

Sub channel systems / aluminium - overview

HMP-ALU Sub channel systems are preferred due to its light weight and easiness of cutting and drilling. These systems are used for the installation of cladding panels such as, natural stone panels, ceramic panels and fibre cement panels.

There are three methods of connection to the panel. the first one is with the pin system where pins are inserted to the predrilled pin holes on the edge of the stone panels. The second is the kerf system where slot openings on edge of stone accommodate the kerf anchors. The third system is the undercut system where undercut bolts are attached on the back of the stone.

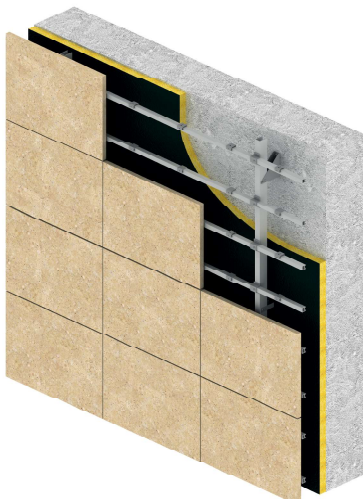
Three dimensional adjustability is enabled and fast installation is possible due to the light weight of aluminium and the ease of cutting and drilling on site.

- Fixing to sub channel structure which is attached to load bearing beams
- Light weight and easy to install
- Possibility of cutting and drilling aluminium channels provides flexibility
- Fully adjustable and allows fast installation with the use of self drilling screws

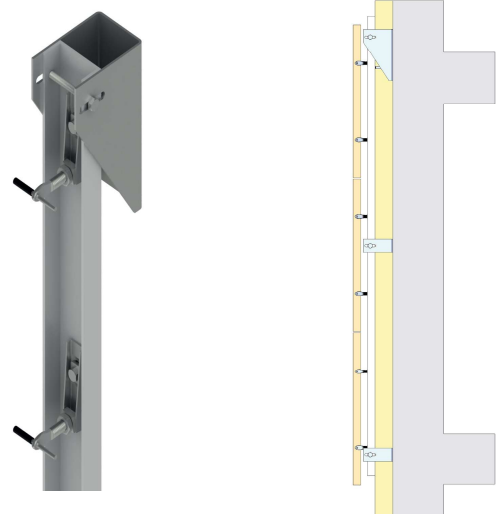
Sub Channel Fixing System with Vertically spanned channels



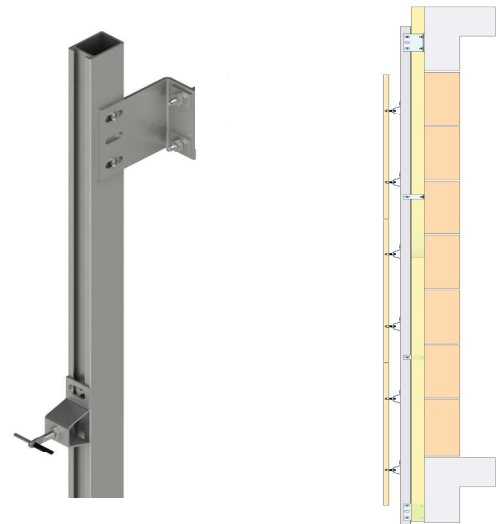
Sub Channel Fixing System with Vertically & Horizontally spanned channels



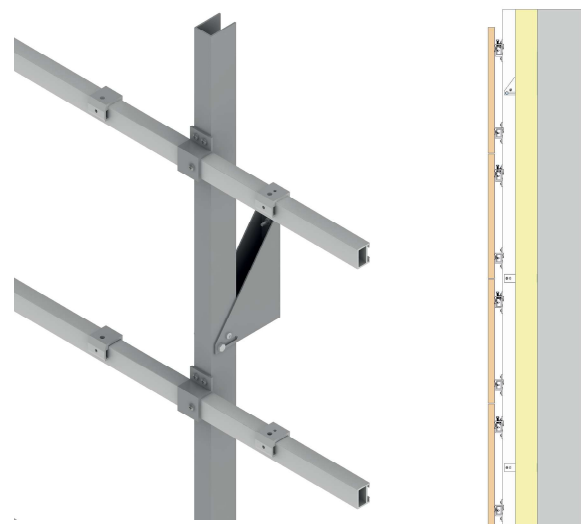
HMP-ALU-U Sub Channel Fixing System



HMP-ALU-SP Sub Channel Fixing System



HMP-ALU-AG Sub Channel Fixing System



Channels are available in extruded aluminium. Various types of sub channel systems can be formulated to accommodate the requirements of the project. Aluminium channels are used for installing natural stone, fibre cement, ceramic panels and other light weight cladding materials. Available in aluminium grade EN AW 6063 T66 both in mill finish and anodised finish.

