		SHNTLF		HNTALF	
		€ Unit Price Less than 300mm	€ Unit Price/m 300mm or more	€ Unit Price Less than 300mm	€ Unit Price/m 300mm or more	€ Unit Price Less than 300mm	€ Unit Price/m 300mm or more
(Pre-Assy. Insertion) HNTLF8 SHNTLF8	(Post-Assy. Insertion) HNTLP8 SHNTLP8	(Pre-Assy. Insertion) 50-2000	(Post-Assy. Insertion) 50-1000				

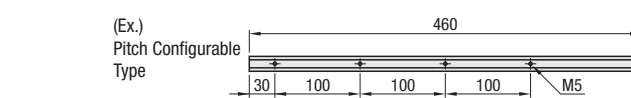
Part Number	L 1mm Increment	M	N 1mm Increment	P 1mm Increment	Number of Taps S	HNTLP		SHNTLP		HNTALP		SHNTALP	
						€ Unit Price Less than 300mm	€ Unit Price/m 300mm or more	€ Unit Price Less than 300mm	€ Unit Price/m 300mm or more	€ Unit Price Less than 300mm	€ Unit Price/m 300mm or more	€ Unit Price Less than 300mm	€ Unit Price/m 300mm or more
(Pre-Assy. Insertion) HNTLP8 SHNTLP8	(Post-Assy. Insertion) HNTLP8 SHNTLP8	(Pre-Assy. Insertion) 50-2000	(Post-Assy. Insertion) 50-1000	4 5 6 8	5 ≤ N ≤ L-5	2M ≤ P ≤ L-2M	2 ≤ S ≤ 20						

Hole Position Configurable Type

Part Number	L 1mm Increment	M	XA-XE 1mm Increment	HNTLS		SHNTLS		HNTALS		SHNTALS	
				€ Unit Price Less than 300mm	€ Unit Price/m 300mm or more	€ Unit Price Less than 300mm	€ Unit Price/m 300mm or more	€ Unit Price Less than 300mm	€ Unit Price/m 300mm or more	€ Unit Price Less than 300mm	€ Unit Price/m 300mm or more
(Pre-Assy. Insertion) HNTLS8 SHNTLS8	(Post-Assy. Insertion) HNTALS8 SHNTALS8	(Pre-Assy. Insertion) 50-2000	(Post-Assy. Insertion) 50-1000	4 5 6 8	5-L-5						

Number of tapped holes can be specified between 1 to 5.

Part Number	L	M	N	P	S
HNTLF8	1800				
HNTALF8	400				
HNTLP8	460	M5	N30	P100	4
HNTALP8	210	M8	N8	P16	8
HNTLS8	1050	M8	XA20	XB105	
SHNTLS8	1050	M8	XA20	XB105	XC250 - XD500 - XE755
HNTALS8	1000	M8	XA25	XB55	XC78 - XD975 - XE992



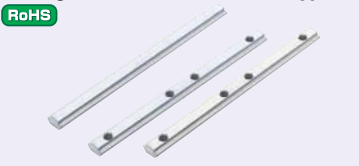
8 Days Express A € 500/ piece P88
A flat charge of €13.50 for 3 or more identical pieces.

Pitch Configurable Type	€ Unit Price / 1 Hole	Hole Position Configurable Type	€ Unit Price / 1 Hole
HNTLP · HNTALP		HNTLS · HNTALS	
SHNTLP · SHNTALP		SHNTLS · SHNTALS	

Price
The prices of Pitch Configurable Type and Hole Position Configurable Type are found by adding the unit prices in the table to the hole machining charges.
(Ex.) Part Number - L - M - XA - XB
HNTLS8 - 400 - M8 - XA10 - XB70
(€ Unit Price/m x Specified Full Length) + (Hole Machining Charge) = Price
7,70x0.4 + 3,20x2 = 9,40 EUR
(Round down to ten cent.)

Long Nuts L Dimension Fixed Type

RoHS



Type	Material	Surface Treatment	Reference Tightening Torque (N·m)
L Dimension Fixed without Holes HNTK8	1.0301/C10 Equivalent	Trivalent Chromate	23.5
L Dimension Fixed with Holes HNTLG8 SHNTLG8	1.4305/ X10CrNiS18-9	-	23.5

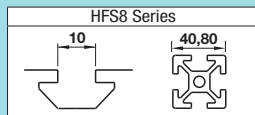
Part Number	€ Unit Price	Volume Discount Rate	Order Example	Part Number	Days to Ship
HNTK8	1-499 pcs.	500-999	Days to Ship	HNTLG8	6 Days P87

Alteration	Code	Spec.	Type	Price Adder
Hexagon Socket Set Screw Set	SET	Hexagon socket set screws come as a set.	HNTLG8	0,50
			SHNTLG8	0,85
			SHNTLG8	0,85



Extrusion End Caps

-HFS8 Series-



CAD Data

Features: Standard caps for protecting frame end faces. Alterations are not required. When the cap is hard to insert, tap with a wooden or plastic hammer.

RoHS

Type	Material
HFC	Polyamide
HFCL	Low Density Polyethylene

Some products are not required to specify colors, since there was no color configuration in the former catalogs. In that case, color is black.

The pin shape and numbers of extrusion caps may be changed to prevent caps from easily falling off.

HFC8-4040
HFCL8-4040

HFC8-4080
HFCL8-4080

HFC8-40120

HFC8-8080

HFC8-808040

HFC30A8

HFC45A8

HFC60A8

HFCR8-4040

The shapes are changed to be less likely to fall off.
HFC type: A tool is required to remove.
HFCL type: Removable by hand.

Part Number Type	No.	Color	€ Unit Price 1-14 pcs.	Volume Discount Rate 15-19	20~	*Applicable Extrusion
HFC8	4040	B (Black)				HFS8-4040
	4080					HFS8-4080
	8080					HFS8-8080
	808040					HFS8-808040
HFCL8	4040	S (Light Gray)				HFS8-4040
	4080					HFS8-4080
HFC30A8						HFS30A8-40
HFC45A8						HFS45A8-40
HFC60A8						HFS60A8-40
HFCR8-4040						HFSR8-4040

Order Example: Part Number HFC30A8 - Color B, 6 Days, 2 Days, P87

Example: When using Aluminum Extrusion HFS8-80160, please use 2 pieces of HFC8-8080.

Features: Frame Caps for protecting 3 sides at corners.

Three-Sided Caps for Corners **RoHS**

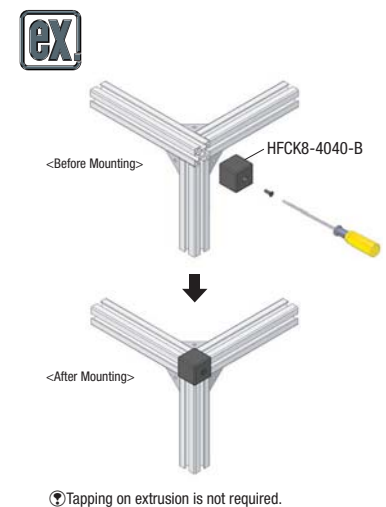
HFCK8-4040

The shape and the number of extrusion end cap pin may be changed to prevent caps from easily falling off.

Part Number	Color	Accessory	*Applicable Extrusion	€ Unit Price 1-14 pcs.	Volume Discount Rate 15-19	20~
HFCK8-4040	B (Black)	HFBMB5-15	HFS8-4040			

* For Aluminum Frame EFS Series, the same frame caps as of HFS Series can be used.

Order Example: Part Number **HFCK8-4040-B**, Days to Ship **6 Days**, P87



Features: Frame End Caps Screw Mounting Type. Requires no alteration, stays on well for better safety.

Screw Mounted **RoHS**

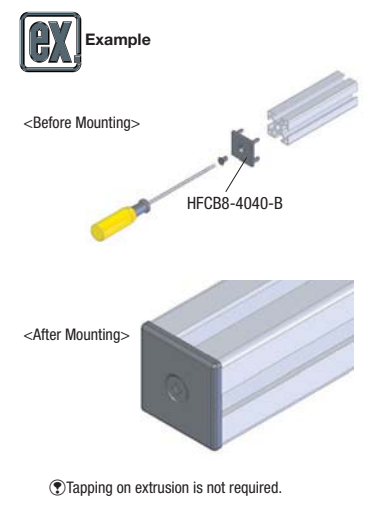
HFCE8-4040 (Screw Fixing Type) **HFCE8-4080** (Screw Fixing Type)

Material: Polyamide (Black · Light Gray · Yellow)

Part Number Type	No.	Color	€ Unit Price 1-14 pcs.	Volume Discount Rate 15-19	20~	*Applicable Extrusion
HFCE8	4040	B (Black) S (Light Gray) Y (Yellow)				HFS8-4040
	4080	Ⓢ Yellow Type is available for 4040 only.				HFS8-4080

* For Aluminum Frame EFS Series, the same frame caps as of HFS Series can be used.
Ⓢ For Screw Retained Type, flat head screw is included. (Black: HFBMB5-15, Light Gray, Yellow: SHFBS5-15)

Order Example: Part Number **HFCE8-4040-S**, Days to Ship **6 Days**, **2 Days**, P87



Features: Frame caps only for GFS8-4040 and GFS8-4080. Alterations are required.

Plates for High Rigidity Type **RoHS**

HFCD8-4040 **HFCD8-4080**

Part Number Type	No.	Applicable Screw	Applicable Extrusion	€ Unit Price 1-9 pcs.	Volume Discount Rate 10~
HFCD8	4040	SHFBS12-20 (Not included)	GFS8-4040		
	4080		GFS8-4080		

Order Example: Part Number **HFCD8-4040**, Days to Ship **10 Days**

Special alteration is required on cross sections of extrusions to mount frame caps. (Refer to P658)

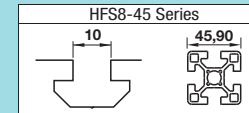


HFS8-45 Series Aluminum Frames 45 · 90mm Square

-1 Slot-

Price Reduction

Up to 2.1%



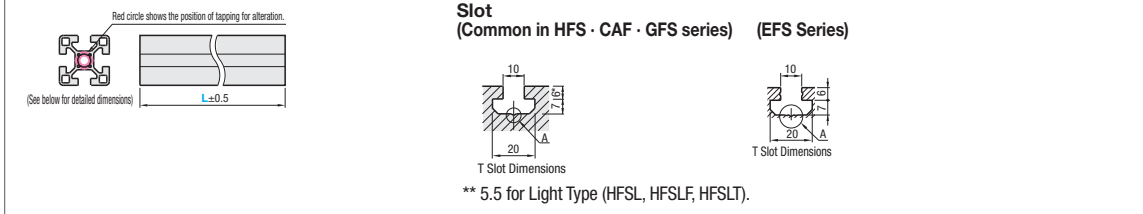
Fixing Parts			Others	
Brackets	Nuts	Joints	Extrusion End Caps	Alteration
P601 ~P612	P615 ~P622	P627 ~P640	P623	P645 ~P658

CAD Data

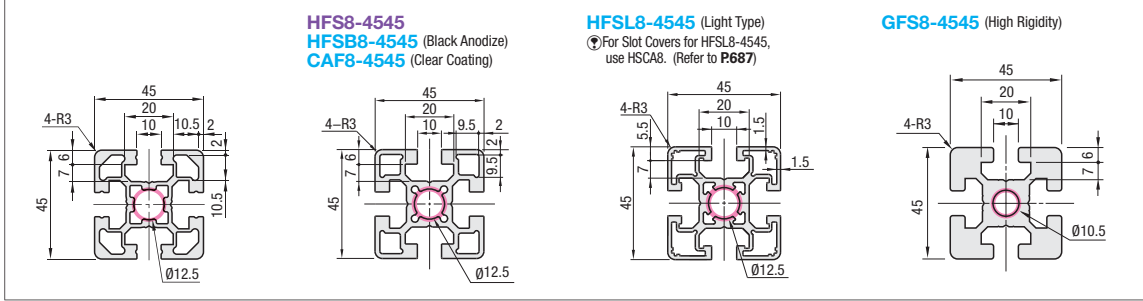
Features: Standard extrusions for equipment bases or etc.

Type	Configurable Length		Material	Surface Treatment
	Fixed Length	Fixed Length		
GFS8	KGFS8		EN AW-6061/ EN AW-AIMg1SiCu Equivalent	Clear Anodize
HFS8 HFSL8	KHFS8 KHFL8		EN AC-51400/ AlMgSi0,7	
HFSB8	KEFSB8 KHFSB8			Black Anodize
CAF8	-			Clear Coating (Clear Anodize+ Clear Painting)

☑Cut surface and altered parts are not surface treated.



Cross Section Shape	Features of Extrusions	
	EFS Extrusions	New shape with the same or higher rigidity as conventional HFS series. Weight saving and price reduction realized. Migration from HFS Series extrusions realizes cost savings.
HFS Extrusions	Standard cross section shape.	
HFSL Extrusions	Although having thin walls lowers the allowable load, excels in cost savings offered.	
GFS Extrusions	Suitable for heavier devices due to the thick walls.	
Surface Treatment	Clear Anodize	Common surface treatment.
	Black Anodize	Effective in where light reflection is not desirable.
	Clear Coating	More luster and better appearance than anodizing.



Part Number	L 0.5mm Increment	Mass kg/m	Sectional Area mm ²	Cross Sectional Moment of Inertia mm ⁴		€ Unit Price Less than 300mm	Volume Discount Rate Less than 300mm			
				Ex	Ey		1-9 pcs.	10-49	50~	
HFS8	4545	50-4000	1.93	713	15.42x10 ⁴	15.42x10 ⁴				
HFSB8 (Black Anodize)			2.10	777	15.13x10 ⁴	15.13x10 ⁴				
CAF8 (Clear Coating)			1.70	628	11.73x10 ⁴	11.73x10 ⁴				
HFSL8 (Light Type)			1.70	628	11.73x10 ⁴	11.73x10 ⁴				
GFS8 (High Rigidity)			3.16	1171	23.64x10 ⁴	23.64x10 ⁴				

Part Number	L mm	Sectional Area mm ²	Cross Sectional Moment of Inertia mm ⁴		€ Unit Price 1-9 pcs.	Volume Discount Rate 10-19
			Ex	Ey		
(New Shape)	4545	4000	713	15.42x10 ⁴	15.42x10 ⁴	
(New Shape - Black Anodize)						
KHFS8			777	15.13x10 ⁴	15.13x10 ⁴	
KHFSB8 (Black Anodize)			628	11.73x10 ⁴	11.73x10 ⁴	
KHFL8 (Light Type)			1171	23.64x10 ⁴	23.64x10 ⁴	

Order Example Part Number - L
HFS8-4545 - 800
KHFS8-4545 - 4000

Days to Ship **6 Days** P88

Price When L is less than 300 Unit prices are indicated in the table regardless of the length. ex: HFS8-4545-185=EUR5,80 When L is 300 or more Prices are calculated as follows: Unit Price/m x Specified Full Length = Price ex: HFS8-4545-300 19,50x0.5m=9,70 EUR (Round down to ten cent.)

Configurable Length Extrusions **7 Days** P88 ☑For orders of 20 or more identical pieces, please request a quotation.

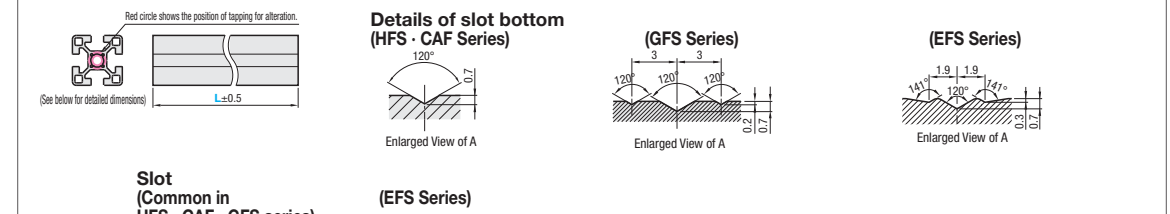
Fixed Length Extrusions (Effective Length 4000mm) **7 Days** P88 ☑For orders of 20 or more identical pieces, please request a quotation.

Aluminum Frames with 4000mm or more Applicable to 6000mm depending on products. Refer to Information of Special Orders (P97), and contact the person in charge of Special Orders at MISUMI QCT Center. ☑Some extrusions are not applicable.

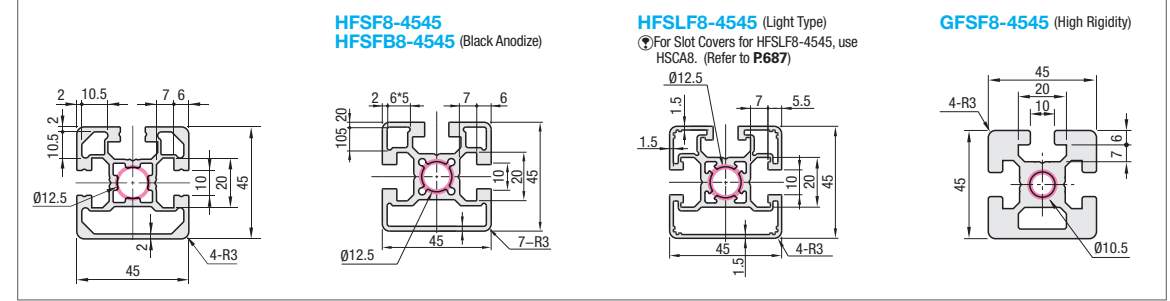
Features: 1 slotted Aluminum Frames 45mm Square with a Flat Side

Type	Configurable Length		Material	Surface Treatment
	Fixed Length	Fixed Length		
GFSF8	KGFSF8		EN AW-6061/ EN AW-AIMg1SiCu Equivalent	Clear Anodize
HFSF8 HFSLF8	KHFSF8 KHFLF8		EN AC-51400/ AlMgSi0,7	
HFSFB8	KEFSFB8 KHFSFB8			Black Anodize

☑Cut surface and altered parts are not surface treated.



Cross Section Shape	Features of Extrusions	
	EFS Extrusions	New shape with the same or higher rigidity as conventional HFS series. Weight saving and price reduction realized. Migration from HFS Series extrusions realizes cost savings.
HFS Extrusions	Standard cross section shape.	
HFSL Extrusions	Although having thin walls lowers the allowable load, excels in cost savings offered.	
GFS Extrusions	Suitable for heavier devices due to the thick walls.	
Surface Treatment	Clear Anodize	Common surface treatment.
	Black Anodize	Effective in where light reflection is not desirable.



Part Number	L 0.5mm Increment	Mass kg/m	Sectional Area mm ²	Cross Sectional Moment of Inertia mm ⁴		€ Unit Price Less than 300mm	Volume Discount Rate Less than 300mm		
				Ex	Ey		1-9 pcs.	10-49	50~
HFSF8	4545	50-4000	1.83	677	14.58x10 ⁴	15.00x10 ⁴			
HFSFB8 (Black Anodize)			1.97	730	13.88x10 ⁴	14.58x10 ⁴			
HFSLF8 (Light Type)			1.60	590	10.88x10 ⁴	11.33x10 ⁴			
KGFSF8 (High Rigidity)			3.16	1172	24.54x10 ⁴	23.36x10 ⁴			

Part Number	L mm	Sectional Area mm ²	Cross Sectional Moment of Inertia mm ⁴		€ Unit Price 1-9 pcs.	Volume Discount Rate 10-19
			Ex	Ey		
(New Shape)	4545	4000	677	14.58x10 ⁴	15.00x10 ⁴	
KHFSF8						
KHFSFB8 (Black Anodize)			730	13.88x10 ⁴	14.58x10 ⁴	
KHFLF8 (Light Type)			590	10.88x10 ⁴	11.33x10 ⁴	
KGFSF8 (High Rigidity)			1172	24.54x10 ⁴	23.36x10 ⁴	

Order Example Part Number - L
HFS8-4545 - 800
KHFS8-4545 - 4000

Days to Ship **6 Days** P88

Price When L is less than 300 Unit prices are indicated in the table regardless of the length. ex: HFS8-4545-185=EUR 5,60 When L is 300 or more Prices are calculated as follows: Unit Price/m x Specified Full Length = Price ex: HFS8-4545-300 18,80x0.5m=9,40 EUR (Round down to ten cent.)

Configurable Length Extrusions **7 Days** P88 ☑For orders of 20 or more identical pieces, please request a quotation.

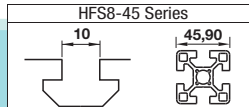
Fixed Length Extrusions (Effective Length 4000mm) **7 Days** P88 ☑For orders of 20 or more identical pieces, please request a quotation.

Aluminum Frames with 4000mm or more Applicable to 6000mm depending on products. Refer to Information of Special Orders (P97), and contact the person in charge of Special Orders at MISUMI QCT Center. ☑Some extrusions are not applicable.



HFS8-45 Series Aluminum Frames 45 · 90mm Square -1 Slot-

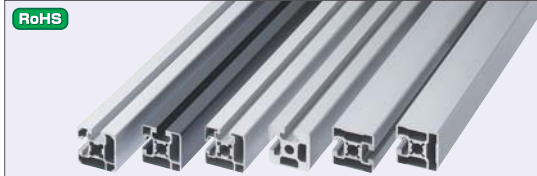
Price Reduction
Up to 2.2%



Fixing Parts			Others		
Brackets	Nuts	Joints	Extrusion End Caps	Alteration	
P601	P615	P627	P623	P645	
P612	P622	P640		P658	

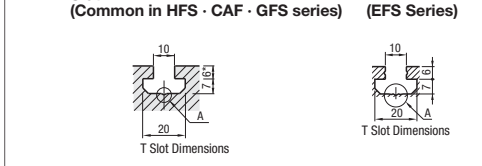
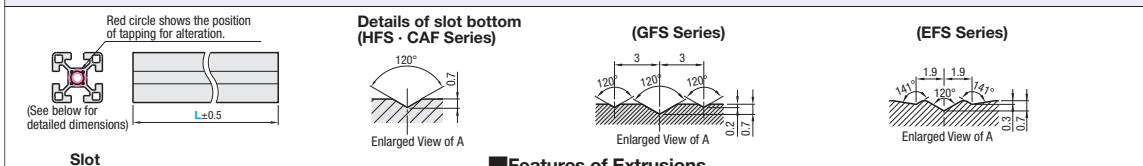
CAD Data

Features: 1 slotted Aluminum Frames 45mm Square with a Flat Side



Type		Material	Surface Treatment
Configurable Length	Fixed Length		
GFS_8	KGFS_8	EN AW-6061-T6 Equivalent	Clear Anodize
HFS_8	KHFS_8	EN AC-51 400/ AlMgSi _{0.7-15}	
HFSL_8	KHFSL_8		
HFS_B8	KHFS_B8		
			Black Anodize

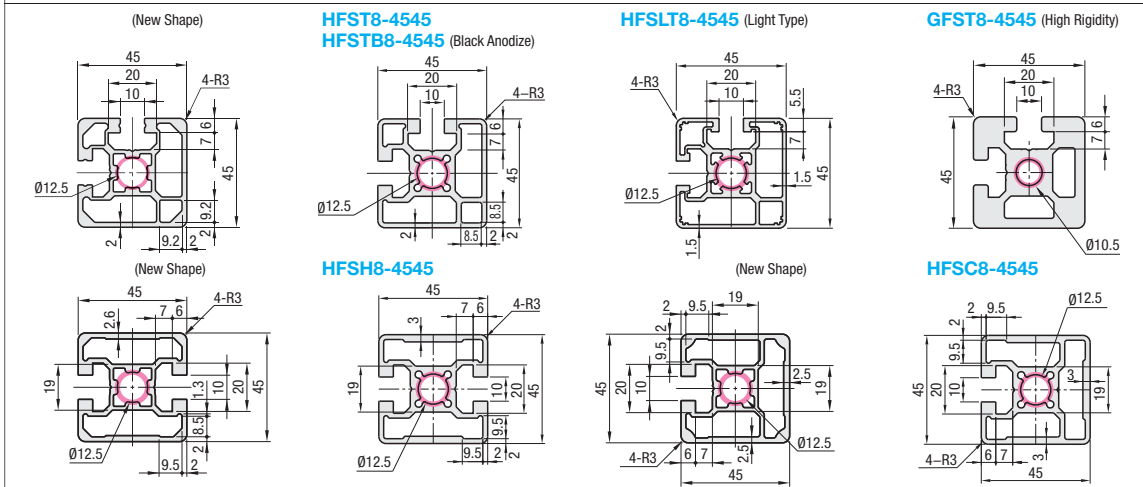
Ⓢ Cut surface and altered parts are not surface treated.



Features of Extrusions

EFS Extrusions	New shape with the same or higher rigidity as conventional HFS series. Weight saving and price reduction realized. Migration from HFS Series extrusions realizes cost savings.
HFS Extrusions	Standard cross section shape.
HFSL Extrusions	Although having thin walls lowers the allowable load, excels in cost savings offered.
GFS Extrusions	Suitable for heavier devices due to the thick walls.
Clear Anodize	Common surface treatment.
Black Anodize	Effective in where light reflection is not desirable.

** 5.5 for Light Type (HFSL, HFSL, HFSLT).



Configurable Length Extrusions

Part Number	L 0.5mm Increment	Mass kg/m	Sectional Area mm ²	Cross Sectional Moment of Inertia mm ⁴	€ Unit Price Less than 300mm 1-9 pcs.	Volume Discount Rate Less than 300mm 10-49 50~	€ Unit Price/m 300mm or more 1-9 pcs.	Volume Discount Rate/m 300mm or more 10-49 50~
(New Shape)		1.80	667	14.67x10 ⁴	14.67x10 ⁴			
HFST8		1.92	713	14.00x10 ⁴	14.00x10 ⁴			
HFSTB8 (Black Anodize)		1.58	585	11.13x10 ⁴	11.13x10 ⁴			
HFSLT8 (Light Type)		3.22	1195	24.46x10 ⁴	24.46x10 ⁴			
GFST8 (High Rigidity)	4545	1.82	674	14.60x10 ⁴	14.86x10 ⁴			
(New Shape)		1.97	731	14.30x10 ⁴	14.71x10 ⁴			
HFSH8		1.82	675	14.93x10 ⁴	15.27x10 ⁴			
(New Shape)		1.98	735	14.41x10 ⁴	15.02x10 ⁴			
HFSC8								

Fixed Length Extrusion (Effective Length 4000mm)

Ⓢ Part numbers beginning with the character "K" indicate Fixed Length Extrusion.

Part Number	L mm	Sectional Area mm ²	Cross Sectional Moment of Inertia mm ⁴	€ Unit Price 1-9 pcs.	Volume Discount Rate 10-19
(New Shape)		667	14.67x10 ⁴	14.67x10 ⁴	
KHFS8		713	14.00x10 ⁴	14.00x10 ⁴	
KHFSTB8 (Black Anodize)		585	11.13x10 ⁴	11.13x10 ⁴	
KHFSLT8 (Light Type)		1195	24.46x10 ⁴	24.46x10 ⁴	
KGFS8 (High Rigidity)	4545	674	14.60x10 ⁴	14.86x10 ⁴	
(New Shape)		731	14.30x10 ⁴	14.71x10 ⁴	
KHFSH8		675	14.93x10 ⁴	15.27x10 ⁴	
(New Shape)		735	14.41x10 ⁴	15.02x10 ⁴	
KHFSC8					

Order Example Part Number - L
HFST8-4545 - 800
KHFS8-4545 - 4000

Days to Ship 6 Days P88

Configurable Length Extrusions 6 Days P88

Fixed Length Extrusions (Effective Length 4000mm) 7 Days P88

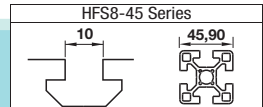
Price When L is less than 300 Unit prices are indicated in the table regardless of the length. ex: HFST8-4545-185=EUR 5,50 When L is 300 or more Prices are calculated as follows: Unit Price/m x Specified Full Length = Price ex: HFST8-4545-500 18,50x0.5m=9,20 EUR (Round down to ten cent)

Alterations Alterations are available for Configurable Length Extrusions. For details, refer to P645

Aluminum Frames with 4000mm or more Applicable to 6000mm depending on products. Refer to Information of Special Orders (P97), and contact the person in charge of Special Orders at MISUMI QCT Center. Ⓢ Some extrusions are not applicable.



HFS8 Series Aluminum Frames 45 · 90mm Square -2 Slots-



Fixing Parts			Others		
Brackets	Nuts	Joints	Extrusions End Caps	Alteration	
P601	P615	P627	P623	P645	
P612	P622	P640		P658	

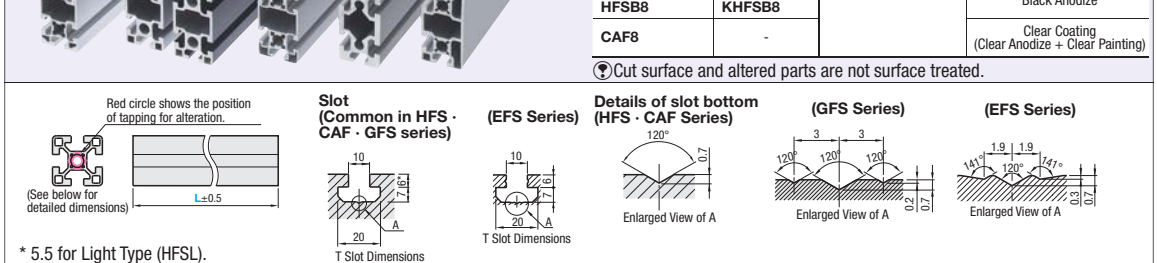
CAD Data

Features: Extrusions shaped with [1 x 2 slots]. Effective where forces apply.

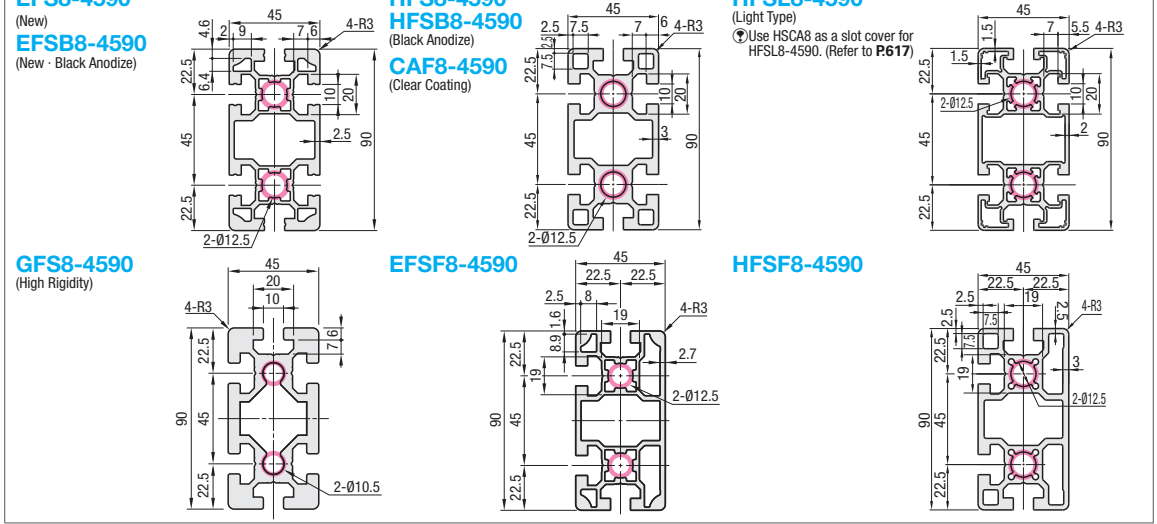


Type		Material	Surface Treatment
Configurable Length	Fixed Length		
GFS8	KGFS8	EN AW-6061/EN AW-AlMg1SiCu-T6 Equivalent	Clear Anodize
EFS8	KEFS8	EN AC-51 400/ AlMgSi _{0.7-15}	
HFS8	KHFS8		
EFSB8	KEFSB8		
			Black Anodize
			Clear Coating (Clear Anodize + Clear Painting)

Ⓢ Cut surface and altered parts are not surface treated.



* 5.5 for Light Type (HFSL).



Configurable Length Extrusions

Part Number	L 0.5mm Increment	Mass kg/m	Sectional Area mm ²	Cross Sectional Moment of Inertia mm ⁴	€ Unit Price Less than 300mm 1-9 pcs.	Volume Discount Rate Less than 300mm 10-49 50~	€ Unit Price/m 300mm or more 1-9 pcs.	Volume Discount Rate/m 300mm or more 10-49 50~
EFS8 (New Shape)		3.75	1390	32.67x10 ⁴	125.3x10 ⁴			
EFSB8 (New Shape / Black Anodize)		4.14	1534	32.29x10 ⁴	124.7x10 ⁴			
HFS8		2.98	1101	22.87x10 ⁴	87.16x10 ⁴			
HFSB8 (Black Anodize)		5.22	1935	42.99x10 ⁴	163.4x10 ⁴			
CAF8 (Clear Coating)	4590	3.60	1335	32.14x10 ⁴	117.9x10 ⁴			
HFSL8 (Light Type)		3.80	1408	30.92x10 ⁴	116.8x10 ⁴			
GFS8 (High Rigidity)								
EFSF8								
HFSF8								

Fixed Length Extrusion (Effective Length 4000mm)

Ⓢ Part numbers beginning with the character "K" indicate Fixed Length Extrusion.

Part Number	L mm	Sectional Area mm ²	Cross Sectional Moment of Inertia mm ⁴	€ Unit Price 1-9 pcs.	Volume Discount Rate 10-19
(New Shape)		1390	32.67x10 ⁴	125.3x10 ⁴	
KEFS8		1534	32.29x10 ⁴	124.7x10 ⁴	
KEFSB8 (New Shape / Black Anodize)		1101	22.87x10 ⁴	87.16x10 ⁴	
KHFS8	4590	1935	42.99x10 ⁴	163.4x10 ⁴	
KHFSB8 (Black Anodize)		1335	32.14x10 ⁴	117.9x10 ⁴	
KHFSL8 (Light Type)		1408	30.92x10 ⁴	116.8x10 ⁴	
KGFS8 (High Rigidity)					
KEFSF8					
KHFSF8					

Order Example Part Number - L
HFS8-4590 - 800
KHFS8-4590 - 4000

Days to Ship 6 Days P88

Configurable Length Extrusions 6 Days P88

Fixed Length Extrusions (Effective Length 4000mm) 7 Days P88

Price When L is less than 300 Unit prices are indicated in the table regardless of the length. ex: HFS8-4590-185= EUR 11,90 When L is 300 or more Prices are calculated as follows: Unit Price/m x Specified Full Length = Price ex: HFS8-4590-500 39,80x0.5m=19,90 EUR (Round down to ten cent)

Alterations Alterations are available for Configurable Length Extrusions. For details, refer to P645

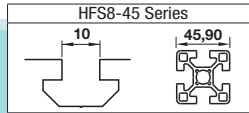
Aluminum Frames with 4000mm or more Applicable to 6000mm depending on products. Refer to Information of Special Orders (P97), and contact the person in charge of Special Orders at MISUMI QCT Center. Ⓢ Some extrusions are not applicable.

HFS8 Series Aluminum Frames

45 · 90mm Square

-2 or More Slots-

Price Reduction
Up to 1.7%



Fixing Parts			Others	
Brackets	Nuts	Joints	Extrusion End Caps	Alteration
P601	P615	P627	P623	P645
P612	P622	P640		P658

CAD Data

Features: Extrusions shaped with [2 x 2 slots], [2 x 4 slots].

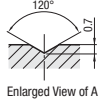
RoHS



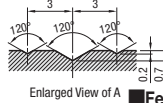
Type	Material	Surface Treatment		
			Configurable Length	Fixed Length
GFS8	KGFS8	Clear Anodize	EN AW-6061-T6 Equivalent	
HFS8	KHFS8			
HFS_8	KHFS_8	Black Anodize	EN AC-51400/AlMgSi0,7	
HFSB8	KHFSB8			
CAF8		Clear Coating (Clear Anodize + Clear Painting)		

Ⓢ Cut surface and altered parts are not surface treated.

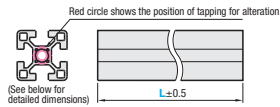
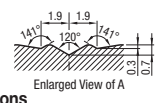
Details of slot (HFS · CAF Series)



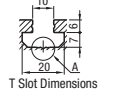
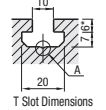
(GFS Series)



(EFS Series)



Slot (Common in HFS · CAF · GFS Series) (EFS Series)



* 5.5 for Light Type (HFSL).

Features of Extrusions

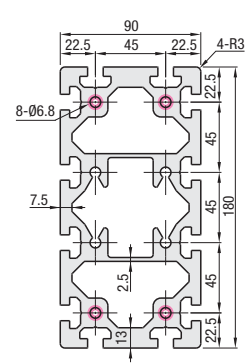
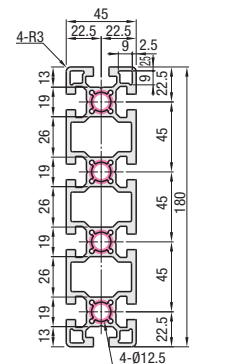
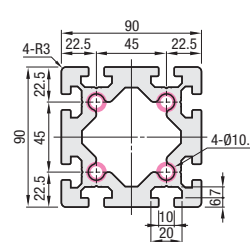
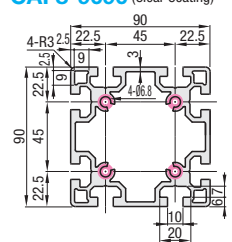
Cross Section Shape	HFS Extrusions	Standard cross section shape.
GFS Extrusions	Suitable for heavier devices due to the thick walls.	
Surface Treatment	Clear Anodize	Common surface treatment.
	Black Anodize	Effective in where light reflection is not desirable.
	Clear Coating	More luster and better appearance than anodizing.

HFS8-9090
HFSB8-9090 (Black Anodize)
CAF8-9090 (Clear Coating)

GFS8-9090 (High Rigidity)

HFS8-45180
HFSB8-45180 (Black Anodize)

HFS8-90180
HFSB8-90180 (Black Anodize)



Configurable Length Extrusions

Part Number	L 0.5mm Increment	Mass kg/m	Sectional Area mm ²	Cross Sectional Moment of Inertia mm ⁴		€ Unit Price Less than 300mm	Volume Discount Rate Less than 300mm	€ Unit Price/m 300mm or more	Volume Discount Rate/m 300mm or more		
				ix	iy						
HFS8	9090	5.80	2162	209.2x10 ⁴	209.2x10 ⁴	1-9 pcs.	10-49	50~	1-9 pcs.	10-49	50~
HFSB8 (Black Anodize)											
CAF8 (Clear Coating)											
GFS8 (High Rigidity)	50~4000	9.60	3592	320.2x10 ⁴	320.2x10 ⁴	1-9 pcs.	10-49	50~	1-9 pcs.	10-49	50~
HFS8											
HFSB8 (Black Anodize)											
HFS8	45180	7.12	2636	60.8x10 ⁴	804x10 ⁴	1-9 pcs.	10-49	50~	1-9 pcs.	10-49	50~
HFSB8 (Black Anodize)											
HFS8	90180	17.07	6320	599x10 ⁴	2136x10 ⁴	1-9 pcs.	10-49	50~	1-9 pcs.	10-49	50~
HFSB8 (Black Anodize)											

Fixed Length Extrusion (Effective Length 4000mm)

Ⓢ Part numbers beginning with the character "K" indicate Fixed Length Extrusion.

Part Number	L mm	Sectional Area mm ²	Cross Sectional Moment of Inertia mm ⁴		€ Unit Price 1-9 pcs.	Volume Discount Rate 10-19
			ix	iy		
KHFS8	9090	2162	209.2x10 ⁴	209.2x10 ⁴	1-9 pcs.	10-19
KHFSB8 (Black Anodize)						
KGFS8 (High Rigidity)						
KHFS8	45180	2636	60.8x10 ⁴	804x10 ⁴	1-9 pcs.	10-19
KHFSB8 (Black Anodize)						
KHFS8						
KHFS8	90180	6320	599x10 ⁴	2136x10 ⁴	1-9 pcs.	10-19
KHFSB8 (Black Anodize)						

Order Example
Part Number - L
HFS8-90180 - 800
KHFS8-9090 - 4000

Days to Ship
6 Days P88

Configurable Length Extrusions
6 Days P88

Fixed Length Extrusions (Effective Length 4000mm)
7 Days P88
Ⓢ For orders of 20 or more identical pieces, please request a quotation. (KHFS8-9090-4000)

Price
When L is less than 300 Unit prices are indicated in the table regardless of the length. ex: HFS8-9090-185=EUR 17,90
When L is 300 or more Prices are calculated as follows:
Unit Price/m x Specified Full Length = Price
ex: HFS8-9090-800
59,80x0,8m=EUR 47,80 (Round down to ten cent.)

Alteration
Alterations are available for Configurable Length Extrusions. For details, refer to P645

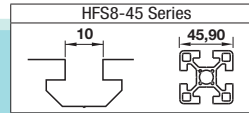
Aluminum Frames with 4000mm or more
Applicable to 6000mm depending on products. Refer to information of Special Orders (P97), and contact the person in charge of Special Orders at MITSUMI QCT Center.
Ⓢ Some extrusions are not applicable.

Add. Spec.

HFS8-45 Series Aluminum Frames

45 · 90mm Square

-Other Shapes-



Fixing Parts			Others	
Brackets	Nuts	Joints	Extrusion End Caps	Alteration
P601	P615	P627	P623	P645
P612	P622	P640		P658

CAD Data

Features: Can be used when making angles or making outer surface in radius.

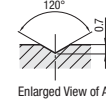
RoHS



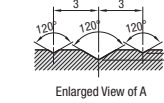
Type	Material	Surface Treatment		
			Configurable Length	Fixed Length
HFS8	KHFS8	Clear Anodize	EN AC-51400/AlMgSi0,7	
EFS8	KEFS8			
HFS_8	KHFS_8	Black Anodize	EN AC-51400/AlMgSi0,7	
HFSB8	KHFSB8			
CAF8		Clear Coating (Clear Anodize + Clear Painting)		

Ⓢ Cut surface and altered parts are not surface treated.

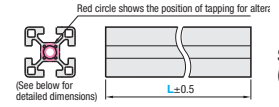
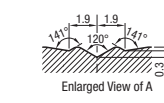
Details of slot (HFS Series)



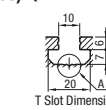
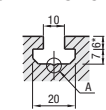
(GFS Series)



(EFS Series)



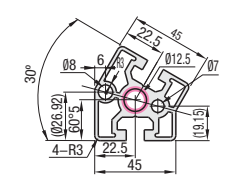
Slot (Common in HFS · CAF · GFS Series) (EFS Series)



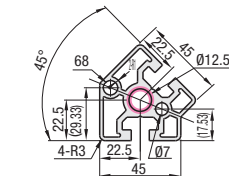
Features of Extrusions

Cross Section Shape	HFS Extrusions	Standard cross section shape.
Surface Treatment	Clear Anodize	Common surface treatment.

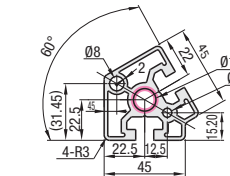
HFS30A8-45



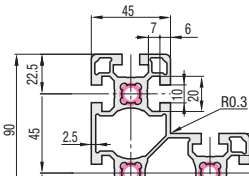
HFS45A8-45



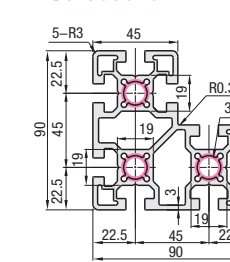
HFS60A8-45



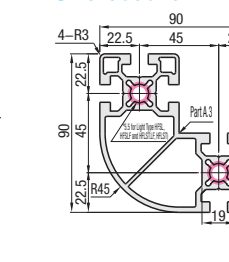
EFS8-909045 (New Shape)



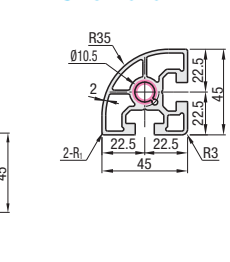
HFS8-909045



HFSR8-909045



HFSR8-4545



Configurable Length Extrusions

Part Number	L 0.5mm Increment	Mass kg/m	Sectional Area mm ²	Cross Sectional Moment of Inertia mm ⁴		€ Unit Price Less than 300mm	Volume Discount Rate Less than 300mm	€ Unit Price/m 300mm or more	Volume Discount Rate/m 300mm or more		
				ix	iy						
HFS30A8	45	2.30	851	14.91x10 ⁴	15.95x10 ⁴	1-9 pcs.	10-49	50~	1-9 pcs.	10-49	50~
HFS45A8											
HFS60A8											
EFS8 (New Shape)	909045	5.36	1988	149.72x10 ⁴	149.72x10 ⁴	1-9 pcs.	10-49	50~	1-9 pcs.	10-49	50~
HFS8											
HFSR8											
HFSR8	4545	1.79	662	11.30x10 ⁴	11.30x10 ⁴	1-9 pcs.	10-49	50~	1-9 pcs.	10-49	50~
HFSR8											

Fixed Length Extrusion (Effective Length 4000mm)

Ⓢ Part numbers beginning with the character "K" indicate Fixed Length Extrusion.

Part Number	L mm	Sectional Area mm ²	Cross Sectional Moment of Inertia mm ⁴		€ Unit Price 1-9 pcs.	Volume Discount Rate 10-19
			ix	iy		
KHFS30A8	45	851	14.91x10 ⁴	15.95x10 ⁴	1-9 pcs.	10-19
KHFS45A8						
KHFS60A8						
KEFS8 (New Shape)	909045	5.36	149.72x10 ⁴	149.72x10 ⁴	1-9 pcs.	10-19
KHFS8						
KHFSR8						
KHFSR8	4545	662	11.30x10 ⁴	11.30x10 ⁴	1-9 pcs.	10-19
KHFSR8						

Order Example
Part Number - L
HFS30A8-45 - 800
KHFS30A8-45 - 4000

Days to Ship
6 Days P88

Configurable Length Extrusions
6 Days P88

Fixed Length Extrusions (Effective Length 4000mm)
7 Days P88
Ⓢ For orders of 20 or more identical pieces, please request a quotation. (KHFS30A8-45-4000)

Price
When L is less than 300 Unit prices are indicated in the table regardless of the length. ex: HFS8-909045-185=EUR 18,30
When L is 300 or more Prices are calculated as follows:
Unit Price/m x Specified Full Length = Price
ex: HFS8-909045-800
61,20x0,8m=EUR 48,90 (Round down to ten cent.)

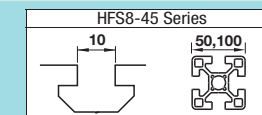
Alteration
Alterations are available for Configurable Length Extrusions. For details, refer to P645

Aluminum Frames with 4000mm or more
Applicable to 6000mm depending on products. Refer to information of Special Orders (P97), and contact the person in charge of Special Orders at MITSUMI QCT Center.
Ⓢ Some extrusions are not applicable.



HFS8-45 Series Aluminum Frames 50 · 100mm Square

Price Reduction
Up to 2.8%



Fixing Parts			Others	
Brackets	Nuts	Joints	Extrusion End Caps	Alteration
P601 ~ P612	P615 ~ P622	P627 ~ P640	P623	P645 ~ P658

CAD Data

Features: Convenient for switching from Cut-and-Weld tubing methods.



Type		Material	Surface Treatment
Configurable Length	Fixed Length		
GFS8	KGFS8	EN AW-6061-T6 Equivalent	
HFS8	KHFS8	EN AC-51 400/ AlMgSi0,7-T5	Clear Anodize
HFSB8	KHFSB8		Black Anodize

Ⓢ Cut surface and altered parts are not surface treated.

Details of slot (HFS · GFS)

Details of slot bottom (HFS Series)

(EFS Series)

(EFS Series)

Details of slot bottom (GFS Series)

(EFS Series)

Features of Extrusions

Cross Section Shape	EFS Extrusions	New shape with the same or higher rigidity as conventional HFS series. Weight saving and price reduction realized. Migration from HFS Series extrusions realizes cost savings.
HFS Extrusions	Standard cross section shape.	
GFS Extrusions	Suitable for heavier devices due to the thick walls.	
Surface Treatment	Clear Anodize	Common surface treatment.
Black Anodize	Effective in where light reflection is not desirable.	

(New Shape)

HFS8-5050
HFSB8-5050
(Black Anodize)

GFS8-5050 (High Rigidity)

HFSF8-5050

HFST8-5050

Configurable Length Extrusions

Part Number	L 0.5mm Increment	Mass kg/m	Sectional Area mm ²	Cross Sectional Moment of Inertia mm ⁴		€ Unit Price Less than 300mm	Volume Discount Rate Less than 300mm	€ Unit Price/m 300mm or more	Volume Discount Rate/m 300mm or more		
				Ex	Ey						
(New Shape)	5050	2.84	1053	26.98x10 ⁴	26.98x10 ⁴	1-9 pcs.	10-49	50~	1-9 pcs.	10-49	50~
(New Shape · Black Anodize)											
HFS8											
HFSB8 (Black Anodize)											
GFS8 (High Rigidity)											
HFSF8	3.11	1633	1633	38.16x10 ⁴	38.16x10 ⁴	1-9 pcs.	10-49	50~	1-9 pcs.	10-49	50~
HFST8											

Fixed Length Extrusions (Effective Length 4000mm)

Ⓢ Part numbers beginning with the character "K" indicate Fixed Length Extrusion.

Part Number	L mm	Sectional Area mm ²	Cross Sectional Moment of Inertia mm ⁴		€ Unit Price 1-9 pcs.	Volume Discount Rate 10-19
			Ex	Ey		
(New Shape)	5050	1053	26.98x10 ⁴	26.98x10 ⁴	1-9 pcs.	10-19
(New Shape / Black Anodize)						
KHFS8						
KHFSB8 (Black Anodize)						
KGFS8 (High Rigidity)						
KHFSF8						
KHFS8	1114	1114	23.74x10 ⁴	23.74x10 ⁴	1-9 pcs.	10-19
KHFSB8						

Order Example

Part Number - L

HFS8-5050 - 800

KHFS8-5050 - 4000

Days to Ship

Configurable Length Extrusions: **6 Days**

Fixed Length Extrusions (Effective Length 4000mm): **7 Days**

Ⓢ For orders of 20 or more identical pieces, please request a quotation.

Price

When L is less than 300
Unit prices are indicated in the table regardless of the length.
ex: HFS8-5050-185=EUR 9,60

When L is 300 or more
Prices are calculated as follows:
Unit Price/m x Specified Full Length = Price
ex: HFS8-5050-500
32,20x0.5m=EUR 16,10
(Round down to ten Cent.)

Features: Extrusions shaped with [1 x 2 slots], [2 x 4 slots].



Type		Material	Surface Treatment
Configurable Length	Fixed Length		
GFS8	KGFS8	EN AW-6061-T6 Equivalent	
HFS8	KHFS8	EN AC-51 400/ AlMgSi0,7-T5	Clear Anodize
HFSB8	KHFSB8		Black Anodize

Ⓢ Cut surface and altered parts are not surface treated.

Details of slot (HFS/ GFS)

(EFS Series)

Details of slot bottom (HFS Series)

(EFS Series)

Features of Extrusions

Cross Section Shape	EFS Extrusions	New shape with the same or higher rigidity as conventional HFS series. Weight saving and price reduction realized. Migration from HFS Series extrusions realizes cost savings.
HFS Extrusions	Standard cross section shape.	
GFS Extrusions	Suitable for heavier devices due to the thick walls.	
Surface Treatment	Clear Anodize	Common surface treatment.
Black Anodize	Effective in where light reflection is not desirable.	

(New Shape)

HFS8-50100
HFSB8-50100
(Black Anodize)

GFS8-50100 (High Rigidity)

GFS8-100100 (High Rigidity)

GFS8-100200 (High Rigidity)

Configurable Length Extrusions

Part Number	L 0.5mm Increment	Mass kg/m	Sectional Area mm ²	Cross Sectional Moment of Inertia mm ⁴		€ Unit Price Less than 300mm	Volume Discount Rate Less than 300mm	€ Unit Price/m 300mm or more	Volume Discount Rate/m 300mm or more		
				Ex	Ey						
(New Shape)	50100	5.39	1996	53.0x10 ⁴	211.21x10 ⁴	1-9 pcs.	10-49	50~	1-9 pcs.	10-49	50~
(New Shape · Black Anodize)											
HFS8											
HFSB8 (Black Anodize)											
GFS8 (High Rigidity)											
100100	7.0	2593	68.08x10 ⁴	273.12x10 ⁴	1-9 pcs.	10-49	50~	1-9 pcs.	10-49	50~	
100200											
100100	10.68	3957	465.8x10 ⁴	465.8x10 ⁴	1-9 pcs.	10-49	50~	1-9 pcs.	10-49	50~	
100200											

Fixed Length Extrusions (Effective Length 4000mm)

Ⓢ Part numbers beginning with the character "K" indicate Fixed Length Extrusion.

Part Number	L mm	Sectional Area mm ²	Cross Sectional Moment of Inertia mm ⁴		€ Unit Price 1-9 pcs.	Volume Discount Rate 10-19
			Ex	Ey		
(New Shape)	50100	1996	53.0x10 ⁴	211.21x10 ⁴	1-9 pcs.	10-19
(New Shape / Black Anodize)						
KHFS8						
KHFSB8 (Black Anodize)						
KGFS8 (High Rigidity)						
KGFS8 (High Rigidity)						
100100						
100200	7574	874.3x10 ⁴	3179.53x10 ⁴	1-9 pcs.	10-19	
100200						

Order Example

Part Number - L

HFS8-50100 - 800

KHFS8-50100 - 4000

Days to Ship

Configurable Length Extrusions: **6 Days**

Fixed Length Extrusions (Effective Length 4000mm): **7 Days**

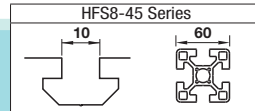
Ⓢ For orders of 20 or more identical pieces, please request a quotation.

Price

When L is less than 300
Unit prices are indicated in the table regardless of the length.
ex: HFS8-50100-185=EUR 18,60

When L is 300 or more
Prices are calculated as follows:
Unit Price/m x Specified Full Length = Price
ex: HFS8-50100-500
62,30x0.5m=EUR 31,10
(Round down to ten Cent.)

HFS8-45 Series Aluminum Frames 60 mm Square



Fixing Parts			Others		
Brackets	Nuts	Joints	Extrusion End Caps	Alteration	
P601	P615	P627	P623	P645	
P612	P622	P640	P623	P658	

CAD Data

Features: Extrusions for equipment bases or etc.

RoHS



Type		Material	Surface Treatment
Configurable Length	Fixed Length		
GFS8	KGFS8	EN AW-6061/EN AW-AlMg1SiCu-T6 Equivalent	Clear Anodize
HFS8	KHFS8	EN AC-51400/AlMgSi0,7SS-T5	
HFS 8	KHFS 8		

⊕ Cut surface and altered parts are not surface treated.

Slot (HFS - GFS) Details of slot (HFS - Series) (GFS - Series)

T Slot Dimensions

Features of Extrusions

Cross Section Shape	HFS Extrusions: Standard Cross Section Shape. GFS Extrusions: Suitable for heavier devices due to the thick walls.
Surface Treatment	Clear Anodize: Common surface treatment.

HFS8-6060

GFS8-6060 (High Rigidity)

HFSF8-6060

HFST8-6060

Configurable Length Extrusions

Part Number	L 0.5mm Increment	Mass kg/m	Sectional Area mm ²	Cross Sectional Moment of Inertia mm ⁴		Unit Price Less than 300mm	Volume Discount Rate Less than 300mm	Unit Price/m 300mm or more	Volume Discount Rate/m 300mm or more
				lx	ly				
HFS8	6060	50~4000	4.17	1478	56.44x10 ⁴	56.44x10 ⁴			
GFS8 (High Rigidity)			6.96	2577	79.86x10 ⁴	79.86x10 ⁴			
HFSF8			4.16	1509	58.16x10 ⁴	56.19x10 ⁴			
HFST8			4.14	1519	57.90x10 ⁴	57.90x10 ⁴			

Fixed Length Extrusions (Effective Length 4000mm)

⊕ Part numbers beginning with the character "K" indicate Fixed Length Extrusion.

Part Number	L mm	Sectional Area mm ²	Cross Sectional Moment of Inertia mm ⁴		Unit Price	Volume Discount Rate
			lx	ly		
KHFS8	6060	4000	1478	56.44x10 ⁴		
KGFS8 (High Rigidity)			2577	79.86x10 ⁴		
KHFSF8			1509	58.16x10 ⁴		
KHFST8			1519	57.90x10 ⁴		

Order Example Part Number - L
HFS8-6060 - 800

Days to Ship **6 Days** P88

Configurable Length Extrusions

Fixed Length Extrusions (Effective Length 4000mm)

7 Days ⊕ For orders of 20 or more identical pieces please request a quotation. (KHFS8-6060-4000)

Aluminum Frames with 4000mm or more

Applicable to 6000mm depending on products. Refer to Information of Special Orders (P97) and contact the person in charge of Special Orders at MISUMI OCT Center. ⊕ Some extrusions are not applicable.

Price When L is less than 300 Unit prices are indicated in the table regardless of the length. ex: HFS8-6060-185 = 11.70 EUR
When L is 300 or more Prices are calculated as follows: Unit Price/m x Specified Full Length = Price ex: HFS8-6060-600 39.30 x 0.6m = 23.50 EUR (Round down to ten cent.)

Measure of Allowable Load

Extrusions	Height x Width (mm)	HFS Series Allowable Load		GFS Series Allowable Load		Difference of Allowable Load from HFS Series
		(N)	(kgf)	(N)	(kgf)	
60 sq. 60 sq.	60x60	1743	177	2682	273	1.54 times

⊕ The value indicates the concentrated load of the extrusion on the center when the 1000mm long extrusion is supported at both ends.

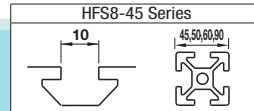
Mechanical Characteristics (Reference Actual Measurement)

Series	HFS Series	GFS Series
Materials (JIS Symbol)	EN AC-51400/AlMgSi0,7SS-T5	EN AW-6061/EN AW-AlMg1SiCu-T6 Equivalent
Tensile Strength (N/mm ²)	245 or More	265 or more (Actual Measurement 278)
Yield Stress (N/mm ²)	205 or More	245 or more (Actual Measurement 247)
Young's Modulus (N/mm ²)	69972	69972
Brinell Hardness (HB)	88	88
Surface Treatment	Anodize 9µm or More	



Special Use: HFS8-45 Series Aluminum Frames

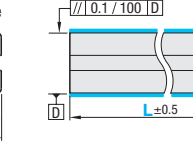
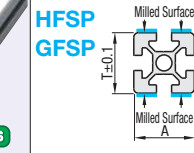
-Aluminum Extrusion with Milled Surfaces-



Fixing Parts			Others		
Brackets	Nuts	Joints	Extrusion End Caps	Alteration	
P601	P615	P627	P623	P645	
P612	P622	P640	P623	P658	

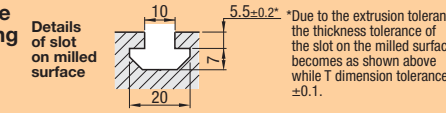
CAD Data

Features: Milled on upper and lower surfaces. Usable for Linear Guides. Refer to P.1495



Type	Material	Surface Treatment
HFSP8	EN AC-51400/AlMgSi0,7SS-T5	Clear Anodize
GFSP8	EN AW-6061/EN AW-AlMg1SiCu-T6 Equivalent	

⊕ For detailed dimensions and shapes EXCEPT the slots on the milled surface A and T dimensions please refer to the drawing of the product of the below Part Number Without "P". (HFS8-45 series (Ex.)HFSP8-45450 → Ref. fig. HFS8-4545 (refer to P.591))



Square Type

HFSP8-4545
HFSP8-5050
HFSP8-6060
HFSP8-9090
GFSP8-4545
GFSP8-5050
GFSP8-6060
GFSP8-9090

Rectangle Type (Horizontal)

HFSP8-9045
HFSP8-10050
GFSP8-9045
GFSP8-10050

Rectangle Type (Vertical)

HFSP8-4590
HFSP8-50100
GFSP8-4590
GFSP8-50100

L-Shaped Type

HFSP8-909045

Part Number	L 0.5mm Increment	Extrusions Series	T	A	Unit Price Less than 300mm	Unit Price/m 300mm or more	Alteration Charge (Body+)		Tapping (Refer to P.647)							
							Counterboring XA-XE (per Row)	Drill Wrench Hole AV-EV (per Row)	Tap Shapes	Left LTP	Right RTP	Both TPW				
HFSP8	100~3000	HFS8-45	44	45			250	D8 Ø8	150	M12 Depth 18 (Heli-coil is inserted to Ø12.5)	400	400	800			
											26 d6.5 d111	500	300	800	800	1600
												250	150	400	400	800
												500	300	800	800	1600
												250	150	400	400	800
											28 d9 d114	300	300	800	800	1600
												150	150	400	400	800
												300	300	800	800	1600
												150	150	400	400	800
											GFSP8	100~3000	GFS8-45	44	45	
26 d6.5 d111	500	300	800	800	1600											
	250	150	400	400	800											
	500	300	800	800	1600											
	250	150	400	400	800											
28 d9 d114	300	300	800	800	1600											
	150	150	400	400	800											
	300	300	800	800	1600											
	150	150	400	400	800											

Order Example Part Number - L
HFSP8-4545 - 300

Days to Ship **8 Days**

Volume Discount Rate P87

Qty.	1~9	10~49	50~
Discount Rate	Unit Price 5%	10%	10%

When L<300mm Unit Price = Price
When L≥300mm Unit Price/m x Specified Full Length = Price (ex.) HFS8-4545-600 41.50 x 0.6m = 24.90 EUR (Round down to ten cent.)

Alterations

Drilling hole at a specified position can be done. ⊕ For details of tapping refer to P.645

• Nuts for Extrusion Please use nuts for aluminum extrusions. For the nuts refer to P.615-620

Alterations

Code	Counterboring					Wrench Hole						
	Z Selection	XA	XB	XC	XD	XE	D Selection	AV	BV	CV	DV	EV
Spec.	Z	d	d1	Distance from The Left End Plane mm			D	Distance from The Left End Plane mm				
Specifications of Hole Size and Hole Position	6	6.5	11	7-L-7			8	7-L-7				

Counterboring Direction

Wrench Hole Machining Direction

*1 When the cross section is rectangle (vertical) counterboring is not available for extrusions exceeding 60mm in the longitudinal direction.
*2 When the cross section is L-shaped counterboring is only applicable to the lower section of extrusions exceeding 60mm in length direction.

Order Example

HFSP8 - 909045 - 150 - Z8 - XA20 - XB45 - XC80 - XD120
HFSP8 - 4545 - 2000 - D8 - AV100 - BV120 - CV1000 - DV1880 - EV1900
HFSP8 - 9090 - 800 - LTP

Example

Linear Guide

Example

BCB8-15 Wrench Hole

Install button bolts temporarily in reference plane then slide the frame to fixing position passing bolt heads through frame slot. Put wrench in the wrench hole and tighten the bolt.

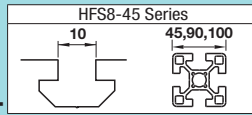
⊕ When the cross section is L-shaped select distance from left end with lower portion in front.

⊕ Being extruded sections products can twist. It is recommended to support overall For Aluminum Extrusion Tolerance Data refer to P.476



Tabbed Brackets

-Slot Type: HFS8-45 Series (Aluminum Frames 45 · 90 · 100 Square)-

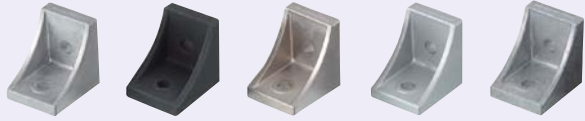


CAD Data

Features: Tabbed Brackets to be connected by both L and Cross-Connections.

Reversal Tabbed Brackets

RoHS



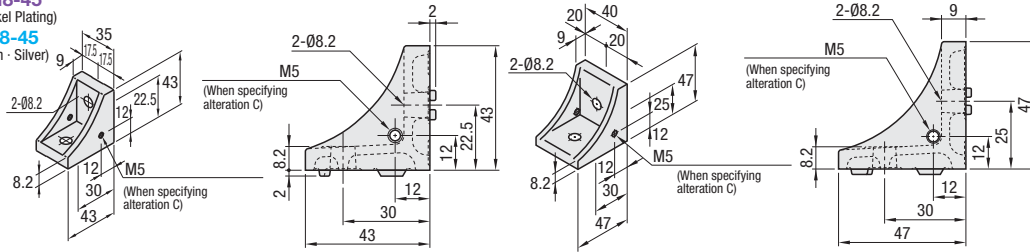
Type	Material	Surface Treatment
HBLFSN8-45	EN AC-46100/ G-AISI12Cu	-
HBLFSNB8-45		Black Anodize
HBLFSNM8-45		Electroless Nickel Plating
CHBLFSN8-45		Baked-on Finish (Silver)
HBLFSN8-50		-

Reversal Tabbed Brackets

HBLFSN8-45
HBLFSNB8-45
(Black Anodize)
HBLFSNM8-45
(Electroless Nickel Plating)
CHBLFSN8-45
(Baked-on Finish - Silver)

For 50 Sq.

Reversal Tabbed Brackets
HBLFSN8-50



Part Number	Mass (g)	Applicable Screw · T Nut				Allowable Load (N)	€ Unit Price 1-99 pcs.	Volume Discount Rate 100-
		Screw	Qty.	T Nut	Qty.			
HBLFSN8-45	55	CBM8-20	2	HNNT8-8	2	2058		
HBLFSNB8-45 (Black Anodize)								
HBLFSNM8-45 (Electroless Nickel Plating)								
CHBLFSN8-45 (Baked-on Finish - Silver)								
HBLFSN8-50	78							

* For repairing black anodizing, refer to P748

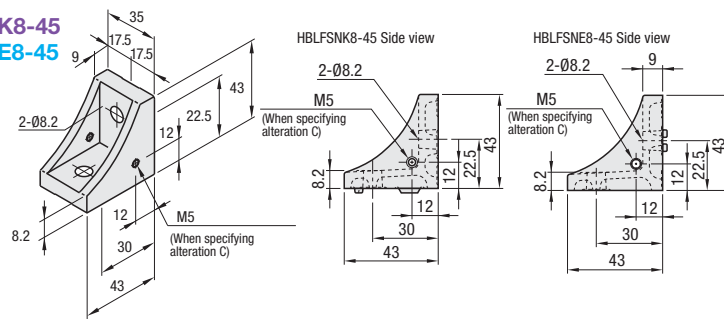
Features: Brackets with single side tabs. Plates can be mounted on the side with no tabs.

Brackets with Single Side Tab

RoHS

Type	Material	Surface Treatment
HBLFSNK8-45	EN AC-46100/G-AISI12Cu	-
HBLFSNE8-45		-

HBLFSNK8-45
HBLFSNE8-45



Part Number	Mass (g)	Applicable Screw · T Nut				Allowable Load (N)	€ Unit Price 1-99 pcs.	Volume Discount Rate 100-
		Screw	Qty.	T Nut	Qty.			
HBLFSNK8-45	55	CBM8-20	2	HNNT8-8	2	2058		
HBLFSNE8-45								

Features: Reversal Tabbed Brackets with Cover. Designed to prevent dust build-up.

Brackets with Caps

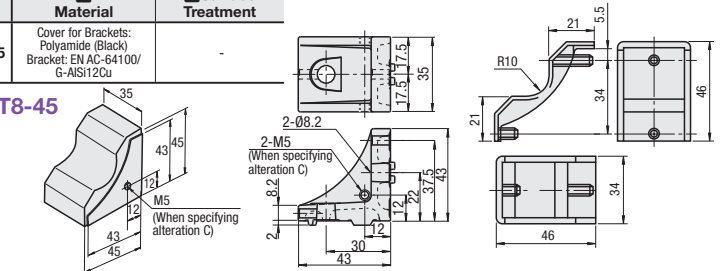
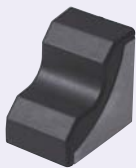
RoHS

Type	Material	Surface Treatment
HBLFSNT8-45	Cover for Brackets: Polyamide (Black) Bracket: EN AC-64100/ G-AISI12Cu	-

HBLFSNT8-45

Bracket for Covers

Cover for Brackets



Part Number	Mass (g)	Accessory Components				Applicable Screw · T Nut				Allowable Load (N)	€ Unit Price 1-99 pcs.	Volume Discount Rate 100-
		(1)	Qty.	(2)	Qty.	Screw	Qty.	T Nut	Qty.			
HBLFSNT8-45	62	Bracket	1	Cover for Brackets	1	CBM8-20	2	HNNT8-8	2	2058		

Features: Brackets with twice as many screws. Extrusions can be connected more securely.

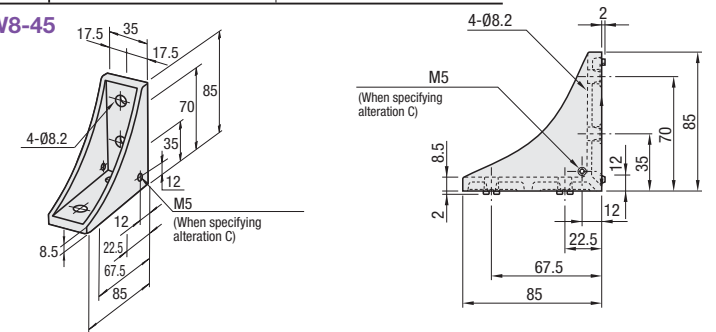
Reversal Tabbed Brackets

RoHS



Type	Material	Surface Treatment
HBLFSSW8-45	EN AC-46100/G-AISI12Cu	-

HBLFSSW8-45

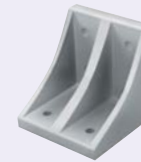


Part Number	Mass (g)	Applicable Screw · T Nut				Allowable Load (N)	€ Unit Price 1-99 pcs.	Volume Discount Rate 100-
		Screw	Qty.	T Nut	Qty.			
HBLFSSW8-45	136	CBM8-20	4	HNNT8-8	4	3087		

Features: Ribbed Brackets for 2-slots with twice as many screws. Extrusions can be connected more securely.

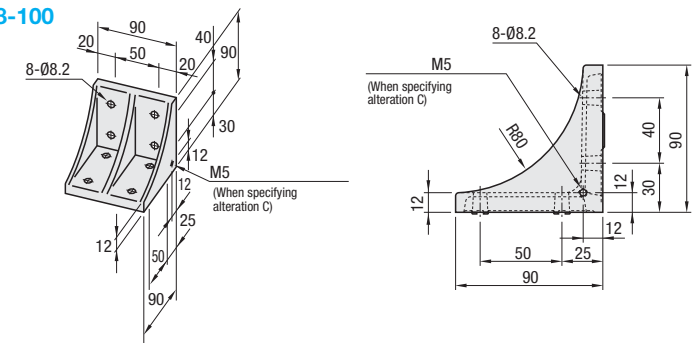
Reversal Tabbed Brackets

RoHS



Type	Material	Surface Treatment
HBLFSDW8-100	EN AC-46100/G-AISI12Cu	-

HBLFSDW8-100



Part Number	Mass (g)	Applicable Screw · T Nut				Allowable Load (N)	€ Unit Price 1-99 pcs.	Volume Discount Rate 100-
		Screw	Qty.	T Nut	Qty.			
HBLFSDW8-100	450	SCB8-22	8	HNNT8-8	8	5586		



Order Example

Part Number
HBLFSNK8-45



Days to Ship

6 Days

2 Days

P87



Alterations

Part Number
HBLFSNK8-45

(C · SET · SST · SEU · SSU · SEP · SSP · SEC)
SET

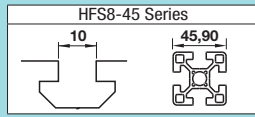
Alterations	Code	Spec.	Applicable Brackets	Price Adder	Alterations	Code	Spec.	Applicable Brackets	Price Adder
Mounting Holes for Cover	C	Adds a tap for a bracket for cover mounting. (M5 on Both Sides) (Mounting screw P644 HCBM)	HBLFSN8-45	0,40	Applicable Screws and Nuts come as a set.	SET SST (Stainless Steel) SEU (Pre-Assembly, Insertion Spring Nuts) SSU (Pre-Assembly, Insertion Spring Nuts Stainless Steel) SEP (Post-Assembly, Insertion Spring Nuts) SSP (Post-Assembly, Insertion Spring Nuts Stainless Steel) SEC (Captured Washer Screws - Nuts)	Supplies a set of applicable screws and nuts for fixing the bracket to an extrusion. (Adds to the bracket price) (Ex.) When HBLFSN8-45 is specified, Code Screws Nuts SET CBM8-20 HNNT8-8 SST SCB8-20 HNNTS8-8 SEU CBM8-20 HNNT8-8 SSU SCB8-20 SHNTU8-8 SEP CBM8-20 HNTP8-8 SSP SCB8-20 SHNTP8-8 SEC HCBST8-24 HNNT8-8 When specifying other than HBLFSN8-45, check for the applicable screws and nuts.	HBLFSN8-45	
			HBLFSNB8-45						
			HBLFSNM8-45						
			HBLFSN8-50						
			HBLFSNE8-45						
			HBLFSNT8-45						
			HBLFSSW8-45						
			HBLFSDW8-100						
			HBLFSNK8-45						
			HBLFSNE8-45						
HBLFSNT8-45									
HBLFSSW8-45									
HBLFSDW8-100									

ⓈScrews for black anodized parts are HCBMTB (Trivalent Chromate Black), P641
ⓈWhen -SET, -SEU or -SEP is specified, it is not RoHS compliant.