Sub Channel System

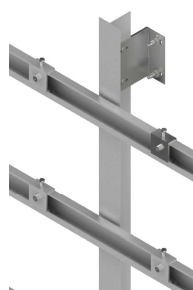
HMP-ALU-U



HMP-ALU-SP



HMP-ALU-P



HMP-ALU-AG



Extruded aluminium Channels

HMP-ALU-U



HMP-ALU-BV



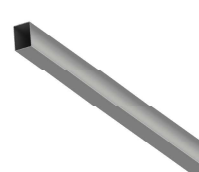
HMP-ALU-RV



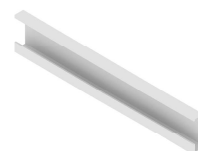
HMP-ALU-T



HMP-ALU-BH



HMP-ALU-P



Supports & Restraints

HCSP3-AL



HCSP6-AL



HCSP3-AL



HCRS4-AL



HCR6-AL



HCRS3-AL



Adjustable Anchors

BABody anchor



HZ02-SPX Z anchor



HZ00-SPX anchor



HA03-SPXL anchor



Aluminium brackets

HM-AG Agraf bracket



HM-P Agraf bracket



HM-K Agraf bracket



HCC-ALU Connection



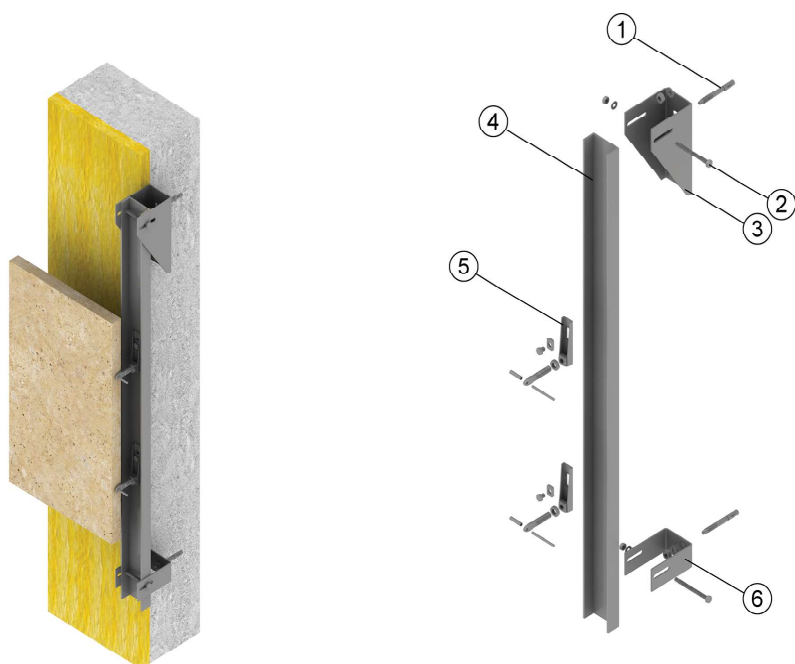
HCC-ALU Connection



HMP-ALU Sub channel system- Installation method

HMP-ALU-U Sub channel fixing system

Sub channel system with HMP-ALU-U aluminium channel assembled on HCSP4-ALU channel supports and HCRS4-ALU channel restraints. Stone installation can be made with either Z Anchors or Body anchors. Brackets are fixed on the channel with self tabbing screws, allowing quick and easy installation.