Extruded Brackets -for 1-slot-

-Slot Type: HFS8-45 Series (Aluminum Frames 45 · 90 Square)-



CAD Data

Features: Extruded Brackets with tabs to fit extrusions. Since the tabs stop rotating the brackets when tightening, improves work efficiency.

Thick Brackets (With Tab Type)

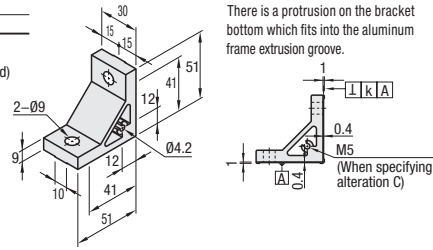
RoHS



Type	Material	Surface Treatment
HBKTST8	EN AC-51400/	Anodize
HBKTS8	AlMgSi0,7	Black Anodize
HBKTSB8		Black Anodize

HBKTST8
(Perpendicularly Machined)
HBKTS8
HBKTSB8
(Black Anodize)

Part Number	Perpendicularity K
HBKTST8	0.03
HBKTS8	0.06
HBKTSB8 (Black Anodize)	



Part Number	Mass (g)	Applicable Screw · T Nut				Allowable Load (N)	€Unit Price 1-99 pcs.	Volume Discount Rate 100-
		Screw	Qty.	T Nut	Qty.			
HBKTST8	65.8	CBM8-20	2	HNTT8-8	2	2058		
HBKTS8								
HBKTSB8 (Black Anodize)								

* For repairing black anodizing, refer to P748

Features: Aluminum Extruded Brackets. Good appearance designed to prevent dust build up.

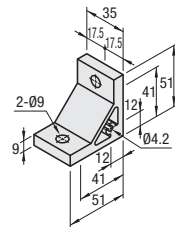
Thick Brackets

RoHS



Type	Material	Surface Treatment
HBLTS8-45	EN AC-51400/	Anodize
CHBLTS8-45	AlMgSi0,7	Clear Coating (Anodize + Clear Coating) + Clear Coating)

HBLTS8-45
CHBLTS8-45
(Clear Coating)



Part Number	Mass (g)	Applicable Screw · T Nut				Allowable Load (N)	Unit Price 1-99 pcs.	Volume Discount Rate 100-
		Screw	Qty.	T Nut	Qty.			
HBLTS8-45	80	CBM8-20	2	HNTT8-8	2	2058		
CHBLTS8-45 (Clear Coating)								

Features: Extruded Brackets with Unequal Sides. Effective when strength is required in narrow clearances between extrusions.

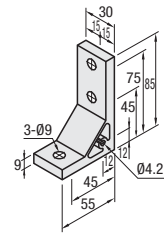
Scalene Brackets

RoHS

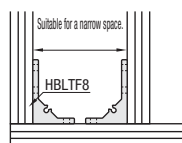


Type	Material	Surface Treatment
HBLTF8	EN AC-51400/AlMgSi0,7	Anodize

HBLTF8



Part Number	Mass (g)	Applicable Screw · T Nut				Allowable Load (N)	Unit Price 1-99 pcs.	Volume Discount Rate 100-
		Screw	Qty.	T Nut	Qty.			
HBLTF8	90	CBM8-20	3	HNTT8-8	3	2572		



Features: Numbers of screws are the same as HBLTS8-45. Extrusions can be connected more securely.

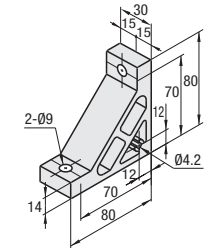
Ultra Thick Brackets

RoHS



Type	Material	Surface Treatment
HBLUS8	EN AC-51400/	Anodize
HBLUSB8	AlMgSi0,7	Black Anodize

HBLUS8
HBLUSB8
(Black Anodize)



Part Number	Mass (g)	Applicable Screw · T Nut				Allowable Load (N)	€Unit Price 1-99 pcs.	Volume Discount Rate 100-
		Screw	Qty.	T Nut	Qty.			
HBLUS8	151	CBM8-25	2	HNTT8-8	2	2058		
HBLUSB8 (Black Anodize)								

* For repairing black anodizing, refer to P748

Features: Numbers of screws are the same as HBKTS8. Extrusions can be connected more securely.

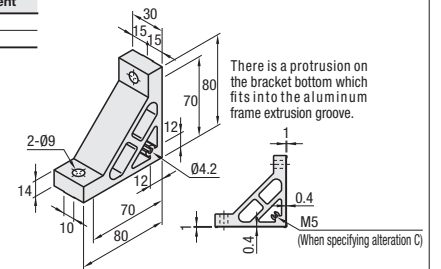
Ultra Thick Brackets (With Tabs)

RoHS



Type	Material	Surface Treatment
HBKUS8	EN AC-51400/	Anodize
HBKUSB8	AlMgSi0,7	Black Anodize

HBKUS8
HBKUSB8
(Black Anodize)



Part Number	Mass (g)	Applicable Screw · T Nut				Allowable Load (N)	€Unit Price 1-99 pcs.	Volume Discount Rate 100-
		Screw	Qty.	T Nut	Qty.			
HBKUS8	151	CBM8-25	2	HNTT8-8	2	2058		
HBKUSB8 (Black Anodize)								

* For repairing black anodizing, refer to P748

Order Example: Part Number **HBLUS8** Days to Ship **6 Days** **2 Days** P.87

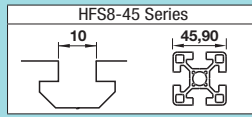
Alterations: Part Number **HBLUS8** - (C · SET · SST · SEU · SSU · SEP · SSP · SEC) SET

Alterations	Code	Spec.	Applicable Brackets	Price Adder	Alterations	Code	Spec.	Applicable Brackets	Price Adder
Mounting Holes for Cover	C	Adds a tap for a bracket for cover mounting. (M5 on Both Sides) (Mounting screw P.644)	HBLTS8-45	0,30	Supplies a set of applicable screws and nuts for fixing the bracket to a extrusion. (Adds to the bracket price)	SET	(Ex.) When HBLTS8-45 is specified, Code Screws Nuts	HBLTS8-45	SET SST SEU SSU SEP SSP SEC
			CHBLTS8-45	0,50		CHBLTS8-45			
			HBKTS8	0,30		HBKTS8			
			HBLTF8	0,30		HBKTS8			
			HBKUS8	0,30		HBKTS8			
Applicable Screws and Nuts come as a set.	C	(Pre-Assy. Insertion Spring Nuts) (Post-Assy. Insertion Spring Nuts Stainless Steel) (Post-Assy. Insertion Spring Nuts) (Captured Washer Screws · Nuts)	HBLUS8	0,30	SEU	SEU	SEU	SEU	SEU
			SSU	SSU	SSU	SSU	SSU		
			SEP	SEP	SEP	SEP	SEP		
			SSP	SSP	SSP	SSP	SSP		
			SEC	SEC	SEC	SEC	SEC		
			SET	SET	SET	SET	SET		
			SST	SST	SST	SST	SST		
			SEU	SEU	SEU	SEU	SEU		
			SSU	SSU	SSU	SSU	SSU		
			SEP	SEP	SEP	SEP	SEP		
SSP	SSP	SSP	SSP	SSP					

Ⓢ Screws for black anodized parts are HCBMTB (Trivalent Chromate Black) P.641.
Ⓢ When -SET, -SEU or -SEP is specified, it is not RoHS compliant.

Extruded Brackets -for 1-slot-

-Slot Type: HFS8-45 Series (Aluminum Frames 45 · 90 Square)-



CAD Data

Features: Extruded Brackets with twice as many screws. Extrusions can be connected more securely.

Thick Brackets

RoHS

Type	Material	Surface Treatment
HBLTSW8	EN AC-51 400/ AlMgSi0,7-T5	Anodize

HBLTSW8

Part Number	Mass (g)	Applicable Screw · T Nut				Allowable Load (N)	€ Unit Price 1-99 pcs.	Volume Discount Rate 100~
		Screw	Qty.	T Nut	Qty.			
HBLTSW8	113	CBM8-20	4	HNTT8-8	4	3087		

Features: Extruded Brackets with twice as many screws. Extrusions can be connected more securely.

Triangle Brackets

RoHS

Type	Material	Surface Treatment
HBLDSWT8-45	EN AC-51 400/ AlMgSi0,7-T5	Anodize

HBLDSWT8-45

Part Number	Mass (g)	Applicable Screw · T Nut				Allowable Load (N)	€ Unit Price 1-99 pcs.	Volume Discount Rate 100~
		Screw	Qty.	T Nut	Qty.			
HBLDSWT8-45	235	CBM8-15	4	HNTT8-8	4	3087		

Features: Brackets to connect Extrusions 45 · 30 square.

Assembly Brackets for Different Extrusion Sizes

RoHS

Type	Material	Surface Treatment
HBLTS845	EN AC-51 400/ AlMgSi0,7-T5	Anodize

HBLTS845-6L
HBLTS845-6R

Part Number	Mass (g)	Applicable Screw · T Nut				Allowable Load (N)	€ Unit Price 1-99 pcs.	Volume Discount Rate 100~
		Screw	Qty.	T Nut	Qty.			
HBLTS845-6L	78	CBM6-20	1	HNTT8-6	1			
CBM6-15		HNTT8-6						
CBM6-20		HNTT8-6						
CBM6-15		HNTT8-6						

Order Example Part Number **HBLTS845-6L** Days to Ship **6 Days** P.87

Alterations Part Number (C · SET · SST · SEU · SSU · SEP · SSP · SEC) **HBLTS845-6L** SET

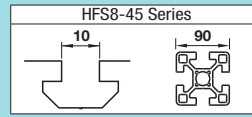
Alterations	Code	Spec.	Applicable Brackets	Price Adder
Mounting Holes for Cover	C	Adds a tap for a bracket for cover mounting. (M5 on Both Sides) (Mounting screw P644 HCBM) *Tapping direction: For HBLTS845-6, tapping is only applied on the narrow side of the offset.	HBLTSW8	0,30
		HBLTS845-6L*	0,93	
		HBLTS845-6R*		
		HBLTS845-6R*		

Alterations	Code	Spec.	Applicable Brackets	Price Adder
Applicable Screws and Nuts come as a set.	SET	Supplies a set of applicable screws and nuts for fixing the bracket to an extrusion. (Adds to the bracket price)	HBLTSW8	SET SST SEU SSU SEP SSP SEC
	SST	(Stainless Steel)		
	SEU	(Pre-Assy. Insertion Spring Nuts)		
	SSU	(Pre-Assy. Insertion Spring Nuts Stainless Steel)		
	SEP	(Post-Assy. Insertion Spring Nuts)		
	SSP	(Post-Assy. Insertion Spring Nuts Stainless Steel)		
	SEC	(Captured Washer Screws · Nuts)		
			Code Screws Nuts	
			SET CBM8-20 HNTT8-8	
			SST SCB8-20 HNTT8-8	

ⓈWhen -SET, -SEU or -SEP is specified, it is not RoHS compliant.

Extruded Brackets -for 2 or more slots-

-Slot Type: HFS8-45 Series (Aluminum Frames 90 Square)-



CAD Data

Features: Extruded Brackets to connect Extrusions with 2-slots (HFS8-9090 etc.) with one bracket.

Thick Brackets

RoHS

Type	Material	Surface Treatment
HBLTD8-45	EN AC-51 400/ AlMgSi0,7-T5	Anodize

HBLTD8-45

Part Number	Mass (g)	Applicable Screw · T Nut				Allowable Load (N)	€ Unit Price 1-99 pcs.	Volume Discount Rate 100~
		Screw	Qty.	T Nut	Qty.			
HBLTD8-45	163	CBM8-20	4	HNTT8-8	4	2940		

Features: Numbers of screws are the same as HBLTD8-45. Extrusions can be connected more securely.

Ultra Thick Brackets

RoHS

Type	Material	Surface Treatment
HBLUD8-45	EN AC-51 400/ AlMgSi0,7-T5	Anodize

HBLUD8-45

Part Number	Mass (g)	Applicable Screw · T Nut				Allowable Load (N)	€ Unit Price 1-99 pcs.	Volume Discount Rate 100~
		Screw	Qty.	T Nut	Qty.			
HBLUD8-45	387	CBM8-25	4	HNTT8-8	4	3920		

Features: Brackets for 2-slots with twice as many screws. Extrusions can be connected more securely.

Assembly Brackets for Different Extrusion Sizes

RoHS

Type	Material	Surface Treatment
HBLTDW8-45	EN AC-51 400/ AlMgSi0,7-T5	Anodize

HBLTDW8-45 (Thick Brackets)
HBLUDW8-45 (Ultra Thick Brackets)

Part Number	Mass (g)	Applicable Screw · T Nut				Allowable Load (N)	€ Unit Price 1-99 pcs.	Volume Discount Rate 100~
		Screw	Qty.	T Nut	Qty.			
HBLTDW8-45	287	CBM8-20	8	HNTT8-8	8	4410		
HBLUDW8-45	359	CBM8-15	4	HNTT8-8	8	5586		

Order Example Part Number **HBLTD8-45** Days to Ship **6 Days** P.87

Alterations Part Number (C · SET · SST · SEU · SSU · SEP · SSP · SEC) **HBLTD8-45** SET

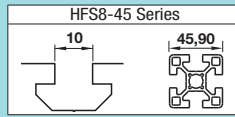
Alterations	Code	Spec.	Applicable Brackets	Price Adder
Mounting Holes for Cover	C	Adds a tap for a bracket for cover mounting. (M5 on Both Sides) (Mounting screw P644 HCBM)	HBLTD8-45	0,30
		HBLUD8-45	0,30	
		HBLTDW8-45	0,30	
		HBLUDW8-45	0,30	

Alterations	Code	Spec.	Applicable Brackets	Price Adder
Applicable Screws and Nuts come as a set.	SET	Supplies a set of applicable screws and nuts for fixing the bracket to an extrusion. (Adds to the bracket price)	HBLTD8-45	SET SST SEU SSU SEP SSP SEC
	SST	(Stainless Steel)		
	SEU	(Pre-Assy. Insertion Spring Nuts)		
	SSU	(Pre-Assy. Insertion Spring Nuts Stainless Steel)		
	SEP	(Post-Assy. Insertion Spring Nuts)		
	SSP	(Post-Assy. Insertion Spring Nuts Stainless Steel)		
	SEC	(Captured Washer Screws Nuts)		
			Code Screws Nuts	
			SET CBM8-20 HNTT8-8	
			SST SCB8-20 HNTT8-8	

ⓈWhen -SET, -SEU or -SEP is specified, it is not RoHS compliant.



Brackets -Block Brackets · Brackets for Reinforcement- -Slot Type: HFS8-45 Series (Aluminum Frames 45 · 90 Square)-



Features: The brackets do not protrude from extrusion widths when used to cross connect extrusions. Can be used in smaller spaces compared to the Tabled Reversal Brackets.

Thin Brackets HBLSS8-45

Thin Brackets HBLSD8-45

Part Number	Mass (g)	Applicable Screw · T Nut				Allowable Load (N)	€ Unit Price	€ Volume Discount Rate
		Screw	Qty.	T Nut	Qty.			
HBLSS8-45	52	CBM8-25	2	HNTT8-8	2	1666	100~	
HBLSD8-45	175		4		4	2352		

Order Example: Part Number **HBLSS8-45** Days to Ship **6 Days** **2 Days** P.87

Features: Reinforcement Brackets machined from extrusions. Usable on locations needing more strength after connecting with brackets.

Brackets for Reinforcement

GFBL8-4545
GFBL8-4590

GFBL8-5050
GFBL8-50100

GFBL8-5050
GFBL8-50100

GFBL8-5050
GFBL8-50100

*For * part, fix with other brackets.
 M Material: EN AW-6061/EN AW-AIMg1SiCu-T6 Equivalent
 S Surface Treatment: Anodize
 (No surface treatment on 45° cut ends and counterbores.)
 Use Captured Washer Screw (HCBST8-20) for connecting to extrusions.

Part Number	Type	No.	L 1mm Increment	Applicable Screw · Nut			L100-300		L301-500	
				Screw	Qty.	Nuts	Qty.	€ Unit Price	€ Volume Discount Rate	€ Unit Price
GFBL8	4545		100-500	HCBST8-20	2	HNTT8-8	2			
	4590				4		4			
	5050				2		2			
	50100				4		4			

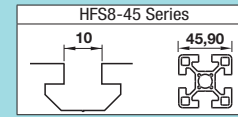
Alterations: Part Number **HBLSS8-45** - (SET · SST · SEU · SSU · SEP · SSP) SET Days to Ship **8 Days**
 Order Example: Part Number **GFBL8-4545** - L **300** Days to Ship **8 Days**

Alterations	Code	Spec.	Applicable Brackets	€ Price Adder						
				SET	SST	SEU	SSU	SEP	SSP	
Applicable Screws and Nuts come as a set.	SET SST (Stainless Steel)	Supplies a set of applicable screws and nuts for fixing the bracket to an extrusion. (Adds to the bracket price) (Ex.) When HBLSS is specified, <When SET is specified> Screws: CBM8-25, Nuts: HNTT8-8 <When SST is specified> Screws: SCB8-25, Nuts: HNTT8-8 <When SEU is specified> Screws: CBM8-25, Nuts: HNTU8-8 <When SSU is specified> Screws: SCB8-25, Nuts: SHNTU8-8 <When SEP is specified> Screws: CBM8-25, Nuts: HNTP8-8 <When SSP is specified> Screws: SCB8-25, Nuts: SHNTP8-8	HBLSS8-45	1,15	1,15	1,41	1,97	1,41	1,55	
	SEU (Pre-Assy. Insertion Spring Nuts)		HBLSD8-45	2,30	2,33	2,82	3,97	2,82	3,13	
	SSU (Pre-Assy. Insertion Spring Nuts Stainless Steel)		GFBL8-4545	2,40	-	2,66	-	2,66	-	-
	SEP (Post-Assy. Insertion Spring Nuts)		GFBL8-4590	2,84	-	3,36	-	3,36	-	-
	SSP (Post-Assy. Insertion Spring Nuts Stainless Steel)		GFBL8-5050	2,40	-	2,66	-	2,66	-	-
			GFBL8-50100	2,84	-	3,36	-	3,36	-	-

*When -SET, -SEU or -SEP is specified, it is not RoHS compliant.

Brackets -Thin Brackets-

-Slot Type: HFS8-45 Series (Aluminum Frames 45 · 90 Square)-



Features: Brackets to connect extrusions at angles.

HBL45TS8

HBL135TS8

Part Number	Mass (g)	Applicable Screw · T Nut				Allowable Load (N)	€ Unit Price	€ Volume Discount Rate
		Screw	Qty.	T Nut	Qty.			
HBL45TS8	88	CBM8-20	2	HNTT8-8	2	2058	100~	
HBL135TS8	103		2		2	2058		

Order Example: Part Number **HBL45TS8** Days to Ship **6 Days** P.87 **2 Days**

Alterations	Code	Spec.	Applicable Brackets	€ Price Adder
Applicable Screws and Nuts come as a set.	SET SST (Stainless Steel)	Supplies a set of applicable screws and nuts for fixing the bracket to an extrusion. (Adds to the bracket price) (Ex.)	HBL45TS8	1,12 1,20 1,38 2,02 1,38 1,60
	SEU (Pre-Assy. Insertion Spring Nuts)	<When SET is specified> Bolt: CBM8-25 Nut: HNTT8-8 <When SST is specified> Bolt: SCB8-25 Nut: HNTT8-8 <When SEU is specified> Bolt: CBM8-25 Nut: HNTU8-8 <When SSU is specified> Bolt: SCB8-25 Nut: SHNTU8-8 <When SEP is specified> Bolt: CBM8-25 Nut: HNTP8-8 <When SSP is specified> Bolt: SCB8-25 Nut: SHNTP8-8	HBL135TS8	1,12 1,20 1,38 2,02 1,38 1,60
Mounting Holes for Cover	C	Adds a tap for a bracket for cover mounting. (M5 on Both Sides, Depth 15mm) (Mounting screw P.644 HCBM)	HBL45TS8 HBL135TS8	0,30
Machines 2 counterbored holes on 135 degree bracket HBL135T.5. Counterboring	Z8	Machines 2 counterbored holes on 135 degree bracket HBL135T.5. 2 Counterbore holes for HBL135TS8 (Applicable screw: M8)	HBL135TS8	1,60

Features: Direct bolt-on brackets to use on tapped extrusions.

Plate Brackets

HBLPL8

Alterations: Part Number **HBLPL8** - Extrusions **9090** - (DC) DC20 Days to Ship **10 Days**

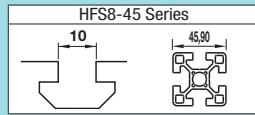
Alteration	Code	Spec.	€ Price Adder
Through Hole	DC	Add a through hole. DC=Hole Dia. 1mm Increment (10≤DC≤20) [Ordering Code] DC12	6,00

Days to Ship **8 Days** Order Example: Part Number **HBLPL8** - Extrusions **9090**



Brackets - Blind Brackets · Free Angle Brackets

-Slot Type: HFS8-45 Series (Aluminum Frames 45 · 90 Square)-



■ **Features:** No need for alterations to hide brackets inside of the slot.

Type	Material	Surface Treatment
HBLBS8	1.1191/C45E	Trivalent Chromate
SHLBSL8	1.4308/G-X6CrNi18-9	-

Blind Brackets
HBLBS8
SHLBSL8 (Stainless Steel)

Blind Brackets · Long Type
HBLBSL8

Part Number	Mass (g)	Included Screw		Allowable Load (N)	€ Unit Price	Volume Discount Rate
		Screw	Qty.			
HBLBS8	70	Set Screw M8 x 10	2	1274	1-99 pcs.	100~
SHLBSL8	87		4			
HBLBSL8	87		4			

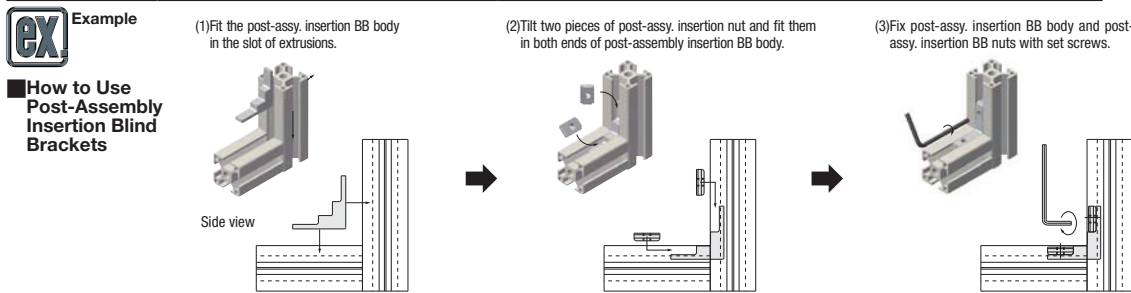


■ **Features:** Blind Brackets Post Assy. Insertion Type.

Post-Assembly Insertion Blind Brackets

Type	Components	Material
HABLBS8	Post-Assembly Insertion BB Body	1.4308/G-X6CrNi18-9
	Post-Assembly Insertion BB Nut	1.4301/X5CrNi18-10 Sintered Alloy
	Set Screw	1.4301/X5CrNi18-10

Part Number	Mass (g)	Included Screw	Qty.	Allowable Load (N)	€ Unit Price	Volume Discount Rate
HABLBS8	47	Nut · Set Screw M8x6	2	700	1-99 pcs.	100~



■ **Features:** Blind Brackets to connect Extrusions 45 / 30 square.

Type	Material	Surface Treatment
HBLBS8-6	1.1191/C45E	Trivalent Chromate

For 40-30 square connection
HBLBS8-6

Part Number	Mass (g)	Connectable Extrusion Series	Included Set Screw	€ Unit Price	Volume Discount Rate
HBLBS8-6	50	HFS8 and HFS6 HFS8-45 and HFS6	M6x8 1 pc. M8x10 1 pc.	1-99 pcs.	100~

Order Example: Part Number **HBLBS8** Days to Ship **6 Days** P87 **2 Days**

■ **Features:** Extrusions can be connected at any arbitrary angle.

Free Angle Brackets

Type	Material	Surface Treatment
HBLTBA45 HBLTBBN45 HBLTBC45 HBLTBD45	EN AC-51400/ AlMgSi0.7-SS-T5	Anodize

Included Screws: 1.7220/34CrMo4 Trivalent Chromate

HBLTBA45

HBLTBBN45

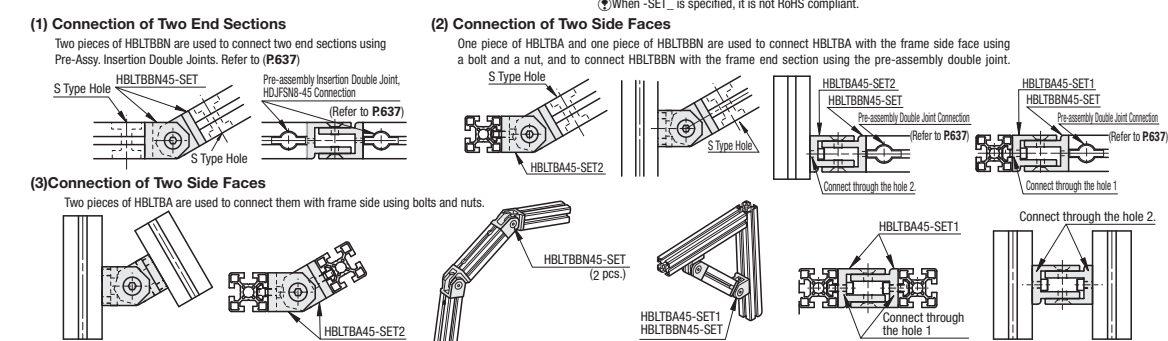
HBLTBC45
HBLTBD45

Part Number	Applicable Extrusion	Mass (g)	Accessories	Qty.	€ Unit Price	Volume Discount Rate
HBLTBA45	45 Square (HFS8-45)	113	M10x16	1	1-14 pcs.	15~
HBLTBBN45	45 Square (HFS8-45)	116	CLDMC8-40-M	1		
HBLTBC45	45 Square (HFS8-45)	299				
HBLTBD45	45 Square (HFS8-45)	301				

Alterations: Part Number HBLTBA45, HBLTBBN45. (SET1, SET2, SET3, SET4, SET5)

Alterations	Code	How to use	Part Number	No.	Screw	Qty.	Nuts · Pre-Assembly Insertion Double Joints	Qty.	Price Adder
Applicable Screws and Nuts come as a set.	SET1	Use the hole 1.	HBLTBBN	2	CBM6-35	2	H0JFSN8-45	1	2,15
	SET2	Use the hole 2.	HBLTBA	1	CBM6-20	2	HNTT8-8	2	1,20
	SET3	Use the hole 1.	HBLTBC	45	CBM8-20	1	HNTT8-8	1	0,60
	SET4	Use the hole 2.	HBLTBC	45	CBM6-35	2	H0JFSN8-45	1	3,35
	SET5	Use the hole 2.	HBLTBD	45	CBM6-35	2	H0JFSN8-45	1	2,75
			HBLTBD	45	CBM8-20	1	HNTT8-8	1	4,30

Ⓢ When connecting with Pre-Assy. Insertion Double Joints, S type hole machining is required on extrusions. (Refer to P598)
Ⓢ When -SET_ is specified, it is not RoHS compliant.



■ **Features:** Sheet Metal Brackets to fix at arbitrary positions.

Free Angle Sheet Metal Brackets

Type	Material	Surface Treatment
HBLBS8-6	1.1191/C45E	Trivalent Chromate

HBLPBL8-45

HBLPBR8-45

Part Number	Applicable Extrusion	Applicable Screw · Nut	€ Unit Price	Volume Discount Rate
HBLPBL8-45	45 Square (HFS8-45)	Hexagon Socket Head Cap Screws with Captured Washers	1-99 pcs.	100~
HBLPBR8-45	45 Square (HFS8-45)	Hexagon Socket Head Cap Screws with Captured Washers	1-99 pcs.	100~

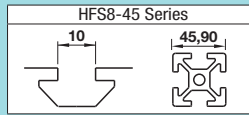
Order Example: Part Number **HBLPBL8-45** Days to Ship **6 Days** P87 **2 Days**

Alterations	Code	Spec.	Applicable Brackets	Price Adder
Set of applicable Bolts and Nuts	SET	Supplies a set of applicable bolts and nuts for fixing the bracket to a extrusion.	HBLPBL8-45 HBLPBR8-45	3,80
Set with applicable bolts, nuts and clamp levers	SET1	Applicable Bolts 3 pcs. Clamp Lever (LNP) 1 Pc. Flat Washer (PWF) 1 Pc. Applicable Nuts 4 Pcs. Set with the above items.	HBLPBL8-45 HBLPBR8-45	8,20



Sheet Metal

-HFS8-45 Series-



CAD Data

Features: Can be used for reinforcement of aluminum extrusions.

RoHS Not RoHS compliant

Type	Material	Surface Treatment
HPTSS	1.0320/St.22	Carbon Steel Bright Chromate Plating
HPTSSL		
HPTSD8-45		Trivalent Chromate
HPTSD8-50		
SHPTSS	1.4301/ X5CrNi18-10	-
SHPTSSL		
SHPTSD		

Part Number	Mass g	T	Applicable Screw · Nut				€ Unit Price 1-99 pcs.	Volume Discount Rate 100~
			Screw	Qty.	Nuts	Qty.		
HPTSS8-45	80	3.2	M8-15	2	M8	4		
SHPTSS8-45		3						
HPTSSL8-45	3.2							
SHPTSSL8-45	3							
HPTSD8-45	150	3.2	4	M8	4			
SHPTSD8-45		3						
HPTSD8-50	202	3.2						

RoHS Not RoHS compliant

Type	Material	Surface Treatment
HPTLN	1.0320/St.22	Trivalent Chromate
HPTLN8		Carbon Steel Bright Chromate Plating
HPTLD8-45	1.0320/St.22	Trivalent Chromate
HPTLD8-50		Carbon Steel Bright Chromate Plating
SHPTLN	1.4301/ X5CrNi18-10	-
SHPTLS		-

Part Number	Mass g	T	Applicable Screw · Nut				€ Unit Price 1-99 pcs.	Volume Discount Rate 100~
			Screw	Qty.	Nuts	Qty.		
HPTLN8*	50	3.2	M8-15	3	M8	4		
SHPTLN8*		3						
HPTLS8*	3.2							
SHPTLS8*	3							
HPTLD8-45	535	3.2	8	M8	8			
HPTLD8-50	569	3.2						

RoHS Not RoHS compliant

Type	Material	Surface Treatment
HPTCUL	1.0320/St.22	Trivalent Chromate
HPTUL		
HPTWUL		
SHPTCUL	1.4301	-

Part Number	Mass g	T	Applicable Screw · Nut				€ Unit Price 1-99 pcs.	Volume Discount Rate 100~		
			Screw	Qty.	Nuts	Qty.				
HPTCUL8*	360	3.2	M8-15	4	M8	4				
SHPTCUL8*		3								
HPTUL8-45	1760	3.2		7				M8	7	
HPTWUL8-45	1758	3.2								

Alteration Part Number - (SET)
HPTSS8-45 - SET

When -SET is specified, it is not RoHS compliant.

Alteration	Code	Spec.	Part Number	Price Adder
Applicable Screws and Nuts come as a set.	SET	Applicable screws and nuts for mounting each plate on extrusions come in a set.	HPTSS8-45	1,20
			SHPTSS8-45	1,35
			HPTSSL8-45	2,40
			SHPTSSL8-45	2,70
			HPTSD8-45	2,40
			HPTSD8-50	2,40
			SHPTSD8-45	2,70
			HPTLN8*	1,80
			SHPTLN8*	2,00
			HPTLS8*	2,40
			SHPTLS8*	2,70
			HPTLD8-45	4,80
			SHPTLD8-45	4,80
			HPTCUL8*	2,40
			SHPTCUL8*	2,70
HPTUL8-45	4,20			
SHPTUL8-45	5,25			

Order Example Part Number HPTSS8-45

Days to Ship 6 Days P87

Example

RoHS Not RoHS compliant

Type	Material	Surface Treatment
HPTTS	1.0320/St.22	Carbon Steel Bright Chromate Plating
HPTTD		
HPTPS		
SHPTTS	1.4301	-

Part Number	Mass g	T	Applicable Screw · Nut				€ Unit Price 1-99 pcs.	Volume Discount Rate 100~		
			Screw	Qty.	Nuts	Qty.				
HPTTS8*	103	3.2	M8-15	4	M8	4				
SHPTTS8*		3								
HPTTD8-45	633	3.2		8				M8	8	
HPTPS8*	135	3.2								

RoHS Not RoHS compliant

Type	Material	Surface Treatment
HPTBS	1.0320/St.22	Carbon Steel Bright Chromate Plating
HPTGS		
SHPTBS		
SHPTBD	1.4301/ X5CrNi18-10	-

Part Number	Mass g	T	Applicable Screw · Nut				€ Unit Price 1-99 pcs.	Volume Discount Rate 100~		
			Screw	Qty.	Nuts	Qty.				
HPTBS8*	83	4.5	M8-15	2	M8	2				
SHPTBS8*		4								
SHPTBD8-45	234	4		4				M8	4	
HPTGS8*	560	4.5								

Alteration Part Number - (SET)
SHPTBD8-45 - SET

Alteration	Code	Spec.	Part Number	Price Adder		
Applicable Screws and Nuts come as a set.	SET	Applicable screws and nuts for mounting each plate on extrusions come in a set.	HPTTS8*	2,40		
			SHPTTS8*	2,70		
			Materials	Set	HPTTD8-45	4,80
			1.0320/St.22	Screws: CBM	HPTPS8*	2,40
			Nuts: HNTT	HPTBS8*	1,10	
			1.4301/ X5CrNi18-10	Screws: SCB	SHPTBS8*	1,35
			Nuts: HNTTSN	SHPTBD8-45	2,70	
					HPTGS8*	2,40

Order Example Part Number SHPTBD8-45

Days to Ship 6 Days P87

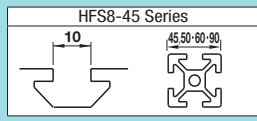
Example

* is in common with 8-45.



Pre-Assy. Insertion Nuts · Stoppers for Aluminum Frames - Standard

-For HFS8-45 Series Aluminum Frames 45 · 50 · 60 · 90 Square-

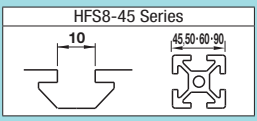


CAD Data

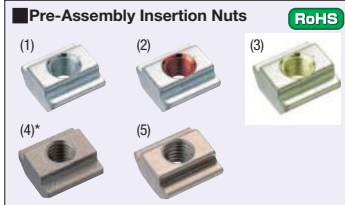


Pre-Assy. Insertion Nuts · Stoppers for Aluminum Frames

With Temporary Holding Function -Stopper Integrated Nuts · Spring Nuts-
-For HFS8-45 Series Aluminum Frames 45 · 50 · 60 · 90 Square-



CAD Data

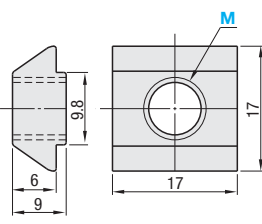


Pre-Assembly Insertion Nuts **RoHS**
HNTT8 (1.0301/C10 Equivalent)
HNTTV8 (Thread Locking Adhesive · 1.0301/C10 Equivalent)
HNTTZ8 (Thread Locking Resin Coating · 1.0301/C10 Equivalent)
HNTTSN8 (1.4401/X5Cr5NiMo17-12-2 Equivalent, Sintering)
HNTTSS8 (1.4305/X10CrNiS18-9)



Pre-Assembly Insertion Nuts
 Aluminum Frames
 Nuts are pre-inserted in the aluminum extrusion.
 HNTU
 HNTUV
 HNTUZ
 SHNTU
 HNTT
 HNTTV
 HNTTZ
 HNTTSN
 HNTTSS
 HNTM

Reference Tightening Torque (N · m)	
M	1.0301/C10 Equivalent 1.4401/X5Cr5NiMo17-12-2 Equivalent (Sintering) 1.4305/X10CrNiS18-9
8	23.5



Type	Material	Surface Treatment
(1) HNTT8	1.0301/C10 Equivalent	Trivalent Chromate
(2) HNTTV8	1.0301/C10 Equivalent	Trivalent Chromate
(3) HNTTZ8	1.0301/C10 Equivalent	Trivalent Chromate
(4) HNTTSN8*	1.4401/X5Cr5NiMo17-12-2 Equivalent (Sintering)	-
(5) HNTTSS8	1.4305/X10CrNiS18-9	-

Part Number	M	Unit Price				Volume Discount Rate			
		1-499 pcs.	500-749	750-999	1000-	500-749	750-999	1000-	
HNTT8 (1.0301/C10 Equivalent)	4 5 6 8								
HNTTV8 (Thread Locking · 1.0301/C10 Equivalent)	8								
HNTTZ8 (Thread Locking · 1.0301/C10 Equivalent)	8								
HNTTSN8 (1.4401/X5Cr5NiMo17-12-2 Equivalent · Sintering)	4 5 6 8								
HNTTSS8 (1.4305/X10CrNiS18-9)	8								

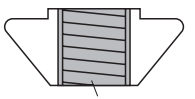
Order Example: Part Number **HNTT8** - M **8**

Days to Ship: **6 Days** P.87

*Bulk-packages are cost effective for in-house stock and large qty. uses. (P508)

Thread Locking Type

It is a Nut with Thread locker applied on the inside of tap. Reduce loosening caused by vibration at transportation or operation of equipment.
 Thread Locking Adhesive is ---- A microencapsulated anaerobic adhesive prevents thread loosening. Note that it requires a hardening time (72 hours at room temperature 25°C). The adhesive property is lost once loosened.
 Resin Coating ----- Resin is coated along the threads. Although the thread locking effect may be less than adhesive type, it can be used repeatedly without hardening time required.



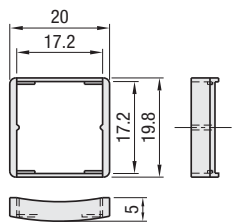
Effect of Thread Locker (Reference)

Loosening torque values are for reference. Difference may occur depending on the clearances between bolts and nuts.

Features	Loosening torque after tightening (1st time)	Remarks
Without Thread Locker	17.9N · m	-
Thread Locking Adhesive Type	25.6N · m	Test Conditions Measured value (HNTTV8-8) when a bolt is loosened after drying for 72 hours at room temperature (25 °C), after tightened at 23.5N · m.
Thread Locking Resin Coating Type	21.8N · m	Thread locking effect decreases after repeated use. 5th loosening torque: 20.3N · m Measurement at HNTTZ8-8

Pre-Assembly Insertion Stoppers **RoHS**

HNST8-45



*Pre-assy. insertion nut is held temporarily in the extrusion.
 •Nut does not fall off.

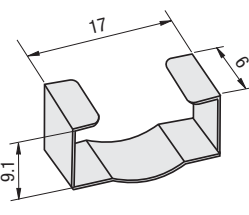
Part Number	Applicable Pre-Assembly Insertion Nuts	Color	€ Unit Price	Volume Discount Rate
HNST8-45	HNTT8 HNTTV8 HNTTZ8 HNTTSN8 HNTTSS8	Gray	1-499 pcs.	500-999 1000-

Order Example: Part Number **HNST8-45**

Days to Ship: **6 Days** P.87

Pre-Assembly Insertion Metal Stoppers **RoHS**

SHNST8



*Can also be used with Pre-Assembly Insertion Bolts.

Part Number	Applicable Pre-Assembly Insertion Nuts	€ Unit Price	Volume Discount Rate
SHNST8	HNTT8 HNTTV8 HNTTZ8 HNTTSN8 HNTTSS8	1-499 pcs.	500-999 1000-

Order Example: Part Number **SHNST8**

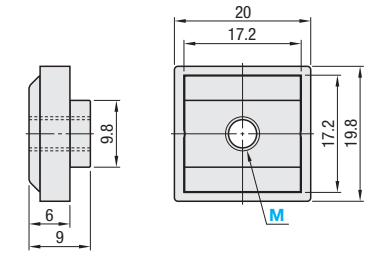
Days to Ship: **6 Days** P.87

Stopper Integrated Nuts **RoHS**

HNTE8-45



Material: Body: 1.0301/C10 Equivalent
 Stopper: Polyamide
 Surface Treatment: Trivalent Chromate



Reference Tightening Torque (N · m)	
M	1.0301/C10 Equivalent
8	23.5

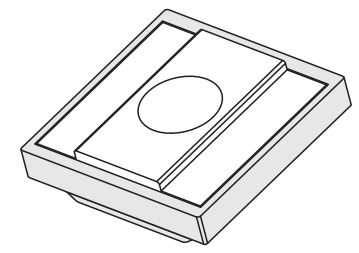
Part Number	M	Unit Price				Volume Discount Rate			
		1-499 pcs.	500-749	750-999	1000-	500-749	750-999	1000-	
HNTE8-45	4 5 6 8								

Order Example: Part Number **HNTE8-45** - M **8**

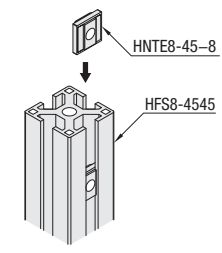
Days to Ship: **6 Days** P.87



Example



Integrated Pre-Assembly Insertion Nuts and Stoppers.



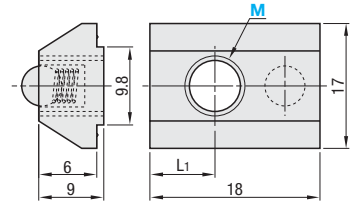
The nuts do not slip off even inserted into the vertically-placed extrusions.

Pre-Assembly Insertion Spring Nuts **RoHS**

HNTU8 (1.0301/C10)
HNTUV8 (Thread Locking Adhesive · 1.0301/C10 Equivalent)
HNTUZ8 (Thread Locking Resin Coating · 1.0301/C10 Equivalent)
SHNTU8 (1.4301/X5CrNi18-10)

Reference Tightening Torque (N · m)	
M	1.0301/C10 Equivalent · 1.4301/X5CrNi18-10 Equivalent (Sintering)
8	23.5

Type	Materials			
	Body	Ball	Springs	Surface Treatment
(1) HNTU8	1.0301/C10 Equivalent	1.4301/X5CrNi18-10	JIS SWP-A	Trivalent Chromate
(2) HNTUV8	1.0301/C10 Equivalent	1.4301/X5CrNi18-10	JIS SWP-A	Trivalent Chromate
(3) HNTUZ8	1.0301/C10 Equivalent	1.4301/X5CrNi18-10	JIS SWP-A	Trivalent Chromate
(4) SHNTU8	1.4301/X5CrNi18-10 Equivalent	1.4301/X5CrNi18-10	1.4301/X5CrNi18-10-WP8	-



Part Number	M	L1	Unit Price				Volume Discount Rate			
			1-499 pcs.	500-749	750-999	1000-	500-749	750-999	1000-	
HNTU8 (1.0301/C10 Equivalent)	4 5 6 8	6								
HNTUV8 (Thread Locking · 1.0301/C10 Equivalent)	8	6								
HNTUZ8 (Thread Locking · 1.0301/C10 Equivalent)	8	6								
SHNTU8 (1.4301/X5CrNi18-10 Equivalent)	4 5 6 8	5.5								

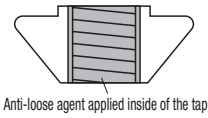
Order Example: Part Number **HNTU8** - M **8**

Days to Ship: **6 Days** P.87

*Bulk-packages are cost effective for in-house stock and large qty. uses. (P508)

Thread Locking Type

It is a Nut with Thread locker applied on the inside of tap. Reduce loosening caused by vibration at transportation or operation of equipment.
 Thread Locking Adhesive is ---- A microencapsulated anaerobic adhesive prevents thread loosening. Note that it requires a hardening time (72 hours at room temperature 25°C). The adhesive property is lost once loosened.
 Resin Coating ----- Resin is coated along the threads. Although the thread locking effect may be less than adhesive type, it can be used repeatedly without hardening time required.

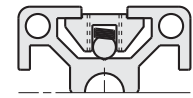


Example

Does not fall even if an extrusion is placed vertically.
 The built-in spring prevents slips. Moves easily in the slot when pressed slightly by hand.

Effect of Thread Locker (Reference)

Features	Loosening torque after tightening (1st time)	Remarks
Without Thread Locker	17.9N · m	-
Thread Locking Adhesive Type	25.6N · m	Test Conditions Measured value (HNTTV8-8) when a bolt is loosened after drying for 72 hours at room temperature (25 °C), after tightened at 23.5N · m.
Thread Locking Resin Coating Type	21.8N · m	Thread locking effect decreases after repeated use. 5th loosening torque: 20.3N · m Measurement at HNTTZ8-8





Hexagon Socket Head Cap Screws for Aluminum Frames -Single Item · Bulk-packages-

CAD Data

Features: Standard screws to connect various brackets for wide range of applications.

Hex Socket Head Cap Screws

Type	Material	Surface Treatment
CBM	1.7220	Carbon Steel Bright Chromate Plating
SCB	1.4567	-
HCMBTB	1.7220	Trivalent Chromate (Black)

CBM (Carbon Steel Bright Chromate)
 SCB (Stainless Steel)
 HCMBTB (Trivalent Chromate, Black)

RoHS

Not RoHS compliant

ℓ	Part Number	MxP	A	E	B	CBM		SCB			HCMBTB	
						€Unit Price	Volume Discount Rate	€Unit Price	Volume Discount Rate		€Unit Price	Volume Discount Rate
Full Thread	CBM 3 - 18	3x0.5	5.5	3	2.5							
	SCB 35											
	HCMBTB 45											
Full Thread	CBM 4 - 18	4x0.7	7	4	3							
	SCB 22											
	HCMBTB 45											
Full Thread	CBM 5 - 6	5x0.8	8.5	5	4							
	SCB 8											
	HCMBTB 10											
	14											
	18											
	22											
Full Thread	CBM 6 - 8	6x1.0	10	6	5							
	SCB 12											
	HCMBTB 14											
	15											
	16											
	18											
	20											
	30											
	60											
	80											
Full Thread	CBM 8 - 12	8x1.25	13	8	6							
	SCB 20											
	HCMBTB 18											
	20											
	22											
	25											
28												

For other spec., refer to P.174 and 176

Days to Ship **6 Days** P.87

Order Example Part Number **CBM6-8**

Example

Please use bolts of different length from regular applicable ones depending on conditions, such as washers for bracket loosening prevention.

Features: Screws with washers have optimum shank lengths for extrusion connections using brackets.

Spring Washer Assembled Screws

Screw	Material	Hardness	Strength Class
	Structural Alloy Steel	32-44HRC	10.9 JIS 0209 (6g)

Washer	Material	Hardness	Strength Class
	Spring Washer JIS B1251		
	Flat Washer JIS B1256		

Surface Treatment: Trivalent Chromate

RoHS

Part Number	Type	M - L	MxP	A	E	B	C	D	HCBST	
									€Unit Price	Volume Discount Rate
HCBST	5 - 12	5x0.8	8.5	5	4	8.5	10			
	16									
	6 - 15	6x1.0	10	6	5	11.5	12.5			
	20									
	25									
	8 - 20									
	24	8x1.25	13	8	6	14.5	17			
	29									

Days to Ship **6 Days** **2 Days** P.87

Order Example Part Number **HCBST6-15**

Surface Treatment: Black Oxide, Materials: For Spring Washer Assembled Hexagon Socket Head Cap Screws of stainless steel, refer to P.178

Features: Bulk-packages of Spring Washer Assembled Screw HCBST. Bulk-packages are cost-saving for in-house stock or large quantities.

Spring Washer Assembled Screws Bulk-packages (500pcs. per package)

Screw Fastening	Material	Hardness	Strength Class
	Structural Alloy Steel	32-44HRC	10.9 JIS 0209 (6g)

Washer	Material	Hardness	Strength Class
	Spring Washer JIS B1251		
	Flat Washer JIS B1256		

Surface Treatment: Trivalent Chromate

RoHS

Type	Part Number		MxP	A	E	B	C	D	€Package Price	Price per pc.
	M	M - L - SET1 (500pcs. per pkg.)								
HCBST	5	12	5x0.8	8.5	5	4	8.5	10		
	6	15								
	20	25								
	8	20								

Days to Ship **6 Days** P.87

Order Example Part Number **HCBST6-15-SET1**

List of Hexagon Socket Head Cap Screws with Captured Washers for each Bracket

Extrusions	Bracket	Hexagon Socket Head Cap Screws with Captured Washers	Bracket (With Female Thread Hole)	Hexagon Socket Head Cap Screws with Captured Washers	
HFS5 Series	HBLFSL5	Not applicable	HBLFSL5-C	Not applicable	
	HBLFSN5	HCBST5-12	HBLFSN5-C	HCBST5-12	
	HBLFSSW5	Not applicable	HBLFSSW5-C	Not applicable	
	HBLFSD5	HCBST5-12	HBLFSD5-C	HCBST5-12	
	HBLFUD5	HCBST5-16	HBLFUD5-C	HCBST5-16	
	HBLT_5	HCBST5-12	HBLT_5-C	HCBST5-12	
	HBLU_5	HCBST5-16	HBLU_5-C	HCBST5-16	
	HBL5_5	Not applicable	-	-	
	HBLF5NT5 (With Cover)	Not applicable	HBLF5NT5-C (With Cover)	Not applicable	
HFS6 Series	HBLFSL6	Not applicable	HBLFSL6-C	Not applicable	
	HBLFSN6	Not applicable	HBLFSN6-C	Not applicable	
	HBLFSS6	HCBST6-15	HBLFSS6-C	HCBST6-15	
	HBLFSSW6 (-50)	HCBST6-15	HBLFSSW6 (-50)-C	HCBST6-15	
	HBLFSD6	Not applicable	HBLFSD6-C	Not applicable	
	HBLFSD66	Not applicable	HBLFSD66-C	Not applicable	
	HBLSDW6 (-50)	HCBST6-15	HBLSDW6 (-50)-C	HCBST6-15	
	HBLFTD6 (-50)	HCBST6-20	HBLFTD6 (-50)-C	HCBST6-20	
	HBLFUD6 (-50)	HCBST6-25	HBLFUD6 (-50)-C	HCBST6-25	
	HBLT_6(-50)	HCBST6-20	HBLT_6-C(-50)	HCBST6-20	
	HBLU_6(-50)	HCBST6-25	HBLU_6-C(-50)	HCBST6-25	
	HBL5_6(-50)	Not applicable	-	-	
	HBLD_6 (Triangle)	Not applicable	-	-	
	HBLF5NT6 (With Cover)	Not applicable	HBLF5NT6-C (With Cover)	Not applicable	
	HFS8 Series	HBLF5N8 (-45)	HCBST8-24	HBLF5N8 (-45)-C	HCBST8-24
		HBLF5N8	HCBST8-24	HBLF5N8-C	HCBST8-24
		HBLF5SW8 (-45)	HCBST8-24	HBLF5SW8 (-45)-C	HCBST8-24
HBLF5SD8		HCBST8-24	HBLF5SD8-C	HCBST8-24	
HBLFTD8		HCBST8-24	HBLFTD8-C	HCBST8-24	
HBLFUD8		HCBST8-29	HBLFUD8-C	HCBST8-29	
HBLT_8(-45)		HCBST8-24	HBLT_8(-45)-C	HCBST8-24	
HBLU_8(-45)		HCBST8-29	HBLU_8(-45)-C	HCBST8-29	
HBL5_8(-45)		HCBST8-20	-	-	
HBLD5WT8 (-45) (Triangle)		Not applicable	-	-	
HBLF5NT8 (With Cover)	Not applicable	HBLF5NT8-C (With Cover)	Not applicable		

If not applicable, failures may occur such as bolt heads interfering with each other.

Screws for Aluminum Frames -Single Item · Bulk-packages-

Price Reduction
4% on average

CAD Data

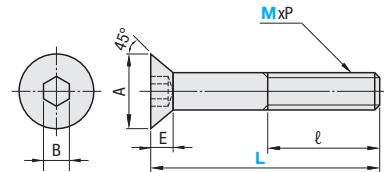
Features: Flathead screws for countersunk holes such as on hinges and etc.

Hexagon Socket Flat Head Screws

RoHS

Type	Material	Surface Treatment
HFBCM	1.7220/34CrMo4	Trivalent Chromate
SHFBS	1.4301/X5CrNi18-10 Equivalent	-
HFBMB	1.7220/34CrMo4	Trivalent Chromate (Black)

HFBCM (Trivalent Chromate)
SHFBS (Stainless Steel)
HFBMB (Trivalent Chromate (Black))



ℓ	Part Number	MxP	A	E	B	HFBCM		SHFBS		HFBMB	
						€ Unit Price	Volume Discount Rate	€ Unit Price	Volume Discount Rate	€ Unit Price	Volume Discount Rate
Full Thread	HFBCM 3 - 6	3x0.5	6	1.7	2						
	SHFBS 3 - 6										
	HFBMB 3 - 6										
Full Thread	HFBCM 4 - 8	4x0.7	8	2.3	2.5						
	SHFBS 4 - 8										
	HFBMB 4 - 8										
Full Thread	HFBCM 5 - 10	5x0.8	10	2.8	3						
	SHFBS 5 - 10										
	HFBMB 5 - 10										
Full Thread	HFBCM 6 - 12	6x1.0	12	3.3	4						
	SHFBS 6 - 12										
	HFBMB 6 - 12										
Full Thread	HFBCM 8 - 16	8x1.25	16	4.4	5						
	SHFBS 8 - 16										
	HFBMB 8 - 16										
Full Thread	HFBCM 10 - 20	10x1.5	20	5.5	6						
	SHFBS 10 - 20										
	HFBMB 10 - 20										
Full Thread	HFBCM 12 - 24	12x1.75	24	6.5	8						
	SHFBS 12 - 24										
	HFBMB 12 - 24										

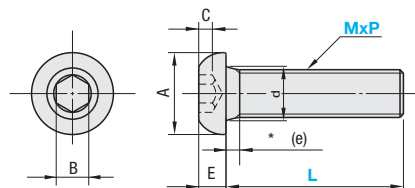
Features: Convenient screws for visible locations such as panel mounting.

Hexagon Socket Button Head Cap Screw

RoHS

Type	Material	Hardness	Surface Treatment
HBCBM	1.7220/34CrMo4	31HRC	Trivalent Chromate
SBCB	1.4567/X3CrNiCu18-9-4	-	-

HBCBM (Trivalent Chromate)
SBCB (Stainless Steel)



JIS B 1174

Part Number	Type	M	L	A	E	B	C (Min.)	d	(e) (Max.)	€ Unit Price				Days to Ship	6 Days P87	2 Days
										1 - 199 pcs.	200-299	300-499	500-			
HBCBM	5 - 10	9.5	2.75	3	1.56	5.7	1.6									
																6 - 20
	8 - 20	14	4.4	5	2.6	9.2	2.5									
														8 - 25	14	4.4
	8 - 35	21	6.6	8	4.16	14.2	5.25									
														SBCB	4 - 12	7.5
6 - 25	10.5	3.3	4	2.08	6.8	3										
														8 - 25	14	4.4
10 - 30	17.5	5.5	6	3.12	11.2	4.5										
													12 - 35	21	6.6	8

For other spec., refer to P.183

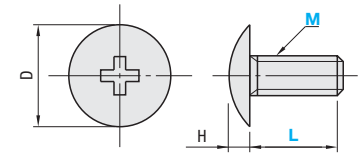
Features: Flathead screws for countersunk holes such as on hinges and etc.

Cross Recessed Truss Machine Screws

RoHS

Type	Material	Surface Treatment
HCBM	JIS STKM for Mechanical Structure	Carbon Steel Bright Chromate Plating
SHCBM	1.4301/X5CrNi18-10 Equivalent	-
HCBMB	JIS STKM for Mechanical Structure	Trivalent Chromate (Black)

HCBM (Carbon Steel Bright Chromate Plating)
SHCBM (Stainless Steel)
HCBMB (Trivalent Chromate (Black))



Not RoHS compliant

Part Number	Type	M	L	D	H	HCBM		SHCBM		HCBMB		Days to Ship	6 Days P87	2 Days
						€ Unit Price	Volume Discount Rate	€ Unit Price	Volume Discount Rate	€ Unit Price	Volume Discount Rate			
HCBM	3 - 6	6.9	1.9											
SHCBM	4 - 5	9.4	2.5											
HCBM	5 - 8	12	3.1											
SHCBM	10													
HCBMB	12													
HCBM	15													
SHCBM	30													
HCBMB	35													
HCBM	6 - 10	14	3.7											
SHCBM	12													
HCBMB	15													

Features: Bulk-packages of Hexagon Socket Flat Head Cap Screws · Cross Recessed Truss Machine Small Screws. Bulk-packages are cost effective for in-house stock or large quantity uses.

Hexagon Socket Flat Head Cap Screws / Cross Recessed Truss Machine Small Screw Bulk-packages (500pcs. per package)

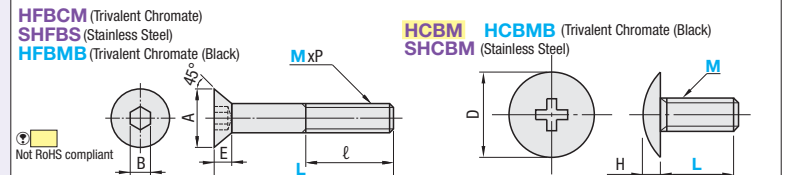
RoHS

Type	Material	Surface Treatment
Hexagon Socket Flat Head Cap Screws	HFBCM SHFBS HFBMB	1.7220/34CrMo4 1.4301/X5CrNi18-10 Equivalent 1.7220/34CrMo4
Cross Recessed Truss Machine Small Screws	HCBM SHCBM HCBMB	JIS STKM for Mechanical Structure 1.4301/X5CrNi18-10 Equivalent JIS STKM for Mechanical Structure



Hexagon Socket Flat Head Cap Screws Bulk-packages · Cross Recessed Truss Machine Small Screws Bulk-packages

Type	Material	Surface Treatment
Hexagon Socket Flat Head Cap Screws	HFBCM SHFBS HFBMB	1.7220/34CrMo4 1.4301/X5CrNi18-10 Equivalent 1.7220/34CrMo4
Cross Recessed Truss Machine Small Screws	HCBM SHCBM HCBMB	JIS STKM for Mechanical Structure 1.4301/X5CrNi18-10 Equivalent JIS STKM for Mechanical Structure



Not RoHS compliant

Hexagon Socket Flat Head Cap Screws

Type	M	L	SET / (500pcs. per pkg.)
HFBCM	3	6 8 10 12	SET1
	4	6 8 10 12	
	5	6 8 10 12 15 20	
SHFBS	5	35 40 45	SET1
	6	8 10 12 15 20	
	8	12 15 16 20	
HFBMB	10	16 18	SET1
	10	16 18	

Cross Recessed Truss Machine Screws


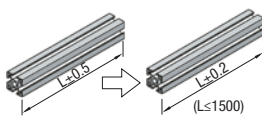
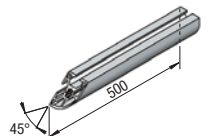
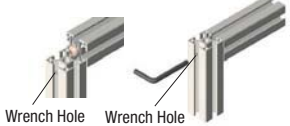
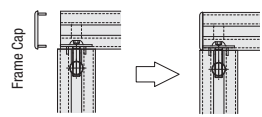
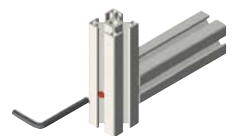
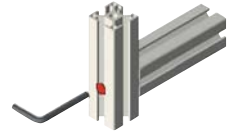
Type	M	L	SET / (500pcs. per pkg.)	D	H	
HCBM	3	6	SET1	6.9	1.9	
	4	5		9.4	2.5	
	5	8		12	3.1	
	6	10		14	3.7	
	SHCBM	3		6		
	HCBMB	4		5		

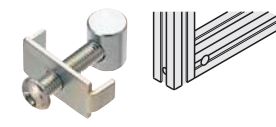
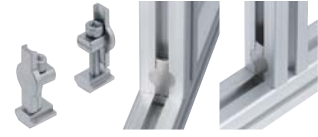
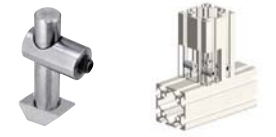

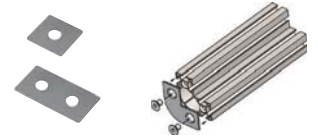
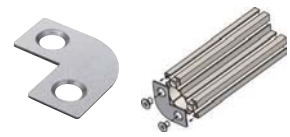
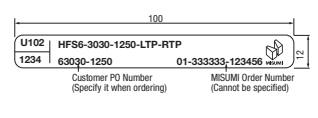
Price	Days to Ship	Order Example	Part Number
€	6 Days P87		HFBCM5-10-SET1

M-L	HCBM	SHCBM	HCBMB
M-L	Set of 500 pcs. (SET1)	Set of 500 pcs. (SET1)	Set of 500 pcs. (SET1)
3-6			
4-5			
8			
10			
12			
15			
20			
25			
30			
35			
40			
45			
50			
55			
60			
65			
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75			
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130			
135			
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165			
170			
175			
180			

Alterations for Aluminum Frames Outline

MISUMI Aluminum Extrusion products can be utilized for structure building with highly enhanced design flexibility when available alteration options are applied. Some alterations are not applicable depending on extrusion types and sizes. Check for the available alterations on each product page price lists. The hyphens (-) in the price lists denote the unavailable items.

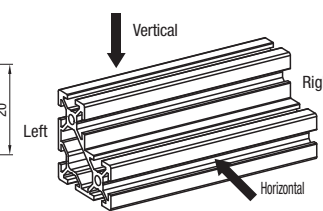
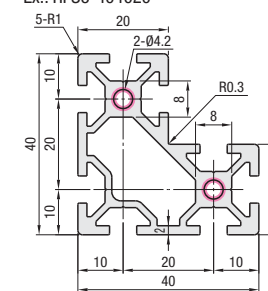
Type	Alterations	Page	Alteration Codes	Example	Contents
End Tapping	End Tapping	P647	LTP/RTP/TPW		Adds tapped holes on extrusion ends. Blind Joints which require this alteration - Screw Joints P628 - Simple Joint P633
Cutting Methods Change	High Precision Cut	P648	SC		Applies High Precision Cut with an overall length tolerance of L±0.2 (Standard=L±0.5). Ⓢ Only applicable to L≤1500
	45 Degree Cut	P648	LAT45/RAT45		Cuts with 45-degree angle.
Drill Wrench Hole	Wrench Hole in Fixed Position	P649	LWH/RWP		Wrench access hole(s) for Blind Joints are drilled. The hole location will be aligned with the mating extrusion's tapped hole location. Blind Joints which require this alteration - Screw Joints P628 - Single Joints P635 - Tapping Joints P627
	Extrusion End Caps Thickness Offset	P650	FL/FR		Offsets the wrench access hole for the thickness of Frame Cap (3mm). The cap will be flush with the adjacent extrusion surface.
	Wrench Hole in Specified Position	P651	AH/BH/AV/BV		Adds a wrench hole in a desired position from the left end. Use for Blind Jointing in beam sections.
Counterboring	Counterbores in Specified Position	P653	Z6/XA100		Adds a counterbored hole in a desired position from the left end. Can be used for connecting extrusions or installing tables etc.

Type	Alterations	Page	Alteration Codes	Example	Contents
Blind Joints Dedicated Holes	D type Hole	P654	LDH/RDV		Adds required holes for Single Joint connections. (Single Joints: Refer to P. 635)
	S type Hole	P655	LSH		Adds required holes for Pre-Assy. Insertion Double Joint connections. (Pre-Assy. Insertion Double Joint: Refer to P. 637)
	M type Hole	P656	LMH		Adds required holes for Post-Assy. Insertion Double Joints, Center Joint connections. (Post-Assy. Insertion Double Joints: Refer to P. 631)
	L type Hole	P657	JLP		Adds required holes for Parallel Joint connections. (Parallel Joints: Refer to P. 639)
Special Extrusions End Plates Alterations for mounting	GFS Series End Tapping	P658	LTS/RTS/TSW		Necessary alteration to use Ends Protection Plates for High Rigidity Aluminum Frames GFS series. (Refer to P552 · 590 · 624)
	HFSR End Tapping	P658	LTS/RTS/TSW		Necessary alteration to use Ends Protection Plates for HFSR series. (Refer to P. 510 · 552 · 590)
Labeling	Labeling	P658	ZZZ		Adds a sticker with catalog No. etc. on the aluminum extrusions. Although number of characters are limited, customer's own serial number or unit number can be labeled.

Standard of Extrusion Position and Indications

For some hole alterations, specifying of "Which end (L or R) to apply the alterations" and "Which direction (horizontal or vertical) to apply the alterations" will be required. Using our standard specifying method for orientation (as the product drawings facing you on product pages), then L · R and H · V are determined as shown below.

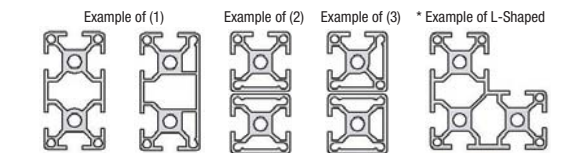
Ex.: HFS5-404020



Standard of Extrusion Position

Placement to determine right or left of extrusions is shown as follows.

- (1) On the vertical length
- (2) Flat side down
- (2) One flat side down and another flat side right



Ⓢ When the extrusion is on the vertical length and also has a flat side, (1) has the priority.

LR (Left and right of extrusions):

Place extrusions properly, then determine the right and left. Since most extrusion cross sections are symmetrical and can be used in any orientation. However, please specify the L · R parameters in your orders for administrative purposes.

Extrusions (1) with different alterations applied on left and right ends, and (2) with non-symmetrical cross sections are not reversible therefore the L · R specifications will become critically important.

HVP (Horizontal / Vertical / Cross):

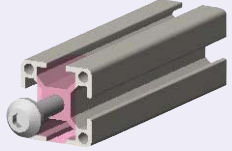
Specify the hole alterations with the extrusion properly oriented, and according to the connection method with the mating extrusion.

Tapping

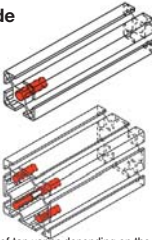
Blind Joints which require this alteration

Screw Joints →P628 Simple Joint →P633

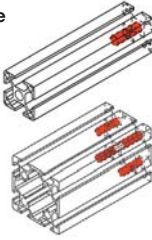
Adds tapped holes on extrusion ends.



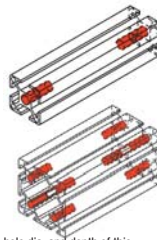
Left Side
LTP



Right Side
RTP



Both Sides
TPW



The number of tap varies depending on the extrusion type (the number of pilot hole for tapping in the end). See each product page for the tapping positions.

For specifying tapping hole dia. and depth of this alteration, check for the list of alteration fees.

Check for the applicable extrusions and the alteration fees in the below table. Indicated with "-" in the table are not applicable.

Alterations					Tapping				
Extrusions	Features	Type	No.	Page	Tap Shapes	End Tapping			
						No. of Female Thread Holes (Per End)	Left	Right	Both
HFSS Series 20, 25, 40mm Square	Four-Side Slots	HFS5 CAF5 HFSY5	2020	P.477	M5 Depth 15	1			
			2040	P.478		2			
			2060	P.479		3			
			2080	P.479		4			
			2525	P.479		4			
	Three-Side Slots One Flat	HFSF5	2020	P.477	M8 Depth 24	1			
			2040	P.478		2			
			2060	P.478		3			
			2080	P.478		4			
			2520	P.477		4			
	Two Slots on Opposite Sides	HFSH5	2020	P.477	M5 Depth 15	1			
			2040	P.478		2			
			2060	P.478		3			
			2080	P.478		4			
			2520	P.477		4			
Slot Width 6mm	HFS30A5 HFS45A5 HFS60A5	2020	P.480	M4 Depth 12	1				
		2040	P.480		2				
		2060	P.480		3				
		2080	P.480		4				
		2520	P.477		4				
Black Anodize	HFSB5	2020	P.477	M8 Depth 24	1				
		2040	P.478		2				
		2060	P.478		3				
		2080	P.478		4				
		2520	P.479		4				
Curved	HFSR5	2020	P.480	M5 Depth 15	1				
		2040	P.480		2				
		2060	P.480		3				
		2080	P.480		4				
		2520	P.477		4				

Alterations					Tapping				
Extrusions	Features	Type	No.	Page	Tap Shapes	End Tapping			
						No. of Female Thread Holes (Per End)	Left	Right	Both
HFSS Series 40, 80mm square	Four-Side Slots	HFS5 CAF5 HFSY5	4040	P.553	M12 Depth 36	1			
			4060	P.555		2			
			4080	P.558		3			
			40160	P.558		4			
			8080	P.557		4			
	Three-Side Slots One Flat	HFSF5	4040	P.554	M8 Depth 24	1			
			4060	P.556		2			
			4080	P.556		3			
			40160	P.556		4			
			8080	P.557		4			
	Two Slots on Opposite Sides	HFSH5	4040	P.554	M12 Depth 36	1			
			4060	P.556		2			
			4080	P.556		3			
			40160	P.556		4			
			8080	P.557		4			
One-Side Slot Three Flats	HFSC5	4040	P.554	M8 Depth 24	1				
		4060	P.553		2				
		4080	P.555		3				
		40160	P.555		4				
		8080	P.557		4				
Light Type	HFSL5	4040	P.553	M12 Depth 36	1				
		4060	P.559		2				
		4080	P.559		3				
		40160	P.559		4				
		8080	P.559		4				
Angled	HFS30A8 HFS45A8 HFS60A8	4040	P.553	M8 Depth 24	1				
		4060	P.555		2				
		4080	P.555		3				
		40160	P.558		4				
		8080	P.557		4				
Black Anodize	HFSB5	4040	P.553	M12 Depth 36	1				
		4060	P.555		2				
		4080	P.555		3				
		40160	P.558		4				
		8080	P.557		4				
Curved	HFSR5	4040	P.553	M10 Depth 30	1				
		4060	P.555		2				
		4080	P.555		3				
		40160	P.555		4				
		8080	P.556		4				

For * marked GFS series, tapping diameter is M12 Depth 36.

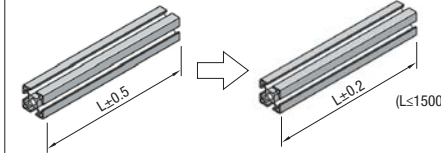
Extrusion Cut

-45 Degree Cuts - High Precision Cuts-



High Precision Cut SC

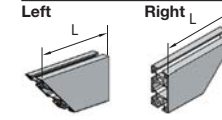
Changes the tolerance of the full length L from L±0.5 to L±0.2.
Applicable to L dimension 1500 or less only



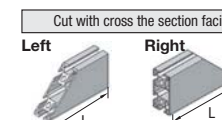
45 Degree Cut

L.T45: Adds a 45 degree cut on the left end in the specified direction.
R.T45: Adds a 45 degree cut on the right end in the specified direction.

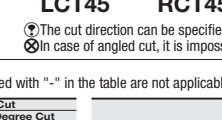
Cut with cross the section facing down



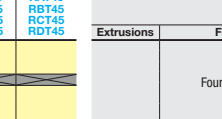
LAT45



RAT45

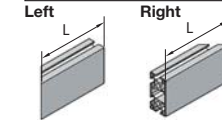


LCT45

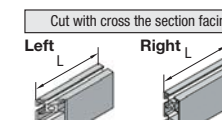


RCT45

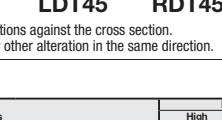
Cut with cross the section facing back



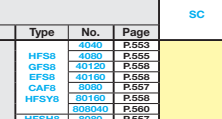
LBT45



RBT45



LDT45



RD45

The cut direction can be specified as four directions against the cross section.

In case of angled cut, it is impossible to specify other alteration in the same direction.

Check for the applicable extrusions and the alteration fees in the below table. Indicated with "-" in the table are not applicable.