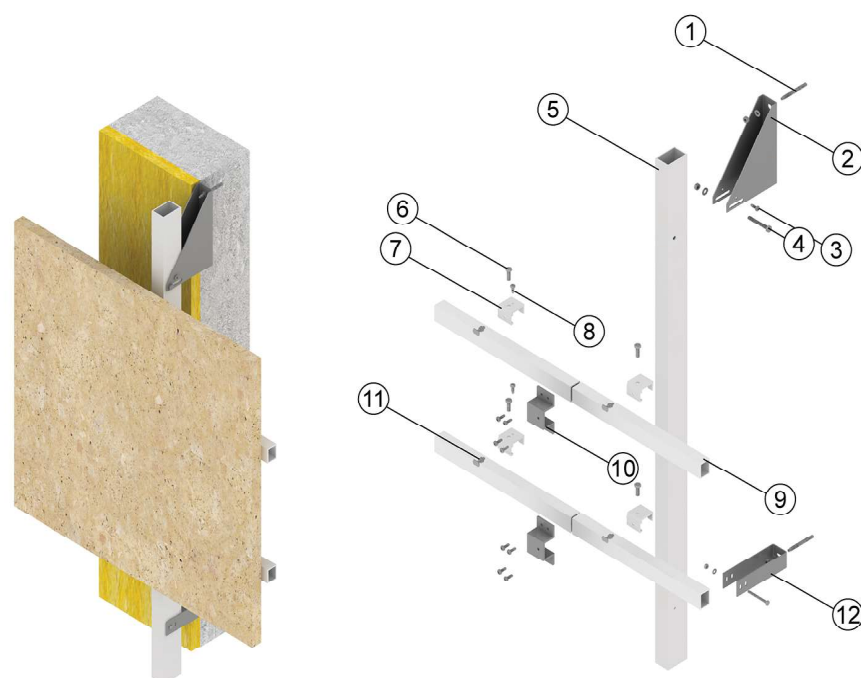


Set Elements

- 1-Through bolt
- 2-Hex bolt
- 3-Channel support
- 4-Channel
- 5-Body anchor
- 6-Channel Restraint

HMP-ALU-AG Sub channel system

Sub channel system with Aluminium box channels forming a vertical and horizontal grid. Vertical channels are fixed on HCSP4-ALU Channel supports and the horizontal channels are set on the vertical channels with channel connection elements. Stone fixing is made on to horizontal channels using the hang on method through the agraffe brackets that are fixed on the stone with undercut bolts.

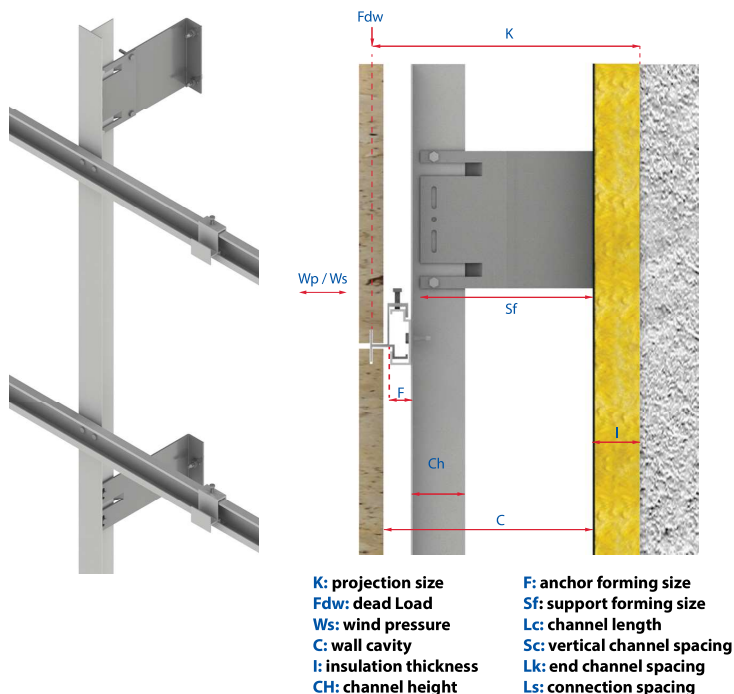


Set Elements

- 1-Through bolt
- 2-Channel support
- 3-Self drilling screw
- 4-Hex bolt
- 5-Vertical channel
- 6-Leveling bolt
- 7-Bracket
- 8-Self drilling screw
- 9-Horizontal channel
- 10-Channel connection
- 11-Undercut bolt
- 12-Channel Restraint

HMP-ALU-P Sub channel system

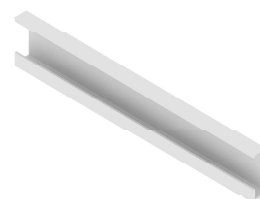
- Indirect fixing on to non-load bearing walls
- Projection sizes of up to 300 mm with load capacity of 5 kN
- Lower drilling points enable fast installation
- Installation at vertical and horizontal joints
- Easy to use & adjustability in three directions
- Ability to absorb building movements.