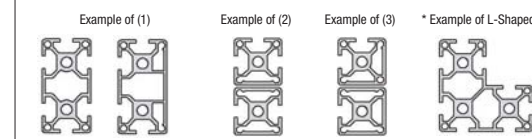
Alterations					Extrusion Cut				
Extrusions	Features	Type	No.	Page	Tap Shapes	45 Degree Cut			
						High Precision Cut SC	Left	Right	Both
HFSS Series 20, 25, 40mm Square	Four-Side Slots	HFS5 CAF5 HFSY5	2020	P.477	M5 Depth 15				
			2040	P.478					
			2060	P.479					
			2080	P.479					
			2525	P.479					
	Three-Side Slots One Flat	HFSF5	2020	P.477	M8 Depth 24				
			2040	P.478					
			2060	P.478					
			2080	P.478					
			2520	P.477					
	Two Slots on Opposite Sides	HFSH5	2020	P.477	M5 Depth 15				
			2040	P.478					
			2060	P.478					
			2080	P.478					
			2520	P.477					
Slot Width 6mm	HFS30A5 HFS45A5 HFS60A5	2020	P.480	M4 Depth 12					
		2040	P.480						
		2060	P.480						
		2080	P.480						
		2520	P.477						
Black Anodize	HFSB5	2020	P.477	M8 Depth 24					
		2040	P.478						
		2060	P.478						
		2080	P.478						
		2520	P.479						
Curved	HFSR5	2020	P.480	M5 Depth 15					
		2040	P.480						
		2060	P.480						
		2080	P.480						
		2520	P.477						

Alterations					Extrusion Cut				
Extrusions	Features	Type	No.	Page	Tap Shapes	45 Degree Cut			
						High Precision Cut SC	Left	Right	Both
HFSS Series 40, 80mm square	Four-Side Slots	HFS5 CAF5 HFSY5	4040	P.553	M12 Depth 36				
			4060	P.555					
			4080	P.558					
			40160	P.558					
			8080	P.557					
	Three-Side Slots One Flat	HFSF5	4040	P.554	M8 Depth 24				
			4060	P.556					
			4080	P.556					
			40160	P.556					
			8080	P.557					
	Two Slots on Opposite Sides	HFSH5	4040	P.554	M12 Depth 36				
			4060	P.556					
			4080	P.556					
			40160	P.556					
			8080	P.557					
One-Side Slot Three Flats	HFSC5	4040	P.554	M8 Depth 24					
		4060	P.553						
		4080	P.555						
		40160	P.555						
		8080	P.557						
Light Type	HFSL5	4040	P.553	M12 Depth 36					
		4060	P.559						
		4080	P.559						
		40160	P.559						
		8080	P.559						
Angled	HFS30A8 HFS45A8 HFS60A8	4040	P.553	M8 Depth 24					
		4060	P.555						
		4080	P.555						
		40160	P.558						
		8080	P.557						
Black Anodize	HFSB5	4040	P.553	M12 Depth 36					
		4060	P.555						
		4080	P.555						
		40160	P.558						
		8080	P.557						
Curved	HFSR5	4040	P.553	M10 Depth 30					
		4060	P.555						
		4080	P.555						
		40160	P.555						
		8080	P.556						

Order Example Part Number HFS8 - 4040 - 600 - SC HFS5 - 2020 - 1000 - LAT45 - RBT45 Days to Ship 7 Days

Standard of Extrusion Position

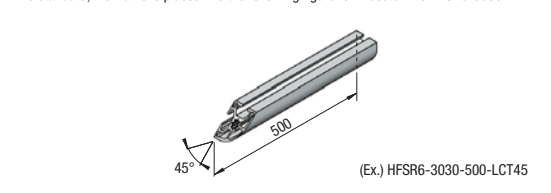
Placing method of the extrusion, which is a basis to determine right and left is shown as follows.
(1) On the vertical length
(2) Flat side down
(3) One flat side down and another flat side right



When the extrusion is on the vertical length and also has a flat side, (1) has the priority.

Notes for 45 Degree Cut of HFSR Series.

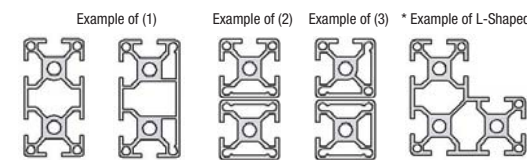
As standard, the frame is placed like the following figure for R sector like HFSR6-3030.



When the extrusion is on the vertical length and also has a flat side, (1) has the priority.

Standard of Extrusion Position

Placement to determine right or left of extrusions is shown as follows.
(1) On the vertical length
(2) Flat side down
(3) One flat side down and another flat side right



When the extrusion is on the vertical length and also has a flat side, (1) has the priority.

D hole - S hole - M hole - Notes for Combination Use of Tapping Hole.

When D, S, M holes are specified in the same direction as the tapped holes, the tap depths will be changed to avoid interferences with D, S, and M holes.

Extrusions (Series)	Standard Tap Depth	Tap depth when D type hole and S type hole are specified	Tap depth when M type hole is specified
HFSS 20, 40mm Square	15mm	-	6mm
HFSS 25mm Square	24mm	-	-
HFS6 30, 50, 60, 100mm square	36mm	9mm	9mm
HFS8 40mm Square	36mm		

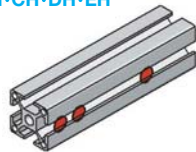
Location Specified Wrench Access Hole Alterations

Blind Joints which require this alteration

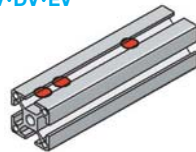
Screw Joints → P. 628
Single Joint → P. 635
Tapping Joints → P. 627

Adds drilled holes for Blind Joint (mainly for beams) connections at specified locations.

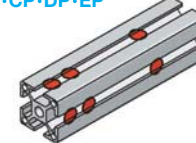
Horizontal
AH·BH·CH·DH·EH



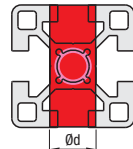
Vertical
AV·BV·CV·DV·EV



Cross (Horizontal+Vertical)
AP·BP·CP·DP·EP



Cross Section View



Alteration Code Specifying Method

Alteration Code: Specify in 0.5mm increments (from Left End)	Extrusion Series	Ød
5 Series	5 Series	Ø7.35
6 Series	6 Series	Ø8
7 Series	7 Series	
8-45 Series	8-45 Series	

AH·BH·CH·DH·EH (Horizontal)
AV·BV·CV·DV·EV (Vertical)
AP·BP·CP·DP·EP (Crisscross)

For additional explanations on various options, see Alterations Overview (P.645).
Up to 5 locations in Vertical, Horizontal, and Cross directions can be specified.

Alteration Code Example

Horizontal			Vertical			Cross		
AH (1 Location Horizontal)	AH BH (2 Locations Horizontal)	AH BH CH (3 Locations Horizontal)	AV (1 Location Vertical)	AV BV (2 Locations Vertical)	AV BV CV (3 Locations Vertical)	AP (1 Location Horizontal)	AP BP (2 Locations Horizontal)	AP BP CP (3 Locations Horizontal)

Order Example Part Number **HFS6-3030-300-AH30-BH280-AV100-BV280**

Days to Ship **8 Days**

Check for the applicable extrusions and the alteration fees in the below table. Indicated with "-" in the table are not applicable.

Extrusions	Features	Type	No.	Page	Wrench Hole Dia.	Wrench Hole in Specified Position		
						Horizontally	Vertically	Crisscross
HFS5 Series 20,25,40 mm Square Slot Width 6mm	Four-Side Slots	HFS5 CAF5 HFSY5	2020	P.477	Ø7.35			
			2040	P.478				
			2060	P.479				
			2080	P.479				
			2525	P.479				
			2550	P.479				
			4040	P.478				
			4060	P.479				
			4080	P.479				
			404020	P.480				
	Three-Side Slots One Flat	HFSF5	2020	P.477				
			2040	P.478				
			2060	P.478				
			2080	P.478				
			2520	P.477				
			2540	P.478				
			2560	P.477				
			2580	P.477				
			2600	P.477				
			2620	P.477				
Two Slots on Opposite Sides	HFSH5	2020	P.477					
		2040	P.478					
		2060	P.478					
		2080	P.478					
		2520	P.477					
		2540	P.478					
		2560	P.479					
		2580	P.479					
		2600	P.478					
		2620	P.478					
One-Side Slot Three Flats	HFSC5	2020	P.477					
		2040	P.478					
		2060	P.478					
		2080	P.478					
		2520	P.477					
		2540	P.478					
		2560	P.479					
		2580	P.479					
		2600	P.478					
		2620	P.478					
Angled	HFS30A5 HFS45A5 HFS60A5	20	P.480					
		2020	P.477					
		2040	P.478					
		2525	P.479					
		2550	P.479					
		4040	P.478					
		4060	P.478					
		4080	P.478					
		2020	P.477					
		2040	P.478					
Black Anodize	HFSB5 HFSFB5 HFSTB5	2020	P.477					
		2040	P.478					
		2525	P.479					
		2550	P.479					
		4040	P.478					
		4060	P.478					
		4080	P.478					
		2020	P.477					
		2040	P.478					
		2020	P.477					
2040	P.478							
Curved	HFSR5	404020	P.480					
		2020	P.477					
		2040	P.478					
		2060	P.479					
		2080	P.479					
		2520	P.477					
		2540	P.478					
		2560	P.479					
		2580	P.479					
		2600	P.478					

Check for the applicable extrusions and the alteration fees in the below table. Indicated with "-" in the table are not applicable.

Extrusions	Features	Type	No.	Page	Wrench Hole Dia.	Wrench Hole in Specified Position		
						Horizontally	Vertically	Crisscross
HFS6 Series 30,50,60,100mm Square Slot width 8mm	Four-Side Slots	HFS6 GFS6 EFS6 CAF6 HFSY6	3030	P.511	Ø8			
			3060	P.513				
			3090	P.516				
			30120	P.516				
			5050	P.519				
			50100	P.519				
			100100	P.519				
			6060	P.515				
			6090	P.517				
			60120	P.517				
	606030	P.518						
	Three-Side Slots One Flat	HFSF6 EFSF6	3030	P.512				
			3060	P.512				
			3090	P.514				
			5050	P.519				
			50100	P.519				
			6060	P.515				
			6090	P.512				
			3060	P.514				
			3090	P.514				
5050			P.519					
Two Slots on Opposite Sides	HFSH6 EFSH6	3030	P.512					
		3060	P.512					
		3090	P.514					
		5050	P.519					
		50100	P.519					
		6060	P.515					
		6090	P.512					
		3060	P.514					
		3090	P.514					
		5050	P.519					
Light Type	HFSL6	3030	P.511					
		3060	P.513					
		3090	P.513					
		5050	P.519					
		50100	P.519					
		6060	P.515					
		6090	P.512					
		3060	P.514					
		3090	P.514					
		5050	P.519					
Heavy Type	HFSG6 HFS30A6 HFS45A6 HFS60A6	30	P.518					
		3030	P.511					
		3060	P.513					
		3090	P.513					
		5050	P.519					
		50100	P.519					
		6060	P.515					
		6090	P.512					
		3060	P.514					
		3090	P.514					
Angled	HFS30A6 HFS45A6 HFS60A6	40	P.559					
		4040	P.553					
		4080	P.555					
		40120	P.558					
		40160	P.558					
		8080	P.557					
		80160	P.556					
		808040	P.560					
		8080	P.557					
		4040	P.554					
Four-Side Slots	HFS8 GFS8 EFS8 CAF8 HFSY8	4040	P.553					
		4080	P.555					
		40120	P.558					
		40160	P.558					
		8080	P.557					
		80160	P.556					
		808040	P.560					
		8080	P.557					
		4040	P.554					
		4080	P.554					
Three-Side Slots One Flat	HFSF8 EFSF8	4040	P.554					
		4080	P.556					
		40120	P.558					
		40160	P.558					
		8080	P.557					
		80160	P.556					
		808040	P.560					
		8080	P.557					
		4040	P.554					
		4080	P.554					
Two Slots on Opposite Sides	HFSH8 EFSH8	4040	P.554					
		4080	P.556					
		40120	P.558					
		40160	P.558					
		8080	P.557					
		80160	P.556					
		808040	P.560					
		8080	P.557					
		4040	P.554					
		4080	P.554					
One-Side Slot Three Flats	HFSC8 EFS8	4040	P.554					
		4080	P.556					
		40120	P.558					
		40160	P.558					
		8080	P.557					
		80160	P.556					
		808040	P.560					
		8080	P.557					
		4040	P.554					
		4080	P.554					
Light Type	HFSL8	4040	P.553					
		4080	P.555					
		40120	P.558					
		40160	P.558					
		8080	P.557					
		80160	P.556					
		808040	P.560					
		8080	P.557					
		4040	P.554					
		4080	P.554					
Angled	HFS30A8 HFS45A8 HFS60A8	40	P.559					
		4040	P.553					
		4080	P.555					
		40120	P.558					
		40160	P.558					
		8080	P.557					
		80160	P.556					
		808040	P.560					
		8080	P.557					
		4040	P.554					
4080	P.554							
Four-Side Slots	HFS8 GFS8 EFS8 CAF8	4545	P.591					
		4590	P.594					
		45180	P.595					
		5050	P.597					
		50100	P.598					
		6060	P.599					
		6090	P.595					
		90180	P.595					
		90180	P.595					
		909045	P.596					
100100	P.598							
100200	P.598							
Three-Side Slots One Flat	HFSF8 GFSF8 EFSF8	4545	P.591					
		4590	P.594					
		45180	P.595					
		5050	P.597					
		50100	P.598					
		6060	P.599					
		6090	P.595					
		90180	P.595					
		90180	P.595					
		909045	P.596					
Two Slots on Opposite Sides	HFSH8 EFSH8	4545	P.593					
		4590	P.597					
		45180	P.595					
		5050	P.597					
		50100	P.598					
		6060	P.599					
		6090	P.595					
		90180	P.595					
		90180	P.595					
		909						

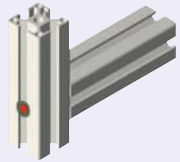
Counterbore Hole in Specified Position

D Type Hole Alteration

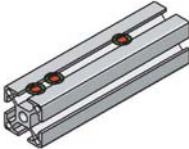
Blind Joints which require this alteration

Single Joint
→ P.635

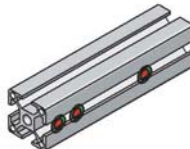
Counterbores useable for various purposes are added at customer specified locations.



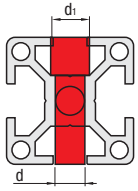
Top to Bottom (Vertical)
XA XB XC XD XE



Right to Left (Horizontal)
YA YB YC YD YE



Cross Section View



Counterbore is added on every slot for multiple slotted extrusions.

Alteration Code Specifying Method

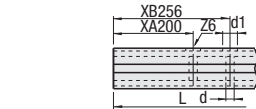
As for the Counterbore, it is possible to select one type of hole diameter in Z selection and specify up to five holes in one direction.
Specify the desired hole position from the left end.

Alterations	Counterboring				
	Code	Z Selection	d	d1	Distance from the Left End (0.5mm Increment)
Counterbores and Locations Specifying	HFS5	5	5.5	9.5	
	HFS6	6	6.5	11	7-L-7
	GF56	8	9	14	
	HFS8 (45)	6	6.5	11	
	GF58	8	9	14	10-L-10
		12	13	9	

Check for the applicable extrusions and the alteration fees in the below table. Indicated with "*" in the table are not applicable.

Extrusions	Features	Type	No.	Page	Counter-bored	Counterbores in Specified Position	
						From top to bottom	From right to left
HFS5 Series .20, .25, .40 mm Square Slot Width 6mm	Four-Side Slots	HFS5 CAF5 HFSY5	20, 20	P.477	z6 d6.5 d1.11		
			20, 40	P.478			
			20, 60	P.479			
			20, 80	P.479			
	Three-Side Slots One Flat	HFSF5	20, 20	P.477			
			20, 40	P.478			
			20, 60	P.477			
			20, 80	P.479			
	Two-Side Slots Two Flats	HFST5	20, 20	P.477			
			20, 40	P.478			
			20, 60	P.477			
			20, 80	P.479			
Two Slots on Opposite Sides One-Side Slot Three Flats	HFSH5	20, 20	P.477				
		20, 40	P.478				
		20, 60	P.477				
		20, 80	P.479				
Angled	HFS45A5 HFS60A5	20	P.480				
		20, 20	P.477				
		20, 40	P.478				
		20, 60	P.479				
Black Anodize	HFSB5	20, 20	P.477				
		20, 40	P.478				
		20, 60	P.477				
		20, 80	P.479				
Curved	HFSR5	40, 40, 20	P.4, 80				
		30, 30	P.511				
		30, 60	P.513				
		30, 90	P.516				
HFS6 Series 30, 50, 60, 100mm Square Slot width 8mm	Four-Side Slots	HFS6 GF6 EFS6 CAF6 HFSY6	30, 30	P.511	z6 d6.5 d1.11		
			30, 60	P.516			
			30, 90	P.518			
			30, 120	P.519			
	Three-Side Slots One Flat	HFSF6	30, 30	P.512			
			30, 60	P.514			
			30, 90	P.512			
			30, 120	P.515			
	Two-Side Slots Two Flats	HFST6	30, 30	P.512			
			30, 60	P.519			
			30, 90	P.515			
			30, 120	P.517			
Two Slots on Opposite Sides One-Side Slot Three Flats	HFSH6	30, 30	P.512				
		30, 60	P.514				
		30, 90	P.512				
		30, 120	P.519				
Light Type	HFSL6	30, 30	P.511				
		30, 60	P.513				
		30, 90	P.519				
		30, 120	P.518				
Heavy Type	HFSG6	60, 60	P.515				
		60, 90	P.518				
		60, 120	P.518				
		60, 150	P.518				
Angled	HFS30A6 HFS45A6 HFS60A6	30	P.518				
		30, 30	P.511				
		30, 60	P.513				
		30, 90	P.518				
Black Anodize	HFSB6 EFSB6	30, 30	P.512				
		30, 60	P.519				
		30, 90	P.515				
		30, 120	P.512				
Curved	HFSR6	60, 60, 30	P.518				
		30, 30	P.511				
		30, 60	P.513				
		30, 90	P.516				

Order Example: **Part Number**
HFS6-3030-500-Z6-XA200-XB256

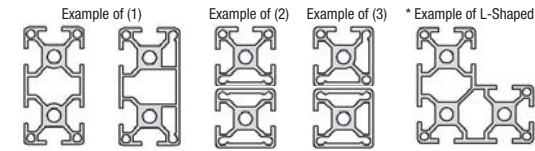


Days to Ship: **8 Days**

Extrusions	Features	Type	No.	Page	Counter-bored	Counterbores in Specified Position	
						From top to bottom	From right to left
HFS8 Series 40, 80mm square Slot width 10mm	Four-Side Slots	HFS8 GF8 EFS8 CAF8 HFSY8	40, 40	P.553	z6 d6.5 d1.11		
			40, 80	P.555			
			40, 120	P.558			
			40, 160	P.557			
	Three-Side Slots One Flat	HFSF8	40, 40	P.554			
			40, 80	P.556			
			40, 120	P.557			
			40, 160	P.558			
	Two-Side Slots Two Flats	HFST8	40, 40	P.554			
			40, 80	P.556			
			40, 120	P.557			
			40, 160	P.558			
Two Slots on Opposite Sides	HFSH8	40, 40	P.554				
		40, 80	P.556				
		40, 120	P.557				
		40, 160	P.558				
One-Side Slot Three Flats	HFSH8	40, 40	P.554				
		40, 80	P.556				
		40, 120	P.557				
		40, 160	P.558				
Light Type	HFSL8	40, 40	P.553				
		40, 80	P.559				
		40, 120	P.559				
		40, 160	P.559				
Angled	HFS40A8 HFS45A8 HFS60A8	40	P.559				
		40, 40	P.553				
		40, 80	P.557				
		40, 120	P.558				
Black Anodize	HFSB8 EFSB8	40, 40	P.553				
		40, 80	P.557				
		40, 120	P.557				
		40, 160	P.558				
Curved	HFSR8	80, 80, 40	P.560				
		40, 40	P.560				
		40, 80	P.560				
		40, 120	P.560				
HFS8-45 Series HFS8-50 Series HFS8-60 Series 40, 50, 60, 90, 100mm Square Slot width 10mm	Four-Side Slots	HFS8 GF8 EFS8 CAF8	40, 40	P.597	z6 d6.5 d1.11		
			40, 80	P.599			
			40, 120	P.599			
			40, 160	P.599			
	Three-Side Slots One Flat	HFSF8	40, 40	P.594			
			40, 80	P.597			
			40, 120	P.597			
			40, 160	P.599			
	Two-Side Slots Two Flats	HFST8	40, 40	P.593			
			40, 80	P.597			
			40, 120	P.597			
			40, 160	P.599			
Two Slots on Opposite Sides	HFSH8	40, 40	P.593				
		40, 80	P.597				
		40, 120	P.597				
		40, 160	P.599				
One-Side Slot Three Flats	HFSH8	40, 40	P.593				
		40, 80	P.597				
		40, 120	P.597				
		40, 160	P.599				
Light Type	HFSL8	40, 40	P.591				
		40, 80	P.594				
		40, 120	P.592				
		40, 160	P.592				
Angled	HFS30A8 HFS45A8 HFS60A8	40	P.592				
		40, 40	P.593				
		40, 80	P.593				
		40, 120	P.596				
Black Anodize	HFSB8 EFSB8	40, 40	P.596				
		40, 80	P.591				
		40, 120	P.595				
		40, 160	P.597				
Curved	HFSR8	80, 80, 40	P.596				
		40, 40	P.591				
		40, 80	P.594				
		40, 120	P.594				

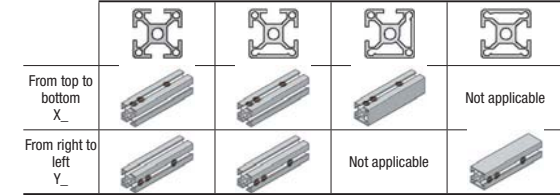
Standard of Extrusion Position

Placing method of the extrusion, which is a basis to determine right and left is shown as follows.
(1) On the vertical length
(2) Flat side down
(3) One flat side down and another flat side right

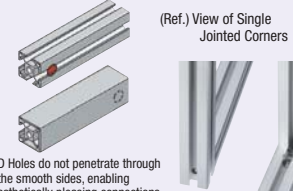


Notes on Flat Sided Extrusions

Counterbores cannot be made from smooth extrusion sides, but can be made from slotted sides through the smooth sides



Adds D Holes for Single Joint connections.



D Holes do not penetrate through the smooth sides, enabling esthetically pleasing connections.

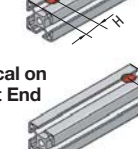
Horizontal on Left End
LDH



Horizontal on Right End
RDH



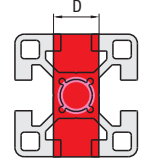
Vertical on Left End
LDV



Vertical on Right End
RDV



Cross Section View



Position and Size of Hole

Extrusion Series	H (mm)	D type Hole ØD (mm)
HFS6	15	11.1
HFS8	20	13.1
HFS8-45	22.5	15.1

Order Example: **Part Number**
HFS6-3030-2000-LDH-RDH

Days to Ship: **7 Days**

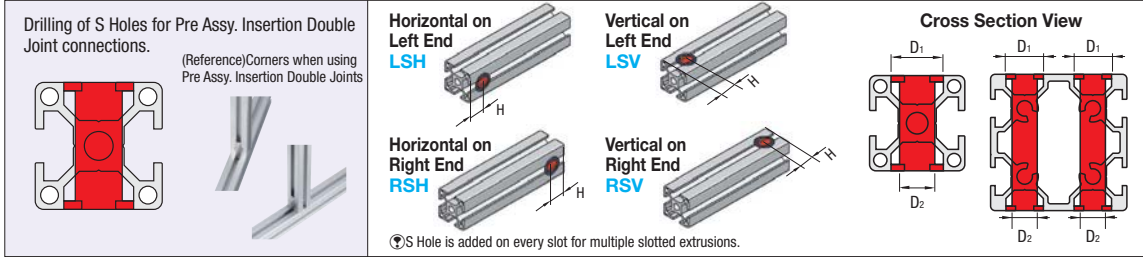
Check for the applicable extrusions and the alteration fees in the below table. Indicated with "*" in the table are not applicable.

Extrusions	Features	Code	Type	No.	Page	D Hole Dia.	D type Hole			
							Left Side	Right Side	Left Side	Right Side
HFS6 Series 30 50 60 100mm square Slot width 8mm	Four-Side Slots	HFS6 GF6 EFS6 CAF6 HFSY6	30, 30	P.511	D11.1					
			30, 60	P.516						
			30, 90	P.518						
			30, 120	P.519						
	Three-Side Slots One Flat	HFSF6	30, 30	P.512						
			30, 60	P.514						
			30, 90	P.512						
			30, 120	P.515						
	Two-Side Slots Two Flats	HFST6	30, 30	P.512						
			30, 60	P.519						
			30, 90	P.515						
			30, 120	P.517						
Two Slots on Opposite Sides	HFSH6	30, 30	P.512							
		30, 60	P.514							
		30, 90	P.512							
		30, 120	P.519							
One-Side Slot Three Flats	HFSH6	30, 30	P.512							
		30, 60	P.514							
		30, 90	P.512							
		30, 120	P.519							
Light Type	HFSL6	30, 30	P.511							
		30, 60	P.513							
		30, 90	P.519							
		30, 120	P.518							
Heavy Type	HFSG6	60, 60	P.515							
		60, 90	P.518							
		60, 120	P.518							
		60, 150	P.518							
Angled	HFS30A6 HFS45A6 HFS60A6	30	P.518							
		30, 30	P.511							
		30, 60	P.513							
		30, 90	P.518							
Black Anodize	HFSB6 EFSB6	30, 30	P.512							
		30, 60	P.519							
		30, 90	P.515							
		30, 120	P.512							
Curved	HFSR6	60, 60, 30	P.518							
		30, 30	P.511							
		30, 60	P.513							
		30, 90	P.516							
HFS8 Series .										

S Type Hole Alteration

Blind Joints which require this alteration

Pre-Assembly Insertion Double Joint
→P637



Extrusion Series	H (mm)	S type Hole	
		ØD1 (mm)	ØD2 (mm)
HFS6	15	16.5	11.1
HFS8	20	20	13.1
HFS8-45	22.5	20	15.1

Pre-Assembly Insertion Double Joint Drilling

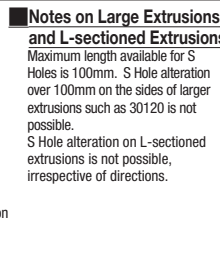
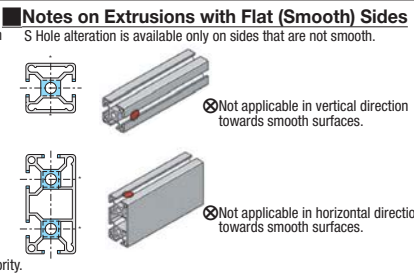
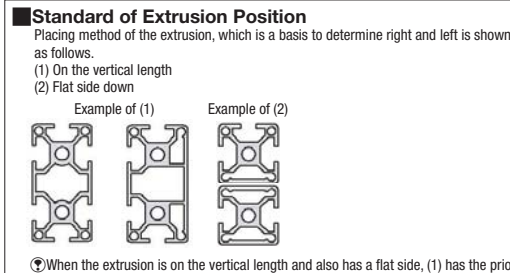
Order Example Part Number
HFS6-3030-2000-LSH-RSV

Days to Ship **7 Days**

Check for the applicable extrusions and the alteration fees in the below table. Indicated with "*" in the table are not applicable.

Extrusions	Features	Type	No.	Page	S Hole Dia.	S type Hole			
						Left Side		Right Side	
						Horizontally	Vertically	Horizontally	Vertically
HFS6 Series	Four-Side Slots	HFS6, GFS6, EFS6, CAF6, HFSY6	3030	P.511	D1Ø16.5 D2Ø11.1				
			3060	P.513					
			3090	P.516					
			30120	P.516					
			5050	P.519					
			50100	P.519					
			100100	P.519					
			6060	P.515					
			6090	P.517					
			80120	P.517					
			808030	P.518					
			3030	P.512					
			3060	P.514					
			3090	P.519					
			6060	P.515					
HFS8 Series	Four-Side Slots	HFS8, GFS8, EFS8, CAF8, HFSY8	4040	P.513	D1Ø20 D2Ø15.1				
			4080	P.515					
			40120	P.558					
			40160	P.558					
			8080	P.557					
			80160	P.558					
			80180	P.558					
			808040	P.560					
			8080	P.557					
			8080	P.557					
			8080	P.557					
			4040	P.513					
			4080	P.515					
			6060	P.515					

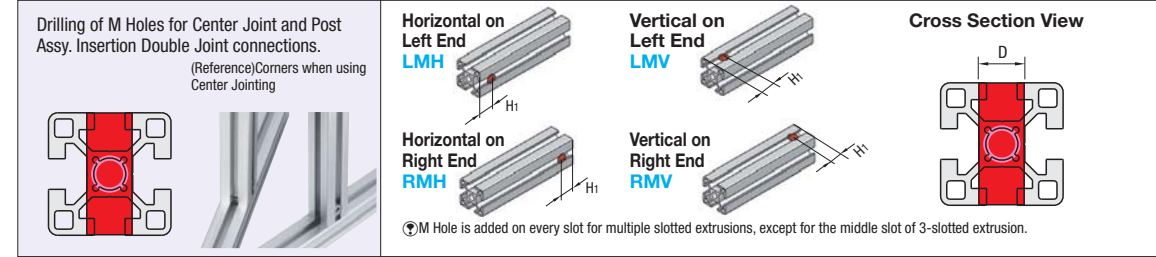
Extrusions	Features	Type	No.	Page	S Hole Dia.	S type Hole			
						Left Side		Right Side	
						Horizontally	Vertically	Horizontally	Vertically
HFS8-45 Series	Four-Side Slots	HFS8, GFS8, EFS8, CAF8	4545	P.591	D1Ø20				
			4590	P.594					
			45180	P.595					
			5050	P.597					
			80100	P.598					
			6060	P.599					
			90180	P.595					
			909045	P.596					
			100200	P.598					
			3030	P.512					
			3060	P.514					
			3090	P.519					
			6060	P.515					
			6090	P.517					
			80120	P.517					



M Type Hole Alteration

Blind Joints which require this alteration

Post-Assembly Insertion Double Joints
→P631 Center Joint
→P629



Extrusion Series	H1 (mm)	M type Hole	
		ØD (mm)	
HFS5	10	7.1	
HFS5 (25 Square)	-	-	
HFS6	15	11.1	
HFS8	20	13.1	
HFS8-45	20.5	13.1	

Post-Assembly Insertion Double Joint Drilling Center Joint Drilling

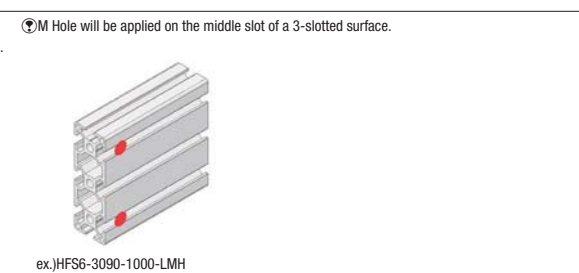
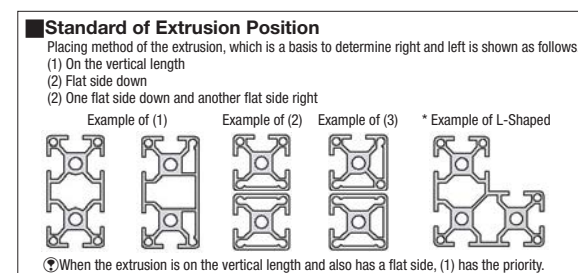
Order Example Part Number
HFS6-3030-2000-LMH-RMH

Days to Ship **7 Days**

Only for 45 Square Light Type (HFSL8-45) Series, H1 dimension is 20.5. Check for the applicable extrusions and the alteration fees in the below table. Indicated with "*" in the table are not applicable.

Extrusions	Features	Type	No.	Page	M Hole Dia.	M type Hole			
						Left Side		Right Side	
						Horizontally	Vertically	Horizontally	Vertically
HFS5 Series	Four-Side Slots	HFS5, CAF5, HFSY5	2020	P.477	DØ7.1				
			2040	P.478					
			2060	P.479					
			2090	P.479					
			2525	P.479					
			4040	P.478					
			4060	P.479					
			4080	P.479					
			404020	P.480					
			2020	P.477					
			2040	P.478					
			4040	P.478					
			4040	P.478					
			2020	P.477					
			2020	P.477					
HFS6 Series	Four-Side Slots	HFS6, GFS6, EFS6, CAF6, HFSY6	3030	P.511	DØ11.1				
			3060	P.513					
			3090	P.516					
			30120	P.516					
			5050	P.519					
			50100	P.519					
			100100	P.519					
			6060	P.515					
			6090	P.517					
			80120	P.517					
			808030	P.518					
			3030	P.512					
			3060	P.514					
			3090	P.519					
			6060	P.515					

Extrusions	Features	Type	No.	Page	M Hole Dia.	M type Hole			
						Left Side		Right Side	
						Horizontally	Vertically	Horizontally	Vertically
HFS8 Series	Four-Side Slots	HFS8, GFS8, EFS8, CAF8, HFSY8	4040	P.553	DØ13.1				
			40120	P.558					
			40160	P.558					
			8080	P.557					
			80160	P.558					
			80180	P.558					
			808040	P.560					
			8080	P.557					
			8080	P.557					
			8080	P.557					
			4040	P.554					
			4040	P.554					
			4040	P.554					
			4040	P.554					
			4040	P.554					
HFS8-45 Series	Four-Side Slots	HFS8, GFS8, EFS8, CAF8	4545	P.591	DØ13.1				
			4590	P.594					
			45180	P.595					
			5050	P.597					
			80100	P.598					
			6060	P.599					
			90180	P.595					
			909045	P.596					
			100200	P.598					
			3030	P.512					
			3060	P.514					
			3090	P.519					
			6060	P.515					
			6090	P.517					
			80120	P.517					



L Type Hole Alteration

Blind Joints which require this alteration

Parallel Joint →
P.639

Other Special Alterations

Drilling of L Holes for Parallel Joint connections.

(Reference) Parallel Joint Jointed Corners

L Holes on Bottom in Cross JLP

When 2 and 4 holes are specified, they will be symmetrically placed about a center point.

L Holes on Top in Cross KLP

When 3 and 5 holes are specified, there will be one hole at the center and the rest will be placed symmetrically placed about the center hole.

For extrusions with multiple slots on one surface, only a slot on each end will be hole machined.

Alteration	Hole Pitch (1mm Increments)	H (Hole Qty.)	No.	D
JLP	D+4.9-	2 3 4 5	5	7.1
KLP	$\frac{L-D-10}{H-1}$		6	11.1
			8	13.1

Order Example: HFS6 - 3090 - 1200 - JLP1100 - H2
HFS8 - 4080 - 1800 - KLP870 - H3
HFS8 - 4080 - 1800 - JLP870 - KLP870-H3

Days to Ship 7 Days

Hole pitch on Top/Bottom can be separately specified, but the No. of holes will be equal on Top and Bottom.
Check for the applicable extrusions and the alteration fees in the below table. Indicated with "-" in the table are not applicable.

Extrusions	Features	Code	Type	No.	Page	L Hole (Charge per 1 hole location)		
						L Hole Dia.	Top Section in Cross	Bottom Section in Cross
HFS5 Series 20, 25, 40mm Square Slot Width 6mm	Four-Side Slots	HFS5	2020	P.477	07.1			
		2040	P.478					
		2060	P.479					
		2080	P.479					
		2100	P.479					
	Three-Side Slots One Flat	HFS5	2020	P.477				
		2040	P.478					
		2060	P.478					
		2080	P.478					
		2100	P.478					
	Two-Side Slots Two Flats	HFS5	2020	P.477				
		2040	P.478					
		2060	P.478					
		2080	P.478					
		2100	P.478					
Two Slots on Opposite Sides	HFS5	2020	P.477					
	2040	P.478						
	2060	P.478						
	2080	P.478						
	2100	P.478						
Angled	HFS5	2020	P.477					
	2040	P.478						
	2060	P.478						
	2080	P.478						
	2100	P.478						
Black Anodize	HFS5	2020	P.477					
	2040	P.478						
	2060	P.478						
	2080	P.478						
	2100	P.478						
Curved	HFS5	2020	P.477					
	2040	P.478						
	2060	P.478						
	2080	P.478						
	2100	P.478						
HFS6 Series 30, 50, 60, 100mm Square Slot width 8mm	Four-Side Slots	HFS6	3030	P.511	011.1			
		3060	P.513					
		3090	P.516					
		3120	P.516					
		3150	P.519					
	Three-Side Slots One Flat	HFS6	3030	P.511				
		3060	P.513					
		3090	P.516					
		3120	P.516					
		3150	P.519					
	Two-Side Slots Two Flats	HFS6	3030	P.511				
		3060	P.513					
		3090	P.516					
		3120	P.516					
		3150	P.519					
Two Slots on Opposite Sides	HFS6	3030	P.511					
	3060	P.513						
	3090	P.516						
	3120	P.516						
	3150	P.519						
Light Type	HFS6	3030	P.511					
	3060	P.513						
	3090	P.516						
	3120	P.516						
	3150	P.519						
Heavy Type	HFS6	3030	P.511					
	3060	P.513						
	3090	P.516						
	3120	P.516						
	3150	P.519						
Angled	HFS6	3030	P.511					
	3060	P.513						
	3090	P.516						
	3120	P.516						
	3150	P.519						
Black Anodize	HFS6	3030	P.511					
	3060	P.513						
	3090	P.516						
	3120	P.516						
	3150	P.519						
Curved	HFS6	3030	P.511					
	3060	P.513						
	3090	P.516						
	3120	P.516						
	3150	P.519						
HFS8 Series 40, 80mm Square Slot width 10mm	Four-Side Slots	HFS8	4040	P.553	013.1			
		4080	P.555					
		4120	P.558					
		4160	P.558					
		4200	P.557					
	Three-Side Slots One Flat	HFS8	4040	P.553				
		4080	P.555					
		4120	P.558					
		4160	P.558					
		4200	P.557					
	Two-Side Slots Two Flats	HFS8	4040	P.553				
		4080	P.555					
		4120	P.558					
		4160	P.558					
		4200	P.557					
Two Slots on Opposite Sides	HFS8	4040	P.553					
	4080	P.555						
	4120	P.558						
	4160	P.558						
	4200	P.557						
Light Type	HFS8	4040	P.553					
	4080	P.555						
	4120	P.558						
	4160	P.558						
	4200	P.557						
Angled	HFS8	4040	P.553					
	4080	P.555						
	4120	P.558						
	4160	P.558						
	4200	P.557						
Black Anodize	HFS8	4040	P.553					
	4080	P.555						
	4120	P.558						
	4160	P.558						
	4200	P.557						
Curved	HFS8	4040	P.553					
	4080	P.555						
	4120	P.558						
	4160	P.558						
	4200	P.557						
HFS8-45 Series HFS8-50 Series HFS8-60 Series 45, 50, 60, 90, 100mm Square Slot width 10mm	Four-Side Slots	HFS8	4545	P.591	013.1			
		4590	P.594					
		4635	P.595					
		4680	P.598					
		4725	P.599					
	Three-Side Slots One Flat	HFS8	4545	P.591				
		4590	P.594					
		4635	P.595					
		4680	P.598					
		4725	P.599					
	Two-Side Slots Two Flats	HFS8	4545	P.591				
		4590	P.594					
		4635	P.595					
		4680	P.598					
		4725	P.599					
Two Slots on Opposite Sides	HFS8	4545	P.591					
	4590	P.594						
	4635	P.595						
	4680	P.598						
	4725	P.599						
One-Side Slot Three Flats	HFS8	4545	P.591					
	4590	P.594						
	4635	P.595						
	4680	P.598						
	4725	P.599						
Light Type	HFS8	4545	P.591					
	4590	P.594						
	4635	P.595						
	4680	P.598						
	4725	P.599						
Angled	HFS8	4545	P.591					
	4590	P.594						
	4635	P.595						
	4680	P.598						
	4725	P.599						
Black Anodize	HFS8	4545	P.591					
	4590	P.594						
	4635	P.595						
	4680	P.598						
	4725	P.599						
Curved	HFS8	4545	P.591					
	4590	P.594						
	4635	P.595						
	4680	P.598						
	4725	P.599						

Standard of Extrusion Position

Placing method of the extrusion, which is a basis to determine right and left is shown as follows.

- On the vertical length
- Flat side down
- One flat side down and another flat side right

Example of (1) Example of (2) Example of (3) * Example of L-Shaped

When the extrusion is on the vertical length and also has a flat side, (1) has the priority.

Additional Info. on Smooth Sided Extrusions

D Holes in smooth side direction are blind holes, and do not penetrate through the smooth side.

Notes on JLP/KLP Combination Use

Hole pitch on Top/Bottom can be separately specified, but the No. of holes will be equal on Top and Bottom.

Hole pitch on Top/Bottom can be separately specified

Uneven No. of holes cannot be specified

End Plates Mounting for GFS Series

Machines countersunk and tapped hole in order to mount the end plate for high rigidity aluminum extrusions.

Days to Ship 7 Days

Alterations		Hole Machining for End Plate Mounting		
Code	Spec.	LTS	RTS	TSW
		Machined on the Left End	Machined on the Right End	Machined on Both Ends
Applicable Extrusions	Applicable Screw			
GFS6-3030	SHFBS8-15 x 1 pc.	4,00	4,00	8,00
GFS6-3060	SHFBS8-15 x 2 pcs.	8,00	8,00	16,00
GFS8-4040	SHFBS12-20 x 1 pc.	5,00	5,00	10,00
GFS8-4545		7,00	7,00	14,00
GFS8-5050		10,00	10,00	20,00
GFS8-6060	SHFBS12-20 x 2 pcs.	14,00	14,00	28,00
GFS8-4080				
GFS8-4590				
GFS8-50100				
GFS8-9090				
GFS8-100100				
GFS8-100200				

Screws are not included.

End Plates Mounting for HFSR5-404020 and HFSR6-606030

P.497, 541, 579, 613 listed plates require the countersunk and tapped holes below.

Days to Ship 7 Days

Alterations		Hole Machining for End Plate Mounting		
Code	Spec.	LTS	RTS	TSW
		The illustration below shows the basic frame position.		
		LTS: Machined on the left end		
		RTS: Machined on the right end		
		TSW: Machined on both ends		
Applicable Extrusions	Applicable Screw			
HFSR5-404020	SHFBS5-6	6,60	6,60	13,20
HFSR6-606030	SHFBS8-12	7,60	7,60	15,20

Bolts are not included.

Labeling on Aluminum Frames

Adds a sticker with catalog No. etc. on the aluminum extrusion. (Free of Charge)

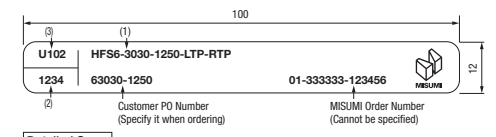
When placing an order, please add

- serial number within four digits starting by -ZZZ
- Unit No. in 3-digits or less beginning with -U.

after normal Part Number.

(Ex.) HFS6-3030-1250-LTP-RTP-ZZZ1234-U102

(1) Part Number (2) Serial Number (3) Unit Number



Detailed Spec.

Please specify the serial number by 1 digit at least.

Make (2) blank if the unit number is not specified.

If Part Number exceeds 41 digits, "..." follows from the 42nd digit.

If Customer PO Number exceeds 21 digits, "..." follows from the 22nd digit.



Aluminum Frames 15mm Square

-Brackets for Aluminum Frame 15mm Square/ Square Nuts for Aluminum Frame 15mm Square-

CAD Data

Aluminum Frames 15mm Square

HFS3-1515 (Configurable Length Extrusion)
KHFS3-1515 (Fixed Length Extrusion)

Material: AW-6061/EN AW-AIMg1SiCu Surface Treatment: Anodize

RoHS

Ⓜ Material: AW-6061/EN AW-AIMg1SiCu Ⓢ Surface Treatment: Anodize

Ⓜ Cut surfaces are not anodized.

Part Number	L	Mass kg/m	Sectional Area mm ²	Cross Sectional Moment of Inertia mm ⁴		€ Unit Price Less than 300mm	€ Unit Price/m 300mm or more	€ Unit Price 1-9 pcs.	Volume Discount Rate 10-
				ℓx	ℓy				
HFS3	1515	0.34	126	0.280x10 ⁴	0.280x10 ⁴				
KHFS3	2000								

Order Example: Part Number **HFS3-1515** - L **800**

Price: When L is less than 300 € Unit prices are indicated in the table regardless of the length.
 ex: HFS3-1515-185=EUR 2,40
 When L is 300 or more Prices are calculated as follows:
 € Unit Price/m x Specified Full Length = Price
 ex: HFS3-1515-500
 4,30x0.5m=EUR 2,10
 (Round down to ten Cent.)

Days to Ship **6 Days** P88

Brackets for Aluminum Frames 15mm Square Brackets

HPTBS3 (Sheet Metal Brackets)
HBLPBS3 (Sheet Metal Blind Bracket)

Material: 1.0330/DC01 Surface Treatment: Trivalent Chromate Plating

RoHS

Part Number	Mass (g)	Applicable Extrusion	Applicable Screw · T Nut				Allowable Load (N)	€ Unit Price 1-99 pcs.	Volume Discount Rate 100~
			Screw	Qty.	T Nut	Qty.			
HPTBS3	8	HFS3-1515	CBM3-6	2	HNSQ3-3	2	160		
HBLPBS3	2	HFS3-1515	Set Screw M3x4 (Included)				140		

Brackets for Aluminum Frames 15mm Square Square Nuts

HNSQ

Material: 1.0038/S234JR Surface Treatment: Trivalent Chromate Plating

RoHS

Ⓜ 100 pcs. per package

Ⓜ Material: 1.0038/S234JR Ⓢ Surface Treatment: Trivalent Chromate Plating

Order Example: Part Number **HPTBS3** - M **3**

Days to Ship **6 Days** P87

Aluminum Bracket Extrusions

CAD Data

For Thin Brackets

HFLBS5 **HFLBS6** **HFLBS8**

Material: AW-6061/EN AW-AIMg1SiCu Surface Treatment: Anodize

RoHS

Part Number	L 1mm Increment	Mass kg/m	Sectional Area mm ²	Cross Sectional Moment of Inertia mm ⁴		€ Unit Price Less than 300mm	€ Unit Price/m 300mm or more
				ℓx	ℓy		
HFLBS5	50-3000	0.3	111	0.4x10 ⁴	0.4x10 ⁴		
HFLBS6		0.75	275	2.2x10 ⁴	2.2x10 ⁴		
HFLBS8		1.2	444	6.4x10 ⁴	6.4x10 ⁴		

For Thick Brackets

HFLBT5 **HFLBT6** **HFLBT8**

Material: AW-6061/EN AW-AIMg1SiCu Surface Treatment: Anodize

RoHS

Part Number	L 1mm Increment	Mass kg/m	Sectional Area mm ²	Cross Sectional Moment of Inertia mm ⁴		€ Unit Price Less than 300mm	€ Unit Price/m 300mm or more
				ℓx	ℓy		
HFLBT5	50-3000	1.13	420	3.70x10 ⁴	3.70x10 ⁴		
HFLBT6		2.3	850	19.06x10 ⁴	19.06x10 ⁴		
HFLBT8		5.3	1961	109.9x10 ⁴	109.9x10 ⁴		

HFLBT6 is the base material component for HBLTS6 (P. 529) and HBLTS8 (P. 603)

For Thick Brackets

HFLBTW5 **HFLBTW6**

Material: AW-6061/EN AW-AIMg1SiCu Surface Treatment: Anodize

RoHS

Part Number	L 1mm Increment	Mass kg/m	Sectional Area mm ²	Cross Sectional Moment of Inertia mm ⁴		€ Unit Price Less than 300mm	€ Unit Price/m 300mm or more
				ℓx	ℓy		
HFLBTW5	50-3000	1.9	700	17.4x10 ⁴	17.4x10 ⁴		
HFLBTW6		4.0	1491	100.0x10 ⁴	100.0x10 ⁴		

Order Example: Part Number **HFLBT5** - L **800**

Price

When L is less than 300 € Unit prices are indicated in the table regardless of the length.
 ex: HFLBT5-180=EUR 4,00
 When L is 300 or more Prices are calculated as follows:
 € Unit Price/m x Specified Full Length = Price
 ex: HFLBT5-500
 13,50x0.5m=EUR 6,70
 (Round down to ten cent.)

Days to Ship **7 Days**

Express A EUR 8,00/ piece P88

Flat Extrusions · Extrusion Caps

-Bar Nuts · Pre Assy. Insertion Nuts Common-

CAD Data

RoHS

Slot Shape (SQN4 M4 Nut) To be inserted, (HNTT5 SQN5 M5 Nut) To be inserted, C-Part Enlarged 90°

Cross Section Shape (For detailed dimensions, see right.) L±0.5

HFSQN4-1020 **HFSQN4-1030** **HFSQN4-1050**

HFSQN4-1070

M Material: EN AC-51400
S Surface Treatment: Anodize

Part Number Type	Extrusions	L 1mm Increment	Mass kg/m	Sectional Area mm²	Cross Sectional Moment of Inertia mm⁴		Applicable Nut			Applicable Extrusion End Caps	€Unit Price Less than 300mm	€Unit Price/m 300mm or more
					Ex	ly	Bar Nuts	Pre-Assembly Insertion Nuts	Extrusion End Caps			
HFSQN4	1020	50-3000	0.31	116	0.13x10⁴	0.3x10⁴	SQN4	-	HFCQN	4-1020		
	1030		0.46	171	0.18x10⁴	1.13x10⁴	SQN4	HNTT 5-5	4-1030			
	1050		0.82	304	0.31x10⁴	5.64x10⁴	SQN5	-	4-1050			
	1070		1.18	347	0.43x10⁴	16.2x10⁴	-	-	-			

RoHS

Slot Shape (HNTT5-5 SQN5 M5 Nut) To be inserted, (HNTT6) To be inserted, C-Part Enlarged 90°

Cross Section Shape (For detailed dimensions, see right.) L±0.5

HFSQN4-1520 **HFSQN4-1540** **HFSQN4-1570**

HFSQN4-15100

M Material: EN AC-51400
S Surface Treatment: Anodize

Part Number Type	Extrusions	L 1mm Increment	Mass kg/m	Sectional Area mm²	Cross Sectional Moment of Inertia mm⁴		Applicable Nut			Applicable Extrusion End Caps	€Unit Price Less than 300mm	€Unit Price/m 300mm or more
					Ex	ly	Bar Nuts	Pre-Assembly Insertion Nuts	Extrusion End Caps			
HFSQN4	1520	50-3000	0.30	186	0.45x10⁴	0.44x10⁴	SQN4	HNTT 5-5	HFCQN	4-1520		
	1540		0.94	347	0.83x10⁴	4.49x10⁴	SQN5	HNTT 6-6	4-1540			
	1570		1.66	613	1.37x10⁴	24.6x10⁴	-	-	4-1570			
	15100		2.37	876	1.92x10⁴	72.2x10⁴	-	-	-			

RoHS

Slot Shape (HNTT5-5 SQN5 M5 Nut) To be inserted, (HNTT8) To be inserted, C-Part Enlarged 90°

Cross Section Shape (For detailed dimensions, see right.) L±0.5

HFSQN4-2050 **HFSQN4-2090**

M Material: EN AC-51400
S Surface Treatment: Anodize

Part Number Type	Extrusions	L 1mm Increment	Mass kg/m	Sectional Area mm²	Cross Sectional Moment of Inertia mm⁴		Applicable Nut			Applicable Extrusion End Caps	€Unit Price Less than 300mm	€Unit Price/m 300mm or more
					Ex	ly	Bar Nuts	Pre-Assembly Insertion Nuts	Extrusion End Caps			
HFSQN4	2050	50-3000	1.84	681	2.78x10⁴	14.8x10⁴	SQN4	HNTT 5-5	HNTT 8-8	4-1520		
	2090		3.34	1234	4.78x10⁴	84.1x10⁴	SQN5	-	-	4-1540		

Order Example Part Number - L
HFSQN4-1050 - 1000

Days to Ship 6 Days P88

Price When L is less than 300 Unit prices are indicated in the table regardless of the length.
ex: HFSQN4-1050-185=EUR 4.20
When L is 300 or more Prices are calculated as follows:
Unit Price/m x Specified Full Length = Price
ex: HFSQN4-1050-500 1.430x0.5m=EUR 7.10 (Round down to ten Cent.)

Example Nut M4 Pre-assembly fitting for HNTT5 Nut M5, SQN5

Extrusion End Caps

RoHS

HFCQN4-1020 **HFCQN4-1030** **HFCQN4-1050** **HFCFIN5-1020**

HFCQN4-1520 **HFCQN4-1540** **HFCQN4-1570** **HFCFIN6-1530**

M Material: Polyamide (Black)

⊕ Extrusion end caps are not available for HFSQPURE. ⊖ The pin's shape and numbers of extrusion end caps may be changed to prevent caps from easily falling off.

Part Number Type	Extrusions	Color	€Unit Price Qty. 1-8	Volume Discount Rate 9-	Applicable Extrusion	Order Example Part Number - Color HFCQN4-1020 - B	Days to Ship 6 Days P87
1030	HFSQN4-1030						
1050	HFSQN4-1050						
1520	HFSQN4-1520						
1540	HFSQN4-1540						
1570	HFSQN4-1570						
HFCFIN5	1020			HFSFIN5-1020			
	1530			HFSFIN6-1530			

RoHS

Slot Shape (HNTT5 SQN5 M5 Nut) To be inserted, C-Part Enlarged 90°

HFSPURE5-8516 **HFSFIN5-1020**

M Material: EN AC-51400
S Surface Treatment: Anodize

Part Number Type	No. Extrusions	L 1mm Increment	Mass kg/m	Sectional Area mm²	Cross Sectional Moment of Inertia mm⁴		Applicable Extrusion End Caps	€Unit Price Less than 300mm	€Unit Price-m 300mm or more
					Ex	ly			
HFSPURE	5	8516	0.23	83	0.05x10⁴	0.24x10⁴	-		
					0.12x10⁴	0.53x10⁴	HFCFIN5-1020		
HFSFIN	5	1020	0.36	131					

RoHS

Slot Shape (HNTT6) To be inserted, C-Part Enlarged 90°

HFSPURE6-1220 **HFSFIN6-1530**

M Material: EN AC-51400
S Surface Treatment: Anodize

Part Number Type	No. Extrusions	L 1mm Increment	Mass kg/m	Sectional Area mm²	Cross Sectional Moment of Inertia mm⁴		Applicable Extrusion End Caps	€Unit Price Less than 300mm	€Unit Price-m 300mm or more
					Ex	ly			
HFSPURE	6	1220	0.33	121	0.17x10⁴	0.58x10⁴	-		
					0.62x10⁴	2.85x10⁴	HFCFIN6-1530		
HFSFIN	6	1530	0.82	302					

RoHS

Slot Shape (HNTT8) To be inserted, C-Part Enlarged 90°

HFSPURE8-1830

M Material: EN AC-51400
S Surface Treatment: Anodize

Part Number Type	Extrusions	L 1mm Increment	Mass kg/m	Sectional Area mm²	Cross Sectional Moment of Inertia mm⁴		€Unit Price Less than 300mm	€Unit Price-m 300mm or more
					Ex	ly		
HFSPURE8	1830	50-3000	0.98	361	1.12x10⁴	3.65x10⁴		

Order Example Part Number - L
HFSFIN5-1020 - 1200

Days to Ship 6 Days P88

Price When L is less than 300 Unit prices are indicated in the table regardless of the length.
ex: HFSFIN5-1020-185= EUR 1.70
When L is 300 or more Prices are calculated as follows:
Unit Price/m x Specified Full Length = Price
ex: HFSFIN5-1020-600 590x0.6m= EUR 3.50 (Round down to ten Cent.)

Alterations Specified hole machining is available. 8 Days The hole intervals are specified in XA, XB, XC, XD, XE order from the left end.
⊗ Not applicable to HFSQN

Alterations **Conterboring** **€Unit Price**

Code	Z Selection					One Counter-bore Hole
	XA	XB	XC	XD	XE	
Spec.	Z	d	d1	Distance from the Left End mm		
Specifications of Hole Size and Hole Position	3	3.5	6.5	7-L-7		
	4	4.5	8			
	5	5.5	9.5			
	6	6.5	11			
	8	9	14			

Table 1 Counterbore Hole

Z	d	d1
3	3.5	6.5
4	4.5	8
5	5.5	9.5
6	6.5	11
8	9	14

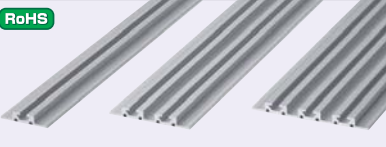
The counterbore depth h is from the extrusion surface.

Flanged Flat Extrusions / Extrusion Caps

-Bar Nuts · Pre Assy. Insertion Nuts Common-

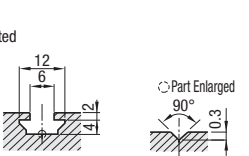
CAD Data

RoHS

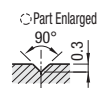


M Material: EN AC-51 400/AlMgSi0,7-T5
S Surface Treatment: Anodize

Slot Shape

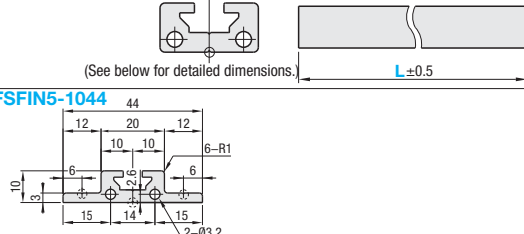


HNTT5 SQN5 M5Nut To be inserted

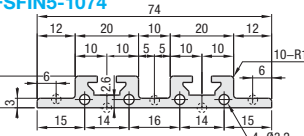


(See below for detailed dimensions.) $L \pm 0.5$

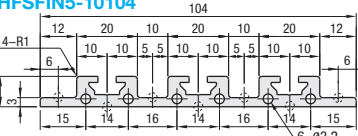
HFSFIN5-1044 44



HFSFIN5-1074 74




HFSFIN5-10104 104



Non-flanged HFSPURE5-8516, HFSFIN5-1020 are listed on the previous page.

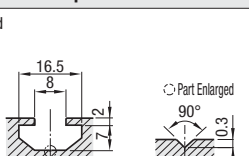
Part Number	L 1mm Increment	Mass kg/m	Sectional Area mm ²	Cross Sectional Moment of Inertia mm ⁴		Applicable Extrusion End Caps	€ Unit Price Less than 300mm	€ Unit Price/m 300mm or more
				Ex	Ey			
HFSFIN5	1044	0.55	203	1.70x10 ⁴	2.45x10 ⁴	HFCFIN5-1020		
	1074	0.99	364	0.32x10 ⁴	13.97x10 ⁴			
	10104	1.42	526	0.46x10 ⁴	41.90x10 ⁴			

RoHS

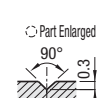


M Material: EN AC-51 400/AlMgSi0,7-T5
S Surface Treatment: Anodize

Slot Shape

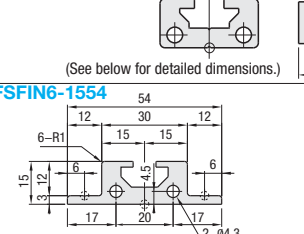


HNTT6 To be inserted

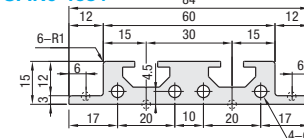


(See below for detailed dimensions.) $L \pm 0.5$

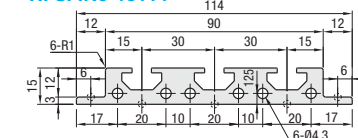
HFSFIN6-1554 54



HFSFIN6-1584 84



HFSFIN6-15114 114



Non-flanged HFSPURE6-1220, HFSFIN6-1530, HFSPURE8-1830 are listed on the previous page.

Part Number	L 1mm Increment	Mass kg/m	Sectional Area mm ²	Cross Sectional Moment of Inertia mm ⁴		Applicable Extrusion End Caps	€ Unit Price Less than 300mm	€ Unit Price/m 300mm or more
				Ex	Ey			
HFSFIN6	1554	1.01	374	0.78x10 ⁴	6.10x10 ⁴	HFCFIN6-1530		
	1584	1.83	676	1.43x10 ⁴	28.69x10 ⁴			
	15114	2.64	979	2.07x10 ⁴	81.74x10 ⁴			

Order Example Part Number - L
HFSFIN5-1044 - 1200

Price When L is less than 300
€ Unit prices are indicated in the table regardless of the length.
ex: HFSFIN5-10,44-1,85=EUR 2,70
When L is 300 or more
Prices are calculated as follows:
Unit Price/m x Specified Full Length = Price
ex: HFSFIN5-10,44-6,00
9,30x0,6=EUR 5,50 (Round down to ten cent.)

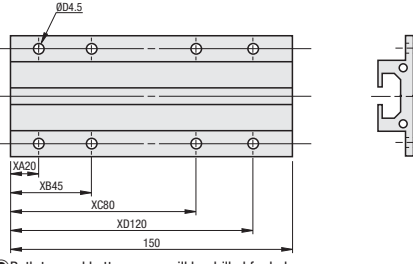
Days to Ship 6 Days

Alterations 8 Days

Specified hole machining is available.
The hole intervals are specified in XA, XB, XC, XD, XE order from the left end.
HFSFIN5 - 1044 - 150 - D4.5 - XA20 - XB45 - XC80 - XD120


Specified hole machining is available. The hole intervals are specified in XA, XB, XC, XD, XE order from the left end.

Alterations	Through Hole					€ Unit Price	
	D Selection	XA	XB	XC	XD		XE
Code	ØD	Distance from the Left End mm					One Through Hole
Spec.	ØD	Distance from the Left End mm					One Through Hole
Specifications of Hole Size and Hole Position	3.5	7-L-7					
	4.5						
	5.5						
	6.5						



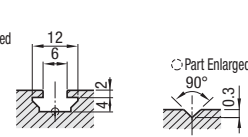
Both top and bottom rows will be drilled for holes.

RoHS

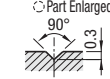


M Material: EN AC-51 400/AlMgSi0,7-T5
S Surface Treatment: Anodize

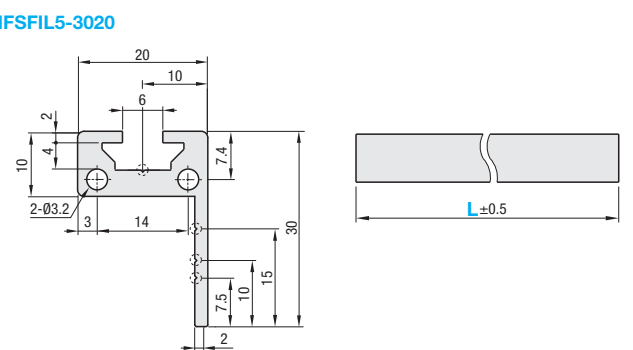
Slot Shape



HNTT5 SQN5 M5Nut To be inserted



HFSFIL5-3020



Part Number	L 1mm Increment	Mass kg/m	Sectional Area mm ²	Cross Sectional Moment of Inertia mm ⁴		Applicable Extrusion End Caps	€ Unit Price Less than 300mm	€ Unit Price/m 300mm or more
				Ex	Ey			
HFSFIL5	3020	0.45	166	0.89x10 ⁴	0.77x10 ⁴	HFCFIN5-1020		

Order Example Part Number - L
HFSFIL5-3020 - 1200

Price When L is less than 300
Unit prices are indicated in the table regardless of the length.
ex: For HFSFIL5-3020-185=EUR 2,70
When L is 300 or more
Prices are calculated as follows:
Unit Price/m x Specified Full Length = Price
ex: HFSFIL5-3020-600
9,00x0,6=EUR 5,40 (Round down to ten cent.)

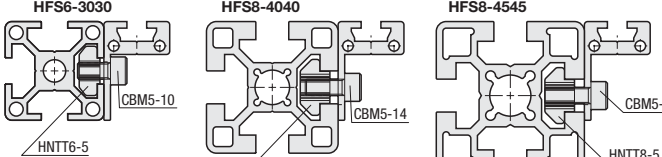
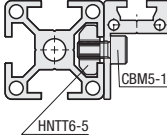
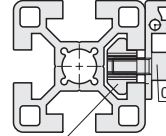
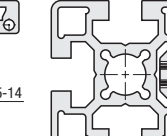
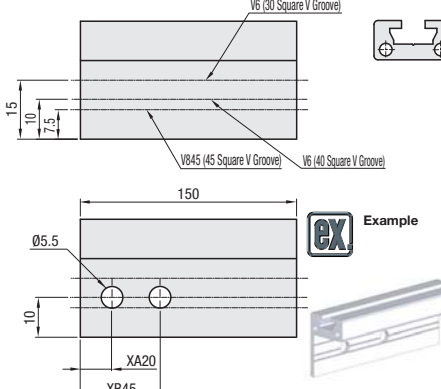
Days to Ship 6 Days

Alterations 8 Days

Specified hole machining is available. The hole intervals are specified in XA, XB, XC, XD, XE order from the left end.
HFSFIL5 - 3020 - 150 - V8 - XA20 - XB45

Alterations	Through Hole Position					€ Unit Price	
	V-Groove Selection	XA	XB	XC	XD		XE
Code	V	Distance from the Left End mm					One Through Hole
Spec.	Applicable V Groove	Distance from the Left End mm					One Through Hole
Hole Position	V6	7-L-7					
* Hole diameter will be Ø5.5 only.	V8						
	V845						


The V selection determines the hole centerline distances (7.5, 10, or 15) to make both extrusions even flat for each extrusion size.

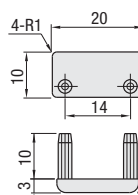
Example

Extrusion End Caps

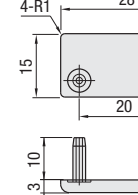
RoHS



HFCFIN5-1020



HFCFIN6-1530



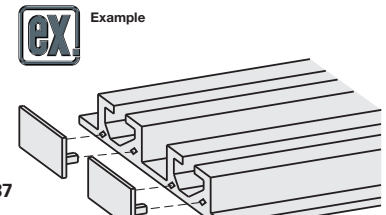
The pin's shape and numbers of extrusion end caps may be changed to prevent caps from easily falling off.

Part Number	Color	€ Unit Price	€ Volume Discount Rate	Applicable Extrusion
		Qty. 1-8	9-	
HFCFIN5	1020	B (Black)		HFSFIN5-1020 HFSFIN5-1044 HFSFIN5-1074 HFSFIN5-10104 HFSFIL5-3020
HFCFIN6	1530	B (Black)		HFSFIN6-1530 HFSFIN6-1554 HFSFIN6-1584 HFSFIN6-15114

Order Example Part Number - Color
HFCFIN5-1020 - B

Days to Ship 6 Days

Example



Fence Extrusions / Joint Brackets

C Extrusions

(See below for detailed dimensions.) $L \pm 0.5$ Cut surfaces are not anodized.

HFSFES30-3 3mm Thick One-Sided for 30 Square	HFSFES30-5 5mm Thick One-Sided for 30 Square
HFSFES40-3 3mm Thick One-Sided for 40 Square	HFSFES40-5 5mm Thick One-Sided for 40 Square

M Material: EN AW-6063/AlMg0,7Si-T5
S Surface Treatment: Anodize **RoHS**

Part Number Type	No.	L 1mm Increment	Mass kg/m	Sectional Area mm ²	Cross Sectional Moment of Inertia mm ⁴		€ Unit Price Less than 300mm	€ Unit Price/m 300mm or more
					I_x	I_y		
HFSFES	30-3	50~4000	0.34	125	1074	9933		
	30-5		0.41	150	2035	10690		
	40-3		0.42	153	1430	22510		
	40-5		0.48	176	2656	23830		

H Extrusions

(See below for detailed dimensions.) $L \pm 0.5$ Cut surfaces are not anodized.

HFSFEW30-3 3mm Thick Both-Sided for 30 Square	HFSFEW30-5 5mm Thick Both-Sided for 30 Square
HFSFEW40-3 3mm Thick Both-Sided for 40 Square	HFSFEW40-5 5mm Thick Both-Sided for 40 Square

M Material: EN AW-6063/AlMg0,7Si-T5
S Surface Treatment: Anodize **RoHS**

Part Number Type	No.	L 1mm Increment	Mass kg/m	Sectional Area mm ²	Cross Sectional Moment of Inertia mm ⁴		€ Unit Price Less than 300mm	€ Unit Price/m 300mm or more
					I_x	I_y		
HFSFEW	30-3	50~4000	0.395	145	1132	10040		
	30-5		0.476	175	2148	10160		
	40-3		0.51	188	1524	23770		
	40-5		0.64	235	2844	23890		

Order Example Part Number - L Days to Ship **7 Days** P.88

Alterations Specified hole machining is available. **3 Days**

Price When L is 300 or more Prices are calculated as follows: Unit Price/m x Specified Full Length = Price ex: HFSFES30-3-2500 840x2.5m=EUR 21,00 (Round down to ten cent.)

Alterations Code	Counterboring					D Selection	Through Hole					€ Unit Price	
	Z Selection	XA	XB	XC	XD		XE	XA	XB	XC	XD	XE	One Counterbore Hole
Spec.	Z	d	d ₁	Distance from the Left End mm		ØD	Distance from the Left End mm						
Specifications of Hole Size and Hole Position	5	5.5	9.5	7~(L-7)		3.5	7~(L-7)						
	6	6.5	11			4.5							
						5.5							
						6.5							

Specified Hole Machining

- Select hole type and size Z (for Counterbore) or D (for Through hole).
- Specify the distance from the left end to holes XA, XB, XC, XD and XE in order.
- Specify up to 5 counterbores or through holes. Combination of counterbore and through hole is not available.

Alteration Code	45° Cut Applicable to HFSFES only	
	Left LCT45	Right RCT45
Spec.		
Price Adder	3,80	3,80

• For counterbores, the bolt goes in as much as the thickness of t.
• The side walls of counterbores may break due to drilling.

Order Example Part Number - L - Alteration Days to Ship **6 Days** P.87

Example HFSFES30-3 - 150 - LCT45 - Z5 - XA45 - XB80 - XC120

Panel Mounting

- Assembling Panel Extrusions (3) Joint Brackets and (4) Fence Extrusions (C Type) are mounted with screws on the (2) Extrusion Frame fastened to the base with (1) Anchors.
- Inserting Panel Panels are installed by sliding into the extrusion slots.
- Fixing Panel Panels are mounted onto the (7) Fence Extrusions (C Type) with (6) Joint Brackets. (Install additional aluminum extrusions with anchors.)

Labels: (1) HFSANKW6 (P.715), (2) HFS8-4040 (P.553), (3) HFC8-4040-B (P.589), (4) Pre-assembly Nut HNNTS8-8 (P.581) +HNST8 (P.581), (6) Joint Bracket, (7) Fence Extrusion (C Type).

Connecting Fence Extrusions to Aluminum Frames

Fence extrusions need to be drilled before connecting to aluminum extrusion. (1) Example of Counterbores (Even if the cover caps for bolts BTCSW are not used, there is no problem.)

3mm Thick Plates BTCSW6(P.182), CBM6-15(P.176), CBW6(P.232)

5mm Thick Plates BTCSW6(P.182), CBM6-15(P.176), CBW6(P.232)

(2) Example of Through Holes CBM6-20

3mm Thick Plates CBM6-20

5mm Thick Plates CBM6-20

Labels: HFS8-4040 (P.553), HNNT8-6

Joint Brackets

HFSJD

Counterbore Ø11 Depth 7
Ø6 Through Hole
Protusion Width 1 Height 0.3

RoHS **M** Material: Polyamide

Part Number Type	No.	A	B	G	H	J	K	L	€ Unit Price
30-5	30	10.5	7.5	8.5	5.5	6.5	10		
40-3	40	15.5	12	13	4	4.5	8		
40-5	40	15.5	12	13	5.5	6.5	10		

Order Example Part Number Days to Ship **6 Days** P.87

Example HFSJD30-3

Volume Discount Rate (Round down to one cent.) P.87

Qty.	1-19	20-34	35-49	50-99
Discount Rate	Unit Price	10%	20%	30%

For orders larger than indicated quantity, please request a quotation.



One-sided Rollers for Aluminum Frames / Rollers for Aluminum Frames

CAD Data

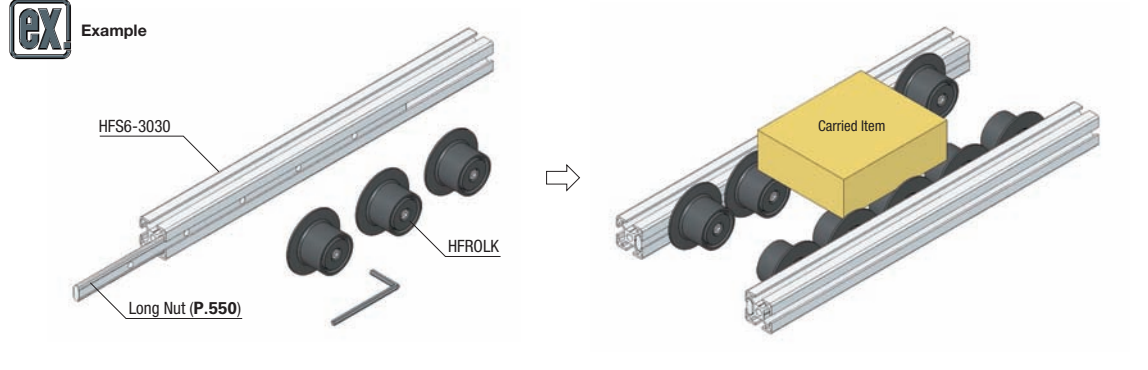
One-sided Rollers for Aluminum Extrusions RoHS

Name of Parts	Material	Surface Treatment
Roller	6 Nylon	-
Shaft Part	1.0038/S235JR	Trivalent Chromate
Bearing	1.3505/100Cr6	-

HFROLK6

Part Number	Extrusions (Series)	Color	Allowable Load N (kgf)	€ Unit Price 1-2 Packs	Volume Discount 3~	Order Example	Part Number	Days to Ship	Lead Time
HFROLK6	HFS6	Black	50N (5kgf)				HFROLK6	6 Days	

① 10 Pcs. per Package



Rollers for Aluminum Frames

HFROLL (Included Collar: 6 Nylon)
HFROLLM (Included Collar: 1.0330/DC01)

Included Collar

Type	Roller	Included Collar
HFROLL	6 Nylon	6 Nylon
HFROLLM	1.0330/DC01	JIS STKM Bright Chromate

Part Number	Type	No.	Extrusions (Series)	H	D	T	t1	t2	d1	d2	Color	Bearing	Accessory					Allowable Load N (kgf)	HFROLL		HFROLLM				
													Collar						Quantity	€ Unit Price	Volume Discount	€ Unit Price	Volume Discount		
													L	t3	D2	d4	d5					Qty. 1-9	10~	Qty. 1-9	10~
HFROLL HFROLLM	5	HFS5	6	24	15	4	5	29	9.2	Black	Not Provided	16.5	1.5	9	6.2	13	1	49 (5)							
	6	HFS6	7.8	20.8	5	8	22.3	13.4	1.6	10	14	2	147 (15)												
	8	HFS8 · HFS8-45	9.8	26	27.8	8	10	39.5	10	Provided															

Order Example Part Number **HFROLL6**

Days to Ship **6 Days**

Example

20mm Square **HFROLL5** **HFROLLM5**
30mm Square **HFROLL6** **HFROLLM6**
40mm Square **HFROLL8** **HFROLLM8**

Conveyor Roller Shaft Holders / Slip Covers

CAD Data

Conveyor Roller Shaft Holders RoHS

HSCX6-25

HSCX6-300

Ⓢ When using a shaft of Ø12, reverse the top and the bottom.