**HMP-ALU-T
T Channel**



**HMP-ALU-P
Agraffe channel**



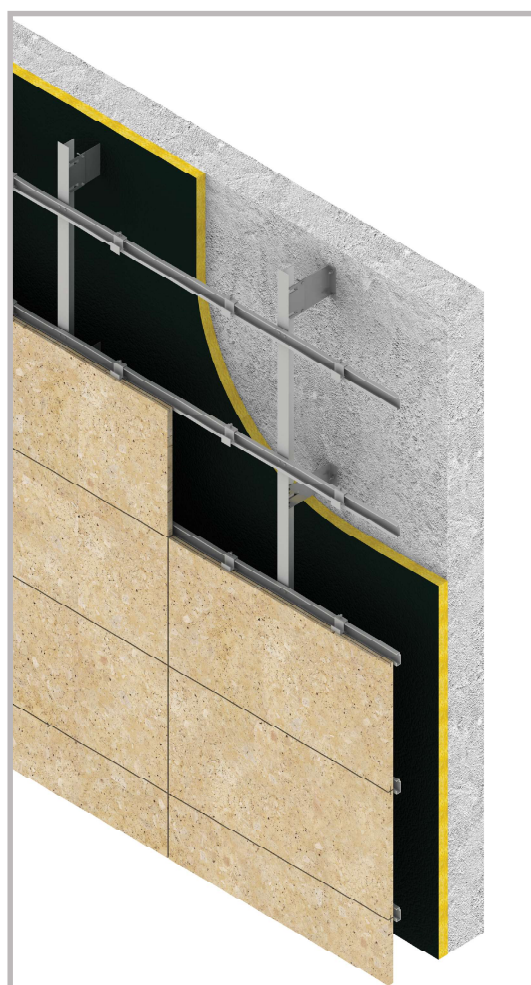
**HCSP3-ALU Channel
restraint**



**HCRS4-ALU Channel
restraint**



HM-AG-K Agraffe bracket



Channel support

Channel supports are load bearing brackets that bear the full weight of the cladding fixed on the sub channel systems. The load is transferred to the concrete beam and the attachment is made with anchor bolts.

Channel restraint

Channel restraints are brackets that restrain the sub channel system against wind pressure and suction. The brackets are tied to the wall with suitable anchor bolts, strengthening the channels against buckling.

Channel

Channels are spanned from floor slab to slab can be supplied in the same length as the floor height.

Agraffe Kerf Brackets

Agraffe kerf brackets that are used to install stone slabs on to the channels. The brackets are fixed to the channels with hex self drilling screws. Each bracket is designed to carry the load of the individual stone panel.

Stone panel

Stone panels are fixed on to sub channel system. Proper study and calculation is made to check the suitability of stone and dimensions for facade installation purposes.

Load bearing beams

Load bearing beams are usually constructed out of high strength concrete. Sometimes steel is used. The Sub Channel system is loaded on this part of the substrate.

Building wall

The walls can be constructed out of concrete, brick, block work. Different attachment types are used for different type of walls, therefore careful analysis must be made to use the most secure type of connections to the wall for restraining the sub channel system.

Insulation

A layer of thermal insulation is covered on the wall, with suitable dowels. Sound insulation, fire proof barriers and EPDM may also be laid behind and or in front of the thermal insulation, providing full protection to the building.

Wall cavity

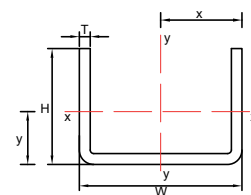
This is the empty space between the cladding and the insulation. Adequate space is required to accommodate the sub channel fixing system, allowing room for the channel and brackets to fit into.