Ⓜ Material: Glass Fiber Reinforced ABS Resin

Part Number	Type	No.	L	Extrusion (Series)	Applicable Roller Shaft Diameter	€ Unit Price Qty. 1-9	Volume Discount 10~	Order Example	Part Number	Days to Ship	Lead Time
HSCX	6	25	300	HFS6	Ø6 Ø8 Ø12				HSCX6	6 Days	

Example

(1) Insert a conveyor roller shaft holder into the frame slots.

(2) Place a shaft on a conveyor roller and fit the shaft in the roller by pushing from above.

(3) With parallel use of slip covers, a carrier line can be easily made.

Section View

- In the edge part, use post-assembly lock nuts or frames as stoppers. It prevents the conveyor roller shaft holder from falling out of the extrusion.

Post-assembly Fitting Lock Nut **HNTR6 (P.548)**

Slip Covers RoHS

HSCY **HSCYF**

Type	Material	Heat Resistance Temperature
HSCY	Ultra High Molecular Weight Polyethylene	-100~80°C

Standard Length						Configurable Length								
Part Number	Type	No.	Color	Length m	Extrusions (Series)	€ Unit Price Qty. 1-8	Volume Discount 9-50	Part Number	Type	No.	Color	Length 1mm Increment	Extrusions (Series)	€ Unit Price/m
HSCY	5	W(White)	B(Black)	2	HFS5			HSCYF	5	W(White)	B(Black)	50~2000	HFS5	
	6	HFS6			6	HFS6								
	8	HFS8*			8	HFS8*								

* Not applicable to HFS8-45 series. Ⓢ For orders larger than indicated quantity, please request a quotation. * Not applicable to HFS8-45 series.

Example

Attach by pushing it into the extrusion slot.

Order Example Part Number **HSCYF5** - Color **B** - Length **1200**
HSCY6 - Color **W** - Length **2**

Days to Ship **7 Days**

Characteristic Values

Item	Unit	Value
Specific Gravity	-	0.96
Tensile Strength	MPa	43
Elongation	%	10
Hardness	Rockwell R Scale	60
Impact Strength	Izod Notch kJ/m	100
Thermal Expansion Coefficient	10 ⁻⁴ /°C	1.3
Water Absorption Ratio	%	<0.01
Dielectric Constant	-	2.4
Insulation Breakdown Voltage	kV/mm	44

Price € Unit Price/m x Specified Full Length = Sales Price
ex:HSCYF6-W-800 16.00x0.8m=12.80 EUR (Round down to ten Cent.)

Sliders for Aluminum Frames

CAD Data

Sliders for Aluminum Frames Female Thread Type

HFAFSTA (Female Thread Type Without Slot-T)
HFAFSTB (Female Thread Type With Slot-T)

Material: Polyacetal (White)

Part Number Type	No.	Extrusions (Series)	H	F	S	T	E	B	L	P	W	M	Applicable Screws	€ Unit Price	Volume Discount
														Qty. 1-9	
HFAFSTA	5	HFS5	5	3	5.8	-	-	-	35	20	18	3	M3		
	6	HFS6		4	7.8	-	-	-	40	24	24	4	M4		
	8	HFS8 - HFS8-45		6	9.8	-	-	-	50	30	30	5	M5		
HFAFSTB	5	HFS5	5	2.5	5.8	3.5	3	10	35	20	18	3	M3		
	6	HFS6		2.5	7.8	5.3	3.5	14.1	40	24	24	4	M4		
	8	HFS8 - HFS8-45		6.3	9.8	4.5	2.5	19	50	30	30	5	M5		

Sliders for Aluminum Frames Counterbored Type

HFAFSZA (Counterbored Type Without Slot-T)
HFAFSZB (Counterbored Type With Slot-T)

Material: Polyacetal (White)

Part Number Type	No.	Extrusions (Series)	H	F	S	T	E	B	L	P	W	D	d	h	t	Screw · Nut		€ Unit Price	Volume Discount
																Screws	Nuts	Qty. 1-9	
HFAFSZA	6	HFS6	5	4	7.8	-	-	-	40	24	24	6.5	3.4	3.8	0.8	CBM3-10	HN1T6-3		
	8	HFS8 - HFS8-45		6	9.8	-	-	-	50	30	30	8	4.5	4.5	0.8	CBM4-12	HN1T8-4		
	6	HFS6		2.5	7.8	5.3	3.5	14.1	40	24	24	6.5	3.4	3.8	0.8	CBM3-10	HN1T6-3		
HFAFSZB	8	HFS8 - HFS8-45	6.3	9.8	4.5	2.5	19	50	30	30	8	4.5	4.5	3.8	0.8	CBM4-12	HN1T8-4		

Sliders for Aluminum Frames Counterbored Type Mini

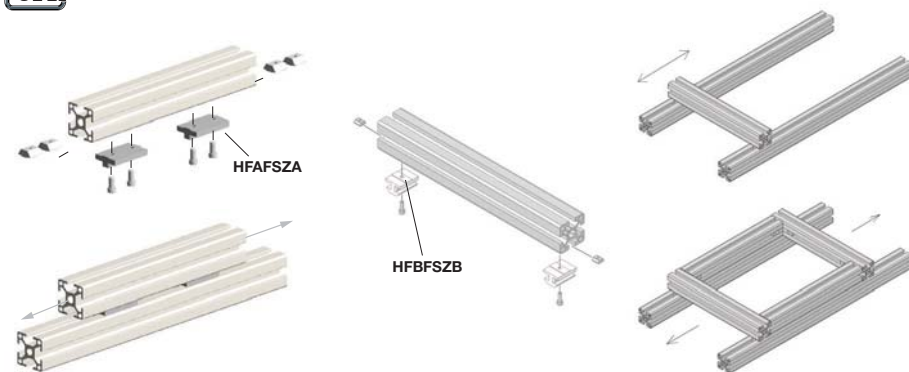
HFBFSZB (Counterbored Type Mini With Slot-T)

Material: Polyacetal (White)

Part Number Type	No.	Extrusions (Series)	H	F	S	T	E	B	L	W	D	d	h	t	Screw · Nut		€ Unit Price	Volume Discount
															Screws	Nuts	Qty. 1-9	
HFBFSZB	6	HFS6	5	2.5	7.8	5.3	3.5	14.1	26	24	6.5	3.4	3.8	0.8	CBM3-10	HN1T6-3		
	8	HFS8 - HFS8-45		6.3	9.8	4.5	2.5	19	34	30	8	4.5	4.5	3.8	0.8	CBM4-12	HN1T8-4	

Order Example **Part Number** HFAFSTA6 **Days to Ship** 6 Days P87

Features
 It is used to slide over aluminum extrusions.



Slide Rails / Slide Spacers

-Resin Type-

CAD Data

Slide Rails

HRLFLJ2 (For 2 Rows of 5mm Thick Plates)
HRLFLJ3 (For 3 Rows of 5mm Thick Plates)

Material: ABS Resin (Light Gray)

Part Number Type	No.	Length 1mm Increment	Extrusions (Series)	Mass kg/m	€ Unit Price/m
HRLFLJ	2	50-2000	HFS5	0.185	
	3		HFS6		
	3		HFS8 (-45)		

Slide Rail Connectors

HRLCN5 **HRLCN6** **HRLCN8**

Material: Polypropylene (Light Gray)

Part Number Type	No.	Length 1mm Increment	Extrusions (Series)	Mass kg/m	€ Unit Price/m
HRLCN	5	50-2000	HFS5	0.045	
	6		HFS6		
	8		HFS8 (-45)		

Order Example **Part Number** HRLFLJ3 HRLCN6 **Length** 1000 **Days to Ship** 7 Days **Price** 8,00 EUR/ piece P88

€ Unit Price/m x Specified Full Length = Sales Price
 ex: HRLFLJ3-800
 5,70 x 0.8m = 4,50 EUR (Round down to ten Cent.)
 4,50 EUR for 50-52mm.

Connection with Frame

Post-assembly Side View

Plate Dimension

Slide Spacers

HRLSP

Material: Polyethylene (Black)
 Heat Resistance Temperature: -45-80°C

Example HRLSP (P.766)

Part Number	Length mm	€ Unit Price Qty. 1-9	Volume Discount 10-49	Part Number	Length mm	€ Unit Price (Set of 30 pcs.)
HRLSP	2000			HRLSP-SET	2000	

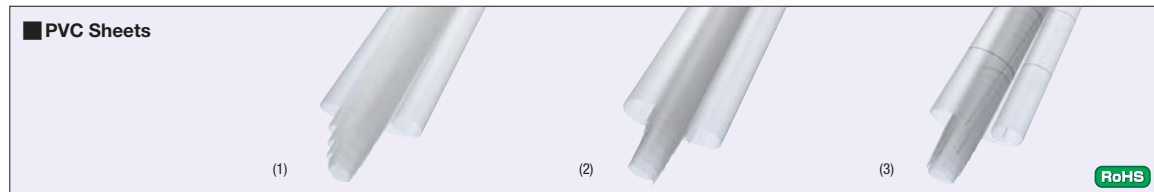
Order Example **Part Number** HRLSP HRLSP-SET **Days to Ship** 7 Days **Price** 8,00 EUR/ piece P88

Express A 8,00 EUR/ piece P88

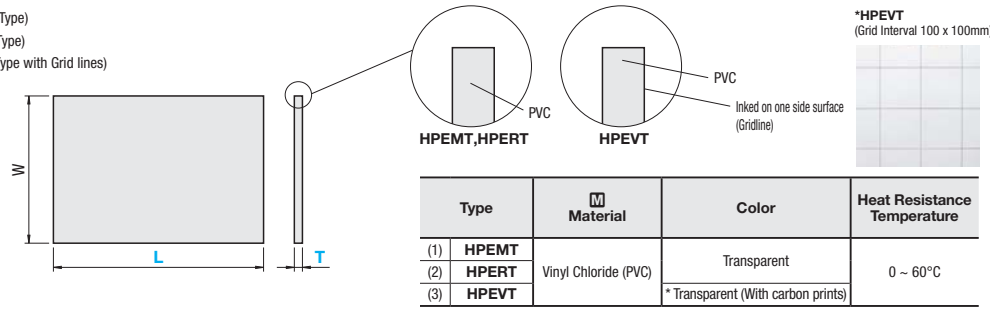
*A Express Charge of 21,60 EUR for 3 or more identical pieces.

PVC Sheets / Sheet Holders

-Standard Type · Antistatic Type · Antistatic Type with Grid lines-



HPEMT (Standard Type)
HPERT (Antistatic Type)
HPEVT (Antistatic Type with Grid lines)



Type	Material	Color	Heat Resistance Temperature
(1) HPEMT	Vinyl Chloride (PVC)	Transparent	0 ~ 60°C
(2) HPERT			
(3) HPEVT			

Part Number	Length L (m)	Thickness T (mm)	Width W (m)	Mass (kg)*	L1		L10		L50		
					€ Unit Price	Volume Discount	€ Unit Price	Volume Discount	€ Unit Price	Volume Discount	
HPEMT	0.2	1	10	50	0.3	4.2	16.2				
HPERT											
HPEVT											

*In 1m Increment. * The mass includes paper cores (Except for L1).

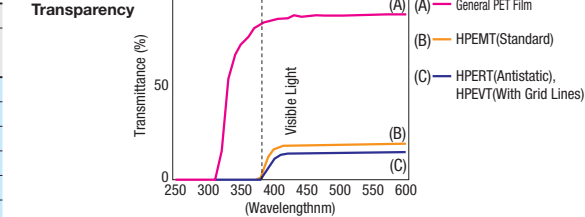
For orders larger than indicated quantity, please request a quotation.

Order Example: Part Number **HPEMT0.2** - Length **L** - 50. Days to Ship **7 Days**.

Film Properties

Item	Direction	Values	
		HPEMT (Standard Type)	HPERT · HPEVT (Antistatic Type · Antistatic Type with Grid lines)
Tensile Strength	Vertical	300kgf/cm ²	290kgf/cm ²
	Horizontal	265kgf/cm ²	260kgf/cm ²
Tear Strength	Vertical	1520gf	1500gf
	Horizontal	1430gf	1450gf
Heat Resistance	-	60°C	60°C
Surface Resistivity	-	10 ¹⁵ Ω	10 ¹² Ω

Optical Transparency



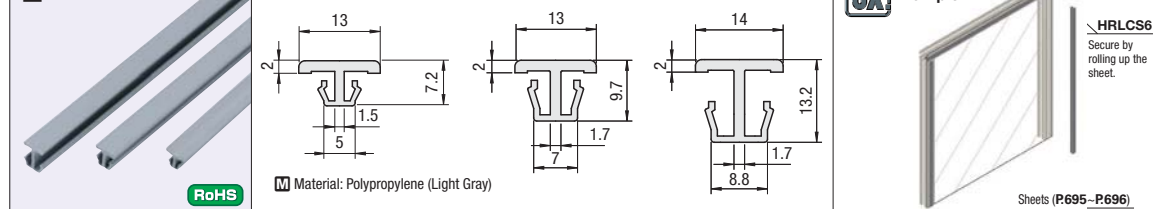
Comparison of Transparency (Sheet - Subject Distance: 50mm)



Good Δ=Acceptable ×=Not Acceptable. HPEVT is not chemically resistant because the color change / degradation might occur to the ink of the grid.

Not flame-proof. (However, Vinyl Chloride has self-extinguishing property.)
 Not suitable for a clean room due to a large quantity of phthalate compounds as plasticizer.

Sheet Holders



Part Number	Length 1mm Increment	Mass kg/m	Extrusions (Series)	€ Unit Price/m
HRLCS	5	0.045	HFS5	
	6	0.064	HFS6	
	8	0.072	HFS8 HFS8-45	

Price: € Unit Price/m x Specified Full Length = Sales Price. ex: HRLCS6-1200 4.60x1.2m = 5.50 EUR (Round down to ten Cent.)

Features

The sheet holder is used when a PVC or non-PVC sheet is attached to the aluminum extrusions.

Part Number	Extrusion Used	A (mm)	B (mm)
HRLCS5	HFS5-2020	3 or More	25
HRLCS6	HFS6-3030		35
HRLCS8	HFS8-4040	5 or More	45
	HFS8-4545		50

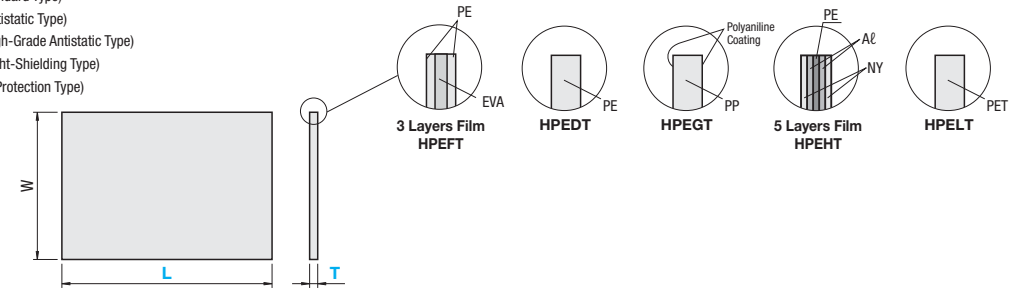
Order Example: Part Number **HRLCS5** - Length **L** - 500. Days to Ship **7 Days**.

Polyethylene Laminated Sheets

-Standard · Antistatic · High-Grade Antistatic · Light-Shielding · UV Protection-



HPEFT (Standard Type)
HPEDT (Antistatic Type)
HPEGT (High-Grade Antistatic Type)
HPELT (Light-Shielding Type)
HPELT (UV Protection Type)



Type	Material	Color	Heat Resistance Temperature
(1) HPEFT	Polyethylene (PE) · Ethylene Vinyl Acetate (EVA)	Transparent	-20°C~110°C
(2) HPEDT	Polyethylene (PE)	Transparent	
(3) HPEGT	Polypropylene (PP)	Transparent (Green)	
(4) HPELT	Polyethylene (PE) · Nylon (NY) / Aluminum (Al)	Silver	-20°C~80°C
(5) HPELT	Polyester (PET)	Transparent	

HPELT (Light-Shielding Type) has 99.9% rate of shading.

Part Number	Length L (m)	Thickness T (mm)	Width W (m)	Mass (kg)*	L1		L10		L50							
					€ Unit Price	Volume Discount	€ Unit Price	Volume Discount	€ Unit Price	Volume Discount						
HPEFT	0.2	1	10	50	0.2	1.2	0.4	4.2	13.1							
HPEDT																
HPEGT										0.22	1.1	0.3	2.6	12.7		
HPELT										0.18	1.2	0.3	2.5	12.6		
HPELT										0.19	0.82	0.2	2.4	12.0		

*In 1m Increment. * The mass includes paper cores (Except for L1).

For orders larger than indicated quantity, please request a quotation.

Order Example: Part Number **HPEFT0.2** - Length **L** - 50. Days to Ship **7 Days**.

Film Properties

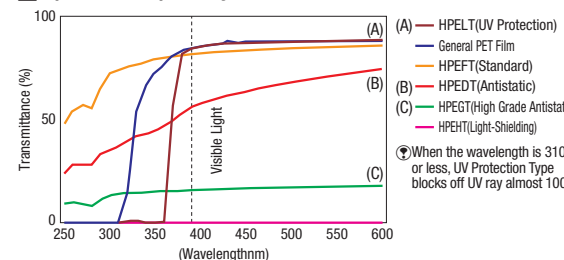
Item	Direction	Values				
		Standard Type	Antistatic Type	High-Grade Antistatic Type	Light-shielding Type	UV Protection Type
Tensile Strength	Vertical	343kgf/cm ²	242kgf/cm ²	360kgf/cm ²	463kgf/cm ²	714kgf/cm ²
	Horizontal	329kgf/cm ²	225kgf/cm ²	380kgf/cm ²	433kgf/cm ²	670kgf/cm ²
Tear Strength	Vertical	93gf	536gf	1400gf	144gf	1490gf
	Horizontal	100gf	704gf	1200gf	154gf	1400gf
Heat Resistance	-	110°C	80°C	80°C	80°C	80°C
Surface Resistivity	-	10 ¹⁴ Ω	10 ¹² Ω	10 ⁹ Ω	-	-

Outgas Testing Results of Antistatic and High-Grade Antistatic Type

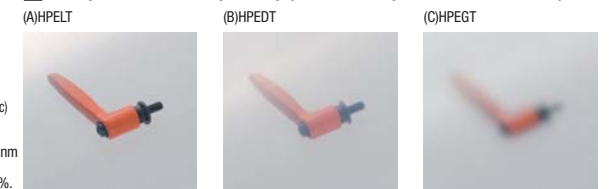
Sheets	Measuring Method	SIM Method	SIM Method	SIM Method	SIM Method
Antistatic Type	Outgas 60°C 60min. Detection Limit	Diethyl Malonate	Ethyl Acetate	Dibutyl Phthalate	Diocetyl Phthalate
		Below detection limit	Below detection limit	Below detection limit	Below detection limit
High-Grade Antistatic Type	Outgas 85°C 16hr. Detection Limit	The total amount of hydrocarbon compound is 167µg/g when 85°Cx16h.			
		Below detection limit			

SIM: Select Ion Monitoring, one of the gas chromatography analysis methods. Conducts high precision quantitative analysis only on materials of pre-registered molecular weight.

Optical Transparency



Comparison of Transparency (Sheet - Subject Distance: 50mm)



When the wavelength is 310 nm or less, UV Protection Type blocks off UV ray almost 100%.



Curtains

Slide Hooks
Curtain Fasteners

RoHS

HPEFC (Standard Type)
HPEDC (Antistatic Type)

Details of a grommet

(Curtain)
M Material: JIS C5212B
S Surface Treatment: Nickel Plating

A Accessory: Curtain Fasteners

Opened
Closed

(Curtain Fasteners)
M Material: Polypropylene Resin

A Accessory: Slide Hooks (P.702)

Ⓢ Grommets are provided at 200mm pitch.

Part Number		Height H	Width W	Sheets used P.696
Type	No.	100mm Increment	200mm Increment	
HPEFC	6 8	1200-2400	600-1200	HPEFT0.2
HPEDC				HPEDT0.2

Order Example Part Number: HPEFC6 - H2000 - W1000

Price No. 6 € Unit Price Qty. 1-4

H	HPEFC6				HPEDC6			
	600	800	1000	1200	600	800	1000	1200
1200								
1300								
1400								
1500								
1600								
1700								
1800								
1900								
2000								
2100								
2200								
2300								
2400								

No. 8 UP Price (No. 6 € Unit Price +)

Curtain fastener only 10 Pcs. per Package

Part Number	€ Unit Price	Volume Discount
Type	1-9 Pkgs.	10-20
HFCFC		

Details of accessories

Part Number	Extrusion (Series)	Curtain Width W	No. of Grommets	Included Slide Hooks	Slide Hooks - No. of Sets	Curtain Fasteners - No. of Sets
HPEFC6 HPEDC6	HFS6 (P.511)	600	2	HFCFS6	2	2
		800	3		3	3
		1000	4		4	4
HPEFC8 HPEDC8	HFS8 (-45) (P.553)	1200	5	HFCFS8	5	5
		600	2		2	2
		800	3		3	3
		1000	4		4	4
		1200	5		5	5

How to mount the curtain fastener

- Align the holes of a slide hook and a grommet.
- Insert the curtain fastener through both holes.
- Push into the hole of the fastener with a small rod less than Ø3.5 (such as a hex wrench).

Ⓢ For how to mount slide hooks, refer to P.702

Alterations

Part Number	H	W	(LHC · RHC)
HPEDC6	H2000	W1000	LHC50-RHC100

Code	LHC	RHC
Spec.	Adds a grommet on the left end. LHC=10mm Increment Ⓢ 20=LHCs140 Ⓢ 1 set of slide hooks and 1 pc of curtain fastener are added.	Adds a grommet on the right end. RHC=10mm Increment Ⓢ 20=RHCs140 Ⓢ 1 set of slide hooks and 1 pc of curtain fastener are added.

Price Adder No.6: 7,00 No.8: 7,20

Curtain Fasteners

(1) Hook
(2) Loop

RoHS

Ⓢ Hook and Loop as a set. M Material: 6 Nylon

HPMT (P.751)

HPEDC

HPMT

Part Number	Length L (m)	€ Unit Price	Volume Discount
Type	Width W (mm)	Qty. 1-9	10-20
HPMT	50	1	

Ⓢ Can be cut by scissors Ⓢ For orders larger than indicated quantity, please request a quotation.

Order Example Part Number: HPMT50 - L 1

Days to Ship 7 Days

Fluorescent Light Unit **PS E** Compliant

Accessories:

- Power Cord ON/OFF (1500)
- Mounting PartA(2pcs.) Material:ABS
- Mounting PartB(2pcs.) Material: ABS
- Cross Recessed small Screw (2 pcs. for each) 3.8x20
- Screws and nuts for frames are not included.

Fluorescent Light Unit

Part Number	Wattage	Mass g	Frequency	Power Consumption	Lamp Power	Fluorescent Light Spec.	€ Unit Price	Volume Discount
Type							1-4 Qty.	5-9
8	8	160	354	50Hz	10.5W	8W	Day Light Lamp (FL8N)	
24	24	260	616	50Hz	21W	24W	Color Enhancing Lamp (FH24SEN)	

Inter-connection Cable · Power Cable with 2 open end leads

Part Number	€ Unit Price	Volume Discount
Type	1-4 Qty.	5-9
(Connection Cable)		
(Power Cable with 2 open end leads)		

Order Example Part Number: HFS6-3030

Days to Ship 8 Days 6 Days

How to Install to the Frame

Installation to the Panel / Top Panel

Connection of Fixtures Up to 5 fixtures can be connected together.

Connecting Method (1) Direct connection of body terminals

Connecting Method (2) Connection with a connecting cord

About Install Locations For locations with openings, provide larger gaps than shown in the drawing.

Cautions

- This product is for indoor use only, keep within 5°C ~ 35°C. The fluorescent lights will be hard-starting in low temperatures, and may suffer overheating damages in high temperatures.
- Not suitable for locations with water and moisture, as the product is not waterproof. Please be aware of fire and electrocution hazards.
- Not usable in tightly closed spaces.

Replacement of Fluorescent Light When Fluorescent Light does not light due to the end of its service life etc., remove the body cover and replace it. *Fluorescent Light as a single item is not available.

Reference: For Frame Installation

Extrusions (Series)	Nut *	Screws (M-Length)
HFS5	HNTP5-5	M5-8
HFS6	HNTP6-5	M5-10
HFS8	HNTP8-5	M5-12
HFS8-45	HNTP8-5	M5-12

*Any type of nut is usable if the tap size is correct. <Special nuts for aluminum frames only>

NOT AVAILABLE

Casters & Leveling Mounts Assembly

-Standard · Conductive · Side Mount-

CAD Data

RoHS



Part Number	
Type	Wheel Material (Color)
HCFT · SHCFT	Nylon (Gray)
HCFTU	Urethane (Green)
HCFTM	MC Nylon (Blue)
HCFTD · SHCFTD	Conductive MC Nylon (Black)

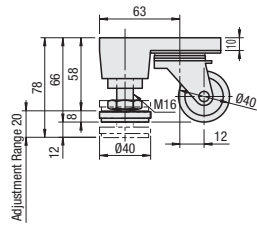
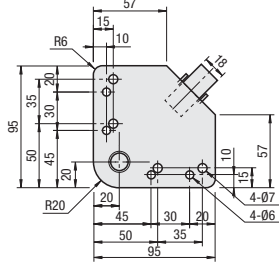
Ⓢ Only HCFT8-500 is phenol (black).
 Ⓢ HCFTFD250/350 are gray.

No.	Body		Jack Bolt	
	M Material	S Surface Treatment	M Material	S Surface Treatment
60 130	EN AC-46100/ G-AlSi12Cu	Black Paint	1.0038/ S235JR	Trivalent Chromate
250 350	1.0320/St.22	Trivalent Chromate (Black)		
500	EN-1S 1040	Black Paint		

Ⓢ Material of jack bolt and caster is 1.4301/X5CrNi18-10 for SHCFT or SHCFTD.

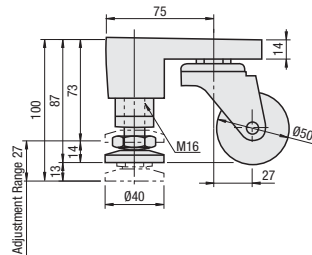
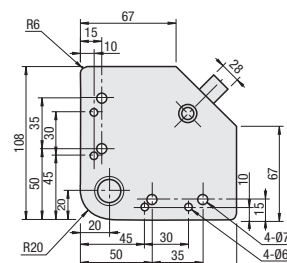
HCFT

No.5-60
6-60



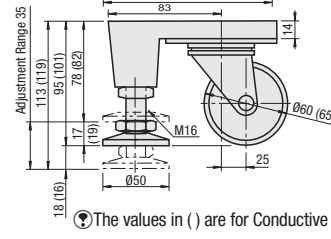
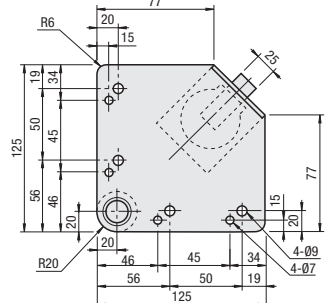
SHCFT (Conductive)

No.5-60
6-60



HCFT SHCFT (Conductive)

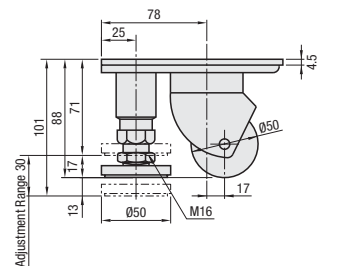
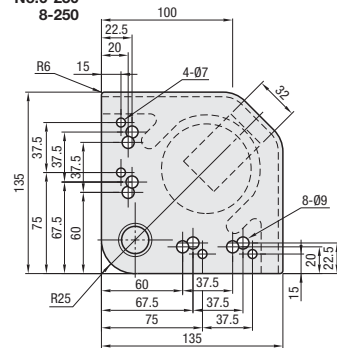
No.6-130
8-130



Ⓢ The values in () are for Conductive Type.

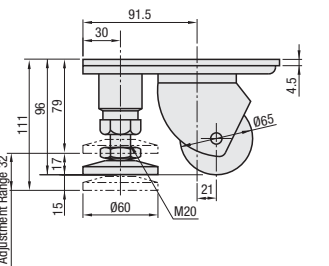
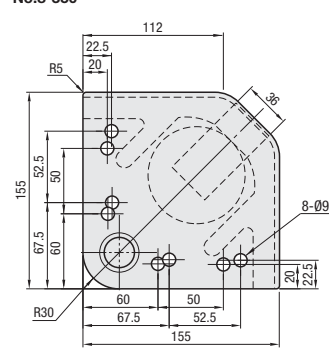
HCFTU HCFTM HCFTU HCFTD

No.6-250
8-250



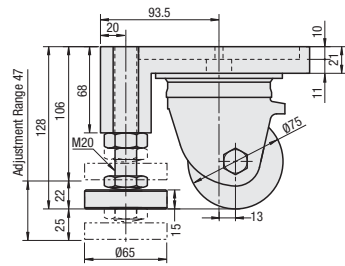
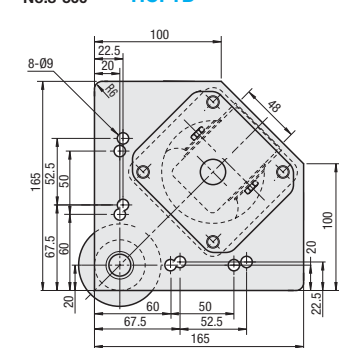
HCFTU HCFTM HCFTU HCFTD

No.8-350



HCFTU HCFTM HCFTU HCFTD

No.8-500



Ⓢ When moving the unit using the casters, raise the adjustment pads completely.

Standard Type

Part Number	Type	No.	Load	kg	N	Mass	Screws · Nuts				€ Unit Price			
							Screws	Quantity	Nuts	Quantity	HCFT	HCFTU	HCFTM	HCFTD
HCFT	6	60	60	588	600	CBM5-15 CBM6-15	4	HNTT5-5	4					
														HNTT6-6
HCFTU HCFTM HCFTD	8	130	130	1275	1100	CBM6-20 CBM8-25	4	HNTT8-8	4					
														HNTT6-6
HCFTU HCFTM HCFTD	8	250	250	2452	1445	CBM6-12 CBM8-15	4	HNTT8-8	4					
														HNTT6-6
HCFT HCFTU HCFTM HCFTD	8	500	500	4902	5600	CBM8-30	4	HNTT8-8	4					
														HNTT6-6

Conductive

Part Number	Type	No.	Load	kg	N	Mass	Screws · Nuts				€ Unit Price	
							Screws	Quantity	Nuts	Quantity	SHCFT	SHCFTD
SHCFT	6	60	60	588	600	SCB5-20 SCB6-20	4	HNTTSN5-5 HNTTSN6-6	4			
SHCFT SHCFTD	8	130	130	1275	1100	SCB8-25	4	HNTTSN8-8	4			

Ⓢ Pad and caster are made of stainless steel (1.4301/X5CrNi18-10).

Alterations Part Number - (SET · BL)
HCFT6-130 - SET - BL100 Ⓢ Alteration BL100 · BL150

Alteration	Code	Spec.	Caster Assembly Units				Components				Price Adder
			Type	No.	Load	Screws	Quantity	Nuts	Quantity	Price Adder	
Applicable Screw Nut Set	SET	Applicable screws and nuts come in a set. Ⓢ No set unit is available for the conductive type.	HCFT	5	60	588	CBM5-15	4	HNTT5-5	4	1,70
			HCFT	6	130	1275	CBM6-15	4	HNTT6-6	4	1,90
			HCFT,HCFTM,HCFTD	6	130	1275	CBM6-20	4	HNTT6-6	4	1,90
			HCFT,HCFTU,HCFTM,HCFTD	8	250	2452	CBM6-12	4	HNTT8-8	4	2,40
			HCFT,HCFTU,HCFTM,HCFTD	8	250	2452	CBM8-15	4	HNTT8-8	4	2,40
			HCFT,HCFTU,HCFTM,HCFTD	8	500	4902	CBM8-30	4	HNTT8-8	4	2,40

Alterations Code	Spec. Changes the length of standard adjustment pads.	Adjustment Pad Length					
		BL100			BL150		
		Load	Height from Floor Standard	Price Adder	Load	Height from Floor Standard	Price Adder
	60	78	132	60	78	178	
	130	113	152	130	113	200	
	250	101	145	250	101	191	
	350	111	150	350	111	200	
			4,20	500	150	210	4,60

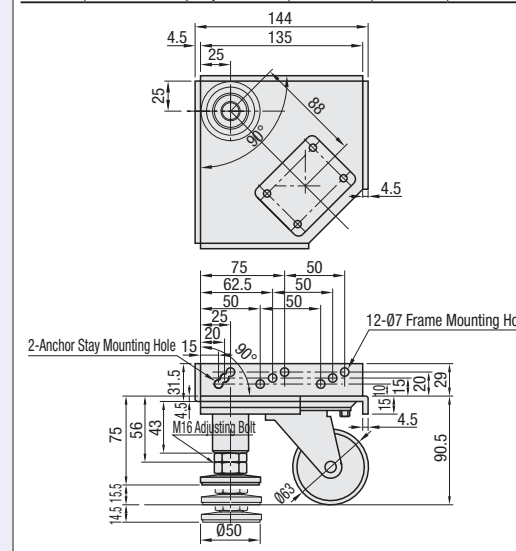
*The height from the floor can be increased by using a longer adjusting pad. However, the adjustment pad sticks out from the plate surface.

Side Mounting Type

RoHS



Part Number		Body		Jack Bolt	
Type	Wheel Material	M Material	S Surface Treatment	M Material	S Surface Treatment
HCFTU	Nylon	1.0320/ St.22	Trivalent Chromate (Black)	1.0038/ S235JR	Trivalent Chromate
HCFTM	MC Nylon				
HCFTD	Conductive MC Nylon				



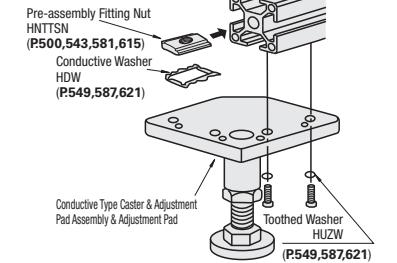
Part Number	Type	No.	Load	kg	N	Mass	Screws · Nuts				€ Unit Price		
							Screws	Quantity	Nuts	Quantity	HCFTU	HCFTM	HCFTD
HCFTU HCFTM HCFTD	6	130	130	1275	1550	CBM6-12 CBM6-16	4	HNTT6-6 HNTT8-6	4				
													HNTT8-6

Features: When mounting on the aluminum extrusions, no need to get under the unit nor to turnover the unit for screw tightening, thus the improved productivity.
- Excellent in holding lateral load and stability due to the side plate holding mechanism.
- Quake-resistant capability can be obtained by mounting optional anchor brackets (P995) and anchor bolts.

Order Example Part Number
HCFT6-130

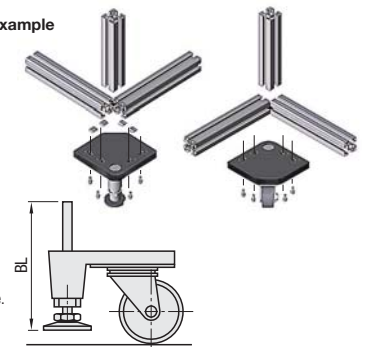
Days to Ship 6 Days P87

How to install Conductive Type



Ⓢ Conductive washers and toothed washers are not included with the Conductive Type.

Example



Example



Anchor Brackets (P716)

Ⓢ Use a washer between the frame and the Anchor Bracket.

Order Example Part Number
HCFT6-130

Days to Ship 6 Days P87



CAD Data

CAD Data

Leveling Mounts Units

Part Number		Allowable Load kN (kgf)	Mass kg	Components					€ Unit Price		Vol. Discount
Type	No.			Plate	Adjustment Pad	Screws	Qty.	Nuts	Qty.	Qty. 1-8	
HAJPS	5	4.9 (500)	0.45	HAJP5	NFJN12-100	CBM5-10	4	HNTT5-5	4		
	6		0.46	HAJP6		CBM6-12		HNTT6-6			
	8'		1.15	HAJP8		CBM8-20		HNTT8-8			
	5050	16.6 (1700)	1.15	HAJPC5050	FJFN16-150	CBM6-15	8	HNTT6-6	8		
	6060		1.6	HAJPC6060		CBM8-25		HNTT8-8			
	8080		2.5	HAJPC8080							
9090	2.9	HAJPC9090									

8* is used in common with 8-45. Washers are included with HAJPS8080 only. For orders larger than indicated quantity, please request a quotation.
 No. 6060, 8080 and 9090 are applicable to HFS6-6060, HFS8-8080 and HFS8-9090.

Plate with Casters (Casters with Stoppers)

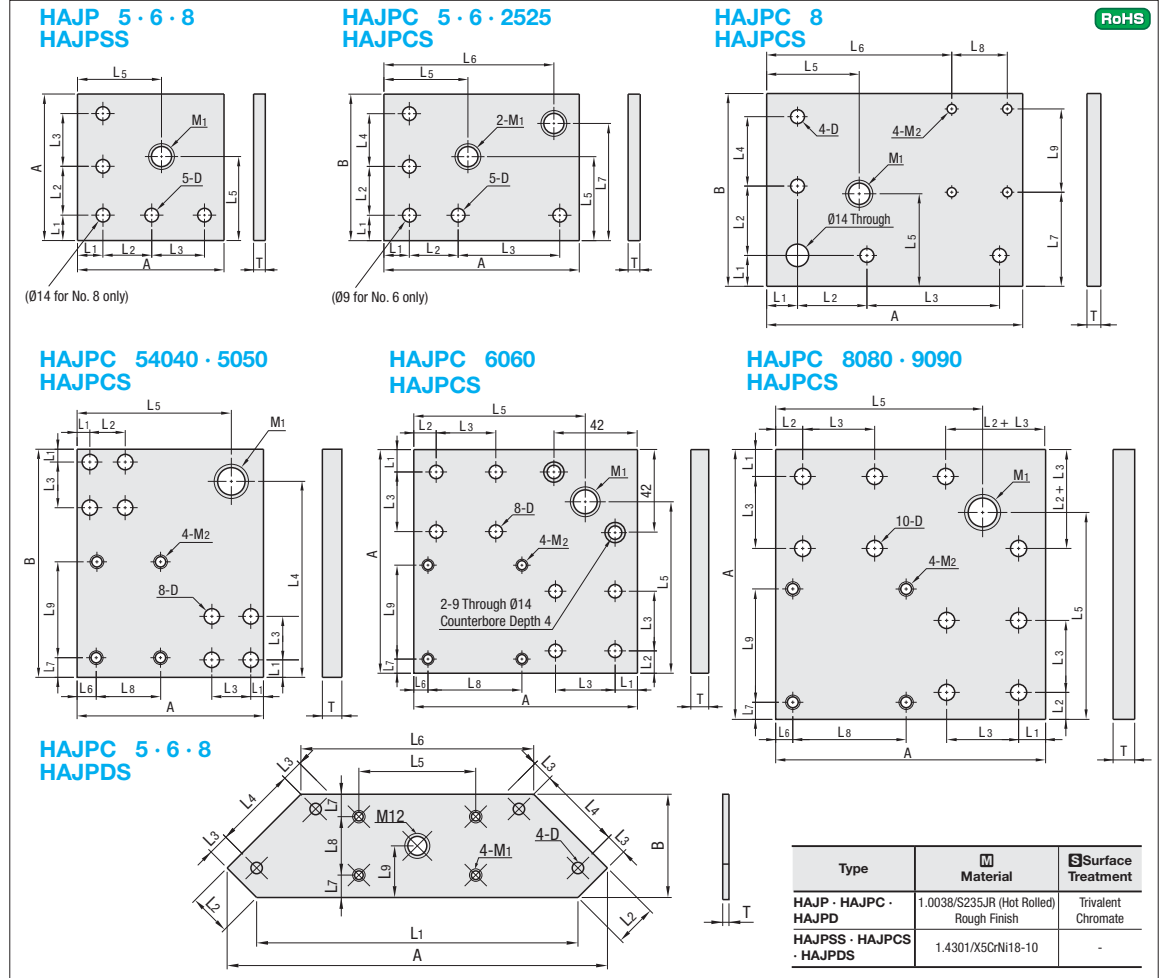
Part No.		Allowable Load kN (kgf)	Mass kg	Components					€ Unit Price		Vol. Discount
Type	No.			Plate	Caster	Screws	Qty.	Nuts	Qty.	Qty. 1-8	
HCHPS	5	0.9 (100)	0.69	HAJP5	HCHAS12-100	CBM5-10	4	HNTT5-5	4		
	6	1.4 (150)	0.7	HAJP6	HCHAS12-100	CBM6-12		HNTT6-6			
	8'	1.7 (170)	1.8	HAJP8	HCHAS16-170	CBM8-20		HNTT8-8			

8* is used in common with 8-45. For orders larger than indicated quantity, please request a quotation.
 No. 5 and 6 apply to frames with 6-slot width 20 Square Type and 8-slot width 30 Square Types. No. 8 apply to Frames 10-slot width 40 Square - 45 Square Type.

Leveling Mounts+Plate with Caster Unit

Part Number		Caster Allowable Load kN (kgf)	Adjustment Pad Allowable Load kN (kgf)	Mass kg	Components								Unit Price		Vol. Discount
Type	No.				Plate	Adjustment Pad	Body	Mounting Screw	Qty.	Mounting Screw	Qty.	Nuts	Qty.	Qty. 1-8	
HAJCHP	5	0.9 (100)	4.9 (500)	0.86	HAJPC5	NFJN12-100	HCHA12-100	-	-	CBM5-10	4	HNTT5-5	4		
	2525				HAJPC2525	NFJN12-100	HCHA12-100	-	-	CBM5-10	4	HNTT5-5	4		
	54040	1.4 (150)	4.9 (500)	0.9	HAJPC6	NFJN12-100	HCHA12-150	-	-	CBM6-12	4	HNTT6-6	4		
	6				HAJPC6	NFJN12-100	HCHA12-150	-	-	CBM6-12	4	HNTT6-6	4		
	5050	1.7 (170)	16.6 (1700)	2.2	HAJPC8	FJFN16-150	CHJF50S	CBM6-12	4	CBM8-20	8	HNTT8-8	8		
	6060				HAJPC5050	FJFN16-150	CHJF50S	CBM6-10		CBM6-15		HNTT6-6			
	8080	2.9 (300)	39.2 (4000)	3.4	HAJPC8080	FJFN20-150	CSHN-S50-N	CBM8-12	4	CBM8-25	8	HNTT8-8	8		
	9090				HAJPC9090	FJFN20-150	CSHN-S50-N	CBM8-12		CBM8-25		HNTT8-8			

8* is used in common with 8-45. Washers are included with HAJCH8080 only. For orders larger than indicated quantity, please request a quotation.



Type	Material	Surface Treatment
HAJP · HAJPC · HAJPD	1.0038/S235JR (Hot Rolled) Rough Finish	Trivalent Chromate
HAIJPS · HAIJPCS · HAIJPDS	1.4301/X5CrNi18-10	-

Part Number		A	B	T	M1	M2	D	L1	L2	L3	L4	L5	L6	L7	L8	L9	Mass kg	HAJP · HAJPC · HAJPD		HAJPS · HAIJPCS · HAIJPDS												
Type	No.																	€ Unit Price	Vol. Discount	€ Unit Price	Vol. Discount											
HAJP HAJPSS	5	75	-	6	12	-	5.5	8	30	27	-	43	-	-	-	-	0.24															
	6																					7	13	25	31	60	0.65					
	8'																					9	20	45	25	60	0.65					
HAJPC HAJPCS	5	135	75	6	12	-	5.5	8	30	87	27	43	122	60	-	-	0.45															
	2525																					8	10.5	30	87	27	43	60	0.45			
	54040																					8	20	20	107	82	11	10	36	54	0.82	
	6																					7	13	25	87	31	43	122	60	-	0.44	
	8'																					9	20	45	86	45	60	120	61	-	1.03	
	5050																					10	60	20	65	106	10	10	36	54	1.03	
6060	12	12	30	98	17	8	-	-	-	-																						
8080	150	-	12	20	8	9	15	15	40	-	115	9.5	9.5	63	63	2																
9090	165	130	14	14	45	130	14	14	42	41	2.1																					
HAJPD HAJPDS	5	184	50	6	6	-	5.5	154	20	10	40	56	112	11	28	25	0.53															
	6																					237	74	9	7	193	30	50	129	16	37	0.9
	8																					250	82	12	8	9	40	55	144	20	41	2.1

8* is used in common with 8-45. For orders larger than indicated quantity, please request a quotation.
 No. 6060, 8080 and 9090 are applicable to HFS6-6060, HFS8-8080 and HFS8-9090.
 No. 5 and 6 apply to frames with 6-slot width 20 Square Type and 8-slot width 30 Square Types. No. 8 apply to Frames 10-slot width 40 Square and 45 Sq. Type.
 No. 5040 is applicable to the frame HFS5-4040. No. 5050 is applicable to the frame HFS6-5050.



Order Example
 Part Number
HAJCHP6060

Days to Ship
8 Days
 Express A 8,00 EUR/ piece P88

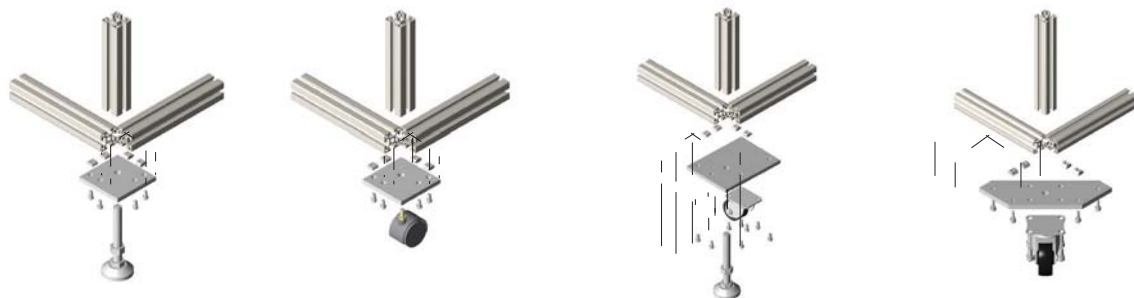
Example

Mounting Example
 - Mounting of the Plate with Leveling Mounts

- Mounting of the Caster Plate

- Mounting of the Leveling Mounts+ the Caster Plate

- Mounting of HAJPD (Next Page)



Order Example
 Part Number
HAJPS

Days to Ship
8 Days
 Express A 8,00 EUR/ piece P88

Example
 See left page.

- HAJPC · HAJPD
6 Days
 P87

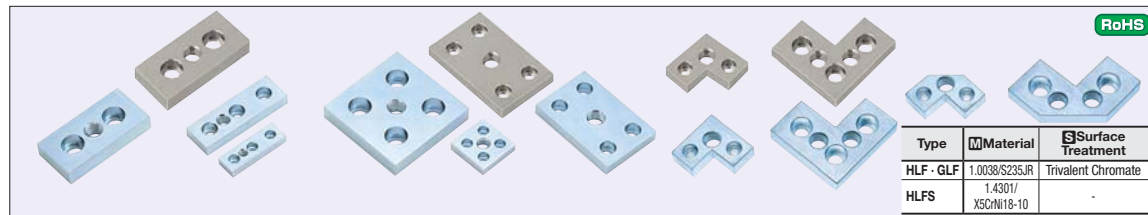
Foot Base



Pads for Aluminum Frames / Foot Bases for 40 and 45 Squares

CAD Data

CAD Data

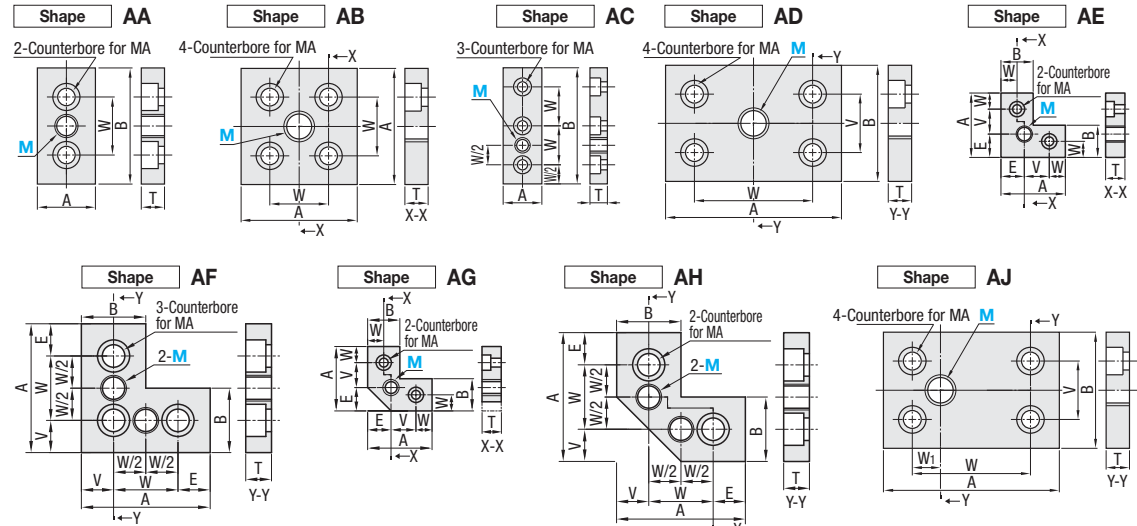


RoHS

Type	Material	Surface Treatment
HLF · GLF	1.0038/S235JR	Trivalent Chromate
HLFS	1.43017 X5CrNi18-10	-

HLF5 · 6 · 8
GLF8

HLFS5 · 6 · 8 (Stainless Steel)

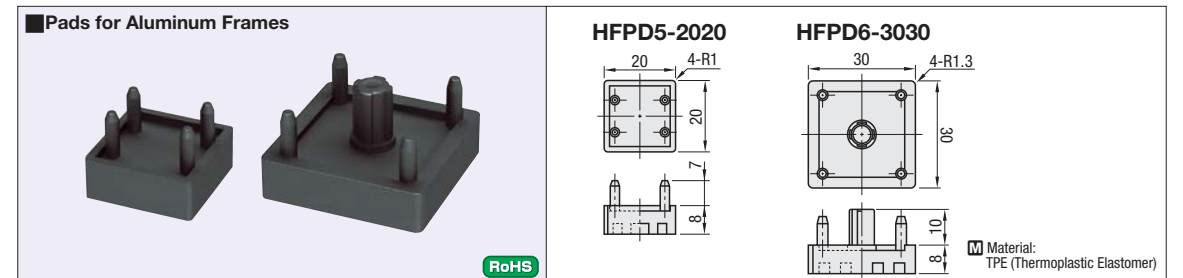


HLF and GLF Types have no plating finish on tapped holes.

Part Number	Type	HLF (GLF)	Adjustment Pad M	Shape Pattern	A	B	W	W ₁	V	E	T	Counter-bore MA	Mass kg	Screw	HLF (GLF)		HLFS		
															HLF (GLF)	HLFS	€ Unit Price Qty. 1-8	Volume Discount 9-50	€ Unit Price Qty. 1-8
2040	HLF5 HLFS5	8	-	AA	20	40	20	-	-	-	9	5	0.05	M5-15	-	-	-	-	
2550		8		AC	25	50	25	-	-	-	-	12	8	0.07	M8-25	-	-	-	-
2060		8		AA	20	60	20	-	-	-	-	9	-	0.06	-	-	-	-	-
2080		8		AA	20	80	60	-	-	-	-	9	-	0.1	M5-15	-	-	-	-
4040	HLF6 HLFS6	8 10 12	-	AB	40	-	20	-	-	-	15.5	14.5	12	5	0.09	-	-	-	-
404020		12		AE	40	20	10	-	-	-	-	5	0.08	-	M5-20	-	-	-	-
404020A		12		AG	40	20	10	-	-	-	-	5	0.06	-	-	-	-	-	-
4060		12		AJ	60	40	40	10	-	20	-	9	0.14	-	M5-15	-	-	-	-
4080		12		AD	80	40	60	-	-	-	-	9	0.21	-	-	-	-	-	-
3060		10 12 16		AA	30	60	30	-	-	-	-	-	12	8	0.13	-	-	-	-
3090		12		AC	30	90	30	-	-	-	-	-	12	8	0.24	-	-	-	-
30120		12		AA	120	90	-	-	-	-	-	-	12	8	0.31	-	-	-	-
5050		10 12		AB	50	-	20	-	-	-	-	-	12	8	0.28	-	-	-	-
50100		10 12 16		AD	100	50	70	-	-	20	-	-	12	8	0.42	-	-	-	-
100100		16 20		AB	100	-	-	-	-	-	-	-	12	8	0.9	M8-25	-	-	-
6060		10 12 16		AB	60	-	-	-	-	-	-	-	12	8	0.28	-	-	-	-
606030	12	AF	60	30	30	-	-	15	15	-	12	8	0.18	-	-	-	-		
606030A	12	AH	60	30	30	-	-	15	15	-	12	8	0.16	-	-	-	-		
6090	16	AD	90	60	60	-	-	30	-	-	12	8	0.47	-	-	-	-		
60120	16	AD	120	60	90	-	-	-	-	-	12	8	0.63	-	-	-	-		
4080*	12 16	AA	40	80	40	-	-	-	-	-	12	12	0.31	M12-30	-	-	-		
40160	16	AA	40	160	120	-	-	-	-	-	12	12	0.79	M12-30	-	-	-		
4590*	16	AA	45	90	45	-	-	-	-	-	12	12	0.427	M12-20	-	-	-		
45180	16 20	AA	45	180	135	-	-	-	-	-	12	12	0.94	M12-20	-	-	-		
50100*	16	AA	50	100	50	-	-	-	-	-	12	12	0.55	M12-20	-	-	-		
8080	12 16 20	AB	80	-	-	-	-	-	-	-	12	8	0.73	M8-30	-	-	-		
808040	16	AF	80	40	40	-	-	20	20	16	12	12	0.38	M12-30	-	-	-		
808040A	16	AH	80	40	40	-	-	20	20	16	12	12	0.35	M12-30	-	-	-		
80160	16 20	AD	160	80	120	-	-	40	-	-	12	8	1.56	M8-30	-	-	-		
9090	16 20	AB	90	-	-	-	-	-	-	-	12	8	0.95	M8-30	-	-	-		
909045	16	AF	90	45	45	-	-	22.5	22.5	-	12	12	0.54	M12-20	-	-	-		
909045A	16	AH	90	45	45	-	-	22.5	22.5	-	12	12	0.51	M12-20	-	-	-		
90180	16 20	AD	180	90	135	-	-	45	-	-	12	8	1.99	M8-30	-	-	-		
GLF8	9090	20	AB	90	-	45	-	-	-	-	16	12	0.95	M12-25	-	-	-		
100100	20	AB	100	-	50	-	-	-	-	-	16	12	1.12	M12-20	-	-	-		

*Foot bases marked with * in the specification table are also applicable to high rigid aluminum extrusion.
 Ⓜ Mounting screws are not included.
 Ⓞ For orders larger than indicated quantity, please request a quotation.

Order Example: Part Number - M
HLF6-3060 - 10
Days to Ship: 7 Days



RoHS

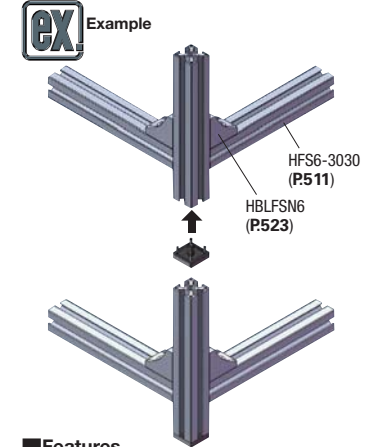
Material: TPE (Thermoplastic Elastomer)

Part Number	Type	No.	Extrusions	Mass (g)	€ Unit Price Qty. 1-9	Volume Discount 10-50
HFPD 5-2020	HFS5 Series	20 Square, Single Slot	4	-	-	
HFPD 6-3030	HFS6 Series	30 Square, Single Slot	9	-	-	
	HFSL6 Series	30 Square, Single Slot	-	-	-	
	GFS6 Series	30 Square, Single Slot	-	-	-	
	GFS6 Series	30 Square, Single Slot	-	-	-	

Order Example: Part Number HFPD6-3030
Days to Ship: 6 Days P:87

Item	Unit	Value
Hardness *1	Shore	D59
Tensile Strength *2	Mpa	19.9
Plastic Deformation Rate by Compression *3	%	28
Specific Volume Resistivity	Ω-cm	6.5x10 ⁵

*1 Based on JIS K 7215 Type D Durometer
 *2 Based on JIS K 7113
 *3 Based on JIS K 7113
 For comparing electrical conductivities to those of other materials, refer to P.449
 Ⓞ Above data are standard values, not standard values nor guaranteed values.

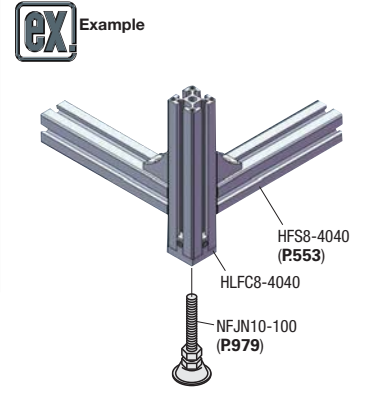
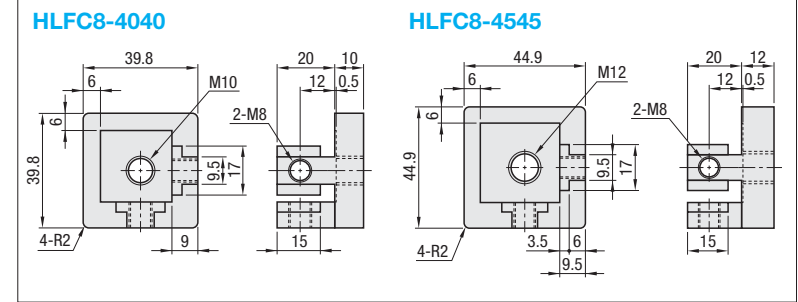


Features:
 - Pad that can be directly mounted to the end of Aluminum Frames.
 - Tapping aluminum frame end faces not necessary.



RoHS

Part Number	Components	Material	Surface Treatment
HLFC8-4040	Body	1.4308/ G-X6CrNi18-9	-
HLFC8-4545	Set Screw	1.4301/ X5CrNi18-10	-



Ⓞ Tapping aluminum frame end faces not necessary.

Part Number	Type	No.	Extrusions	Accessory	Mass (g)	€ Unit Price Qty. 1-9	Volume Discount 10-50
HLFC8 4040	HLFC8	4040	EFS8-4040 HFS8-4040 HFSL8-4040 GFS8-4040	M8 Set Screws x 2	150	-	-
HLFC8 4545	HLFC8	4545	EFS8-4545 HFS8-4545		210	-	-

Order Example: Part Number HLCF8-4040
Days to Ship: 6 Days P:87



Casters for Aluminum Frames

-Double Wheels Swivel / Screwed Fitting Type-

CAD Data

RoHS

Type	Body	Wheel	Bearing
M Material	S Surface Treatment	M Material (Color)	Swiveling Part / Wheel Part
HCHA + HCHAS	Nylon	Nylon	-

The "r" indicates the swivel radius of the wheel and turning radius of the pedal.

HCHA

(8-40, 8-60, 8-100, 12-60, 12-100, 12-150, 16-150, 16-170)

HCHAS

(8-20, 8-30, 12-20, 12-30)

Part Number	Type	M (Coarse)	Allowable Load		D	H	A	B	C	E	NB	NT	NL	HCHA		HCHAS		
			W (kgf)	N (N)										€ Unit Price	Volume Discount	€ Unit Price	Volume Discount	
HCHA HCHAS (With Stopper)	8	20	196	42	54	-	40	14	12	12	4	15						
		30	294	52	64	-	47	14.5	16	16	5	12						
		40	396	60	74	7	44	12	15	14	4.5	12						
		60	594	80	104	8	49	14	17	17	6	14						
		100	990	100	130	8	49	14	17	17	6	14						
		150	1485	120	170	10	59	17.5	17	17	8	22						
	12	20	196	42	54	-	40	14	12	12	5	15						
		30	294	52	64	-	47	14.5	16	16	5	12						
		40	396	60	74	7	44	12	15	14	4.5	12						
		60	594	80	104	8	49	14	17	17	6	14						
		100	990	100	130	8	49	14	17	17	6	14						
		150	1485	120	170	10	59	17.5	17	17	8	22						
16	150	1485	120	170	10	59	17.5	17	17	8	22							
	170	1683	130	185	10	64	18.5	20	20	8	25							

Order Example: Part Number - W
HCHA12 - 100

Days to Ship: - HCHAS 6 Days, - HCHA 8 Days

Installation Method
Turn the hex bolt head at the lower part of wheel, (the part shown with A) then the upper thread part of screw will turn. For clamping, use the two flats shown at NB. For *marked types, install and tighten the NB part with a wrench.

RoHS

Type	Body	Wheel	Bearing
M Material	S Surface Treatment	M Material (Color)	Swiveling Part / Wheel Part
HSGN	Trivalent Chromate	Synthetic Rubber (Black) · Urethane (Brown) · Nylon (White)	Provided / Not Provided

The "r" indicates the swivel radius of the wheel and turning radius of the pedal.

HSGN

(Swivel Screwed Fitting)

HSGNS

(Swivel Screwed Fitting + with Stopper)

Body Type	Part Number	Type	D	M (Coarse)	Wheel Material	Wheel Width B		E	NB	NT	NL	r	Allowable Load (N)			Mass (g)			€ Unit Price				
						R	U						N	-R	-U	-N	-R	-U	-N	-R	-U	-N	
Swivel Screwed Fitting Type	HSGN	50	8	68	20	21	21	22	14	14	47	300	380	400	195	175	165						
		65	12	85	21	21	21	23	19	4.8	35	56	400	400	270	220	210						
		75	12	95	21	21	21	27	19	4.8	35	65	400	450	500	310	240	225					
		100	12	126	25	28	25	31	21	4	40	82	500	600	600	585	435	405					
Swivel Screwed Fitting Stopper Type	HSGNS	50	8	68	20	21	21	22	14	14	49	300	380	400	220	200	190						
		65	12	85	21	21	21	23	19	4.8	35	57	300	400	400	305	255	235					
		75	12	95	21	21	21	27	19	4.8	35	65	400	450	500	340	275	250					
		100	12	126	25	28	25	31	21	4	40	82	500	600	600	650	620	585					

Body Type	Part Number	Type	D	M (Coarse)	Wheel Material	Wheel Width B		E	NB	NT	NL	r	Allowable Load (N)			Mass (g)			€ Unit Price				
						R	U						N	-R	-U	-N	-R	-U	-N	-R	-U	-N	
Swivel Screwed Fitting Type	HSGN	50	8	68	20	21	21	22	14	14	47	300	380	400	195	175	165						
		65	12	85	21	21	21	23	19	4.8	35	56	400	400	270	220	210						
		75	12	95	21	21	21	27	19	4.8	35	65	400	450	500	310	240	225					
		100	12	126	25	28	25	31	21	4	40	82	500	600	600	585	435	405					
Swivel Screwed Fitting Stopper Type	HSGNS	50	8	68	20	21	21	22	14	14	49	300	380	400	220	200	190						
		65	12	85	21	21	21	23	19	4.8	35	57	300	400	400	305	255	235					
		75	12	95	21	21	21	27	19	4.8	35	65	400	450	500	340	275	250					
		100	12	126	25	28	25	31	21	4	40	82	500	600	600	650	620	585					

Order Example: Part Number - M - Wheel Material
HSGN75 - 12 - U

Days to Ship: 8 Days

Price: Volume Discount (Round down to one Cent.) P87

Quantity: 1-19, 20-34, 35-49, 50-99

Discount Rate: € Unit Price, 0.05, 10%, 18%

For orders larger than indicated quantity, please request a quotation.



Casters for Aluminum Frames / Side Mount Caster Brackets / Foot Mount Brackets

-Rubber Wheel Type-

CAD Data

RoHS

Type	Body	Wheel	Bearing
M Material	S Surface Treatment	M Material (Color)	Swiveling Part / Wheel Part
HSMA	Trivalent Chromate	Synthetic Rubber (Black)	Provided / Provided

The "r" indicates the swivel radius of the wheel and turning radius of the pedal.

HSMA

HSMAS

Body Type	Part Number	Type	M (Coarse)	Allowable Load		D	H	B	E	NB	NT	NL	r	Mass (g)	€ Unit Price
				W (kgf)	N (N)										
Swivel Type	HSMA	12	60	594	75	105	25	30	23	4	25	72	500		
		16	70	695	100	137	35	89	700						
Swivel with Stopper Type	HSMAS	12	60	594	75	105	25	30	23	4	25	105	640		
		16	70	695	100	137	35	128	950						

Body Type	Part Number	Type	M (Coarse)	Allowable Load		D	H	B	E	NB	NT	NL	r	Mass (g)	€ Unit Price
				W (kgf)	N (N)										
Swivel Type	HSMA	12	60	594	75	105	25	30	23	4	25	72	500		
		16	70	695	100	137	35	89	700						
Swivel with Stopper Type	HSMAS	12	60	594	75	105	25	30	23	4	25	105	640		
		16	70	695	100	137	35	128	950						

Order Example: Part Number - W
HSMA16 - 70

Days to Ship: 8 Days

Price: Volume Discount (Round down to one Cent.) P87

Quantity: 1-19, 20-34, 35-49, 50-99

Discount Rate: € Unit Price, 0.05, 10%, 18%

For orders larger than indicated quantity, please request a quotation.

Side Mount Caster Brackets

RoHS

CPHAL

No.10 · 12 No.12A No.16

Material: EN AC-46100/G-AISI12Cu Surface Treatment: Baked Finish (Silver)

For the Mounting Hole Specified, refer to P.960

Part Number	Type	No.	Extrusions	M (Coarse)	H	L	B	K	C	T	D	G	Mounting Hole Dimension			Mass (g)	€ Unit Price	Volume Discount					
													E1	E2	F3								
CPHAL	10	10	20 · 30 Square	10	45	70	36	23	31	8	14	13	40	55	10	15	-	135					
													12	25 · 40 · 50 Square	12	46	33	41	10	25	165		
													12A	45 · 60 Square	16	50	95	57	40	50	10	20	17

Order Example: Part Number
CPHAL10

Days to Ship: 6 Days

Price: P87

Example: Mounting of Casters, Mounting of Leveling Pads

Foot Mount Brackets

RoHS

HPLAT

No.5 No.6 No.8

Material: EN AC-46100/G-AISI12Cu-ADC12

Part Number	Type	No.	Extrusions	A	T	M	Z	D	F	t1	t2	Mass (g)	€ Unit Price	Volume Discount										
															HPLAT	5	5	20 / 30 Square	75	10	12	25	-	43
6	40 Square	100	12	16	35	14	60	28	8	281														
8	40 Square	100	12	20	35	14	60	28	8	273														

Order Example: Part Number
HPLAT6

Days to Ship: 6 Days

Price: P87



Casters for Aluminum Frames

-With Mounting Plate-

CAD Data

Light Load Type

HSMC (Swivel)

HSMCS (Swivel with Stopper)

The "r" indicates the swivel radius of the wheel and turning radius of the pedal.

Type	Body		Wheel		Bearing	
	Material	Surface Treatment	Material	Swiveling Part	Wheel Part	
HSMC	1.0320/St.22	Trivalent Chromate	Synthetic Rubber (Black)	Provided	Not Provided	
HSMCS	1.0320/St.22	Trivalent Chromate	Nylon (White) - Urethane (Brown)	Provided	Not Provided	

Body Type	Part Number Type	Wheel Material	Extrusions	H	B	d	E	r	Mass (g)		
									R (Rubber Wheel)	N (Nylon Wheel)	U (Urethane Wheel)
Swivel Type	HSMC 50	R (Rubber) N (Nylon) U (Urethane)	HFS5-2020	70	28	5.3	27	53	462	437	-
	HSMC 65		HFS6-3030	85	25	6.5	27	60	526	460	475
	HSMC 75		HFS8-4040 / 8-4545	93	25	8.8	28	66	552	458	478
Swivel Stopper Type	HSMCS 50	R (Rubber) N (Nylon) U (Urethane)	HFS5-2020	70	28	5.3	27	67	521	496	-
	HSMCS 65		HFS6-3030	85	25	6.5	27	68	538	472	487
	HSMCS 75		HFS8-4040 / 8-4545	93	25	8.8	28	68	604	510	530

Order Example: Part Number **HSMC75** - Wheel Material **R** Days to Ship **6 Days** P87

Price

Quantity	1-19	20-34	35-49	50-99
Discount Rate	€ Unit Price	5%	10%	18%

For orders larger than indicated quantity, please request a quotation.

Part Number Type	D	€ Unit Price		
		Rubber	Nylon	Urethane
HSMC	50			
	65			
	75			
HSMCS	50			
	65			
	75			

Allowable Load

Part Number Type	D	Allowable Load N		
		Rubber	Nylon	Urethane
HSMC	50	500	600	-
	65	500	700	600
	75	600	800	700
HSMCS	50	500	600	-
	65	500	700	600
	75	600	800	700

Heavy Load Type

HCHJF (Swivel)

HCHJS (Swivel with Stopper)

Type	Body		Wheel		Bearing	
	Material	Surface Treatment	Material	Swiveling Part	Wheel Part	
HCHJF	1.0320/St.22	Trivalent Chromate	Reinforced Nylon (Black)	Provided	Provided	
HCHJS	1.0320/St.22	Trivalent Chromate	Phenol (Black)	Provided	Provided	

Body Type	Part Number Type	Wheel Material	Extrusions	H	r	t	Allowable Load (N)	Mass (g)		€ Unit Price
								N	P	
Swivel Type	HCHJF 65	N (Reinforced Nylon)	HFS6-3030	92	57	3.2	2000	1170		
	HCHJF 75		HFS8-4040	106	61			1270		
	HCHJF 75		HFS8-4545	92	67			750		
Swivel Stopper Type	HCHJS 65	P (Phenol)	HFS6-3030	92	57	3.2	2000	1170		
	HCHJS 75		HFS8-4040	106	61			1270		

Order Example: Part Number **HCHJF65** - Wheel Material **N** Days to Ship **8 Days** P87

Quantity	1-19	20-34	35-49	50-99
Discount Rate	€ Unit Price	5%	10%	18%

For orders larger than indicated quantity, please request a quotation.



Casters for Aluminum Frames

-Adjuster Mounted Type-

CAD Data

Light Load Type

CMPAL (Swivel with Plate)

CMPAN (Swivel with Screwed Fitting)

Mount the upper plate to the mating extrusion.
Turn Nut (2) to adjust the height of the leveling pad.
Tightening nut (3) locks the leveling pad.

Turning t1 nut (1) attaches the body to the frame.
Turn t2 Nut (2) to adjust the height of the leveling pad.
(Nut (1) and (2) are not one unit.)
Tightening nut (3) locks the leveling pad.

Type	Body		Wheel		Bearing		Adjustment Pad	
	Material	Surface Treatment	Material (Color)	Swiveling Part	Wheel Part	Material	Surface Treatment	
CMPAL - CMPAN	Nylon	-	Nylon	Provided	-	1.0038/S235JR	Trivalent Chromate	

Body Type	Part Number Type	Wheel Material	H	B	(W)	S1	S2	K	A	C	F	G	d	t	t2	E	(r)	Allowable Load (N)	Mass (g)	€ Unit Price
Plate Type	CMPAL 50	N (Nylon)	83	62	34	10	5	32	69	56	55	42	5.5	3	4	23	54	1000	290	
	CMPAL 60		88	69	37	10	5	32	69	56	55	42	5.5	3	4	23	61			

Order Example: Part Number **CMPAN50** - Wheel Material **N** Days to Ship **6 Days** P87

Price

Quantity	1-19	20-34	35-49	50-99
Discount Rate	€ Unit Price	5%	10%	18%

For orders larger than indicated quantity, please request a quotation.

Heavy Load Type

HCMAS (Swivel)

Type	Body		Wheel		Bearing	
	Material	Surface Treatment	Material	Swiveling Part	Wheel Part	
HCMAS	1.0320/St.22	Trivalent Chromate	Reinforced Nylon (Black)	Provided	Provided	

Body Type	Part Number Type	Wheel Material	Extrusions	H	r	Adjuster Pad				E	b	t	Allowable Load (N)	Mass (g)	€ Unit Price	
						S1	S2	K	b							
Swivel Type	HCMAS 50	N (Reinforced Nylon)	HFS6-3030	74	73	15	15	40	24	19.6	46	45	3.2	2000	2160	
			HFS8-4040	95	84	15	15	40	24	18.8	51					
			HFS8-4545	95	84	15	15	40	24	18.8	51					

Order Example: Part Number **HCMAS65** - Wheel Material **N** Days to Ship **8 Days** P87

Quantity	1-19	20-34	35-49	50-99
Discount Rate	€ Unit Price	5%	10%	18%

For orders larger than indicated quantity, please request a quotation.