HMP-ALU channels product details

HMP-ALU-U U Channel



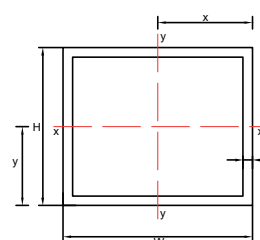
Product code	Thickness T (mm)	Section W/H (mm)	Ixx (cm ⁴)	Sx (cm ³)	x (mm)	Iyy (cm ⁴)	Sy (cm ³)	Y (mm)
HMP-ALU-U-45/32	3	45/32	4.08	3.46	22.50	10.76	4.78	11.78
HMP-ALU-U-50/37	4	50/37	7.86	5.69	25.00	19.44	7.77	13.80
HMP-ALU-U-60/42	5	60/42	14.07	9.16	30.00	39.33	13.11	15.36



HMP-ALU-BV Box Channel



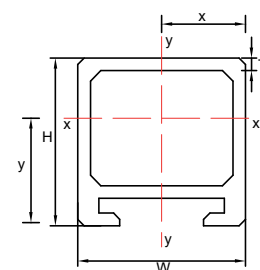
Product code	Thickness T (mm)	Section W/H (mm)	Ixx (cm ⁴)	Sx (cm ³)	x (mm)	Iyy (cm ⁴)	Sy (cm ³)	Y (mm)
HML-ALU-BV-60/50	3	60/50	24.17	9.66	25.00	32.26	10.75	30.00
HML-ALU-BV-80/50	4	80/50	38.88	15.55	25.00	82.70	20.67	40.00
HML-ALU-BV-100/50	4	100/50	47.37	18.95	25.00	144.13	28.83	50.00
HML-ALU-BV-120/50	5	120/50	66.33	26.53	25.00	276.33	46.05	60.00



HMP-ALU-RL Slot Channel



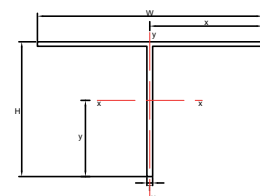
Product code	Thickness T (mm)	Section W/H (mm)	Ixx (cm ⁴)	Sx (cm ³)	x (mm)	Iyy (cm ⁴)	Sy (cm ³)	Y (mm)
HMP-ALU-RL-30	3	40/30	4.44	2.89	20.00	8.78	4.39	15.33
HMP-ALU-RL-40	3	40/40	9.50	4.76	20.00	10.84	5.42	19.92
HMP-ALU-RL-80	3	40/80	27.08	9.22	20.00	14.95	7.47	29.36



HMP-ALU-T T Channel



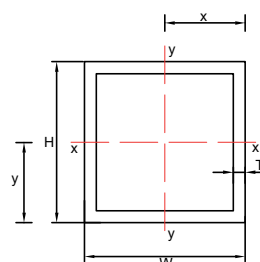
Product code	Thickness T (mm)	Section H/W (mm)	Ixx (cm ⁴)	Sx (cm ³)	x (mm)	Iyy (cm ⁴)	Sy (cm ³)	Y (mm)
HMP-ALU-T-50/80	2.5	50/80	6.90	1.75	40.00	10.67	2.67	39.40
HMP-ALU-T-60/100	2.5	60/100	12.90	2.55	50.00	20.84	4.17	47.78
HMP-ALU-U-60/120	3	60/120	15.09	3.09	50.00	43.21	7.20	78.84



HMP-ALU-BH Box Channel



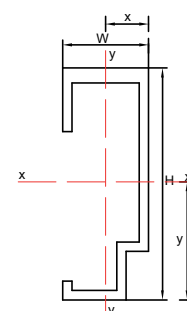
Product code	Thickness T (mm)	Section W/H (mm)	Ixx (cm ⁴)	Sx (cm ³)	x (mm)	Iyy (cm ⁴)	Sy (cm ³)	Y (mm)
HMP-ALU-BH-40/30	3.00	40/30	5.08	3.38	20.00	8.14	4.07	15.00
HMP-ALU-BH-40/40	3.00	40/40	10.20	5.10	20.00	10.20	5.10	20.00
HMP-ALU-BH-40/60	4.00	40/60	34.50	11.50	20.00	17.80	8.90	30.00



HMP-ALU-P Aggrafe Channel



Product code	Thickness T (mm)	Section W/H (mm)	Ixx (cm ⁴)	Sx (cm ³)	x (mm)	Iyy (cm ⁴)	Sy (cm ³)	Y (mm)
HMP-ALU-P-45/32	2.2	45/32	16.66	4.66	14.03	2.03	1.45	35.72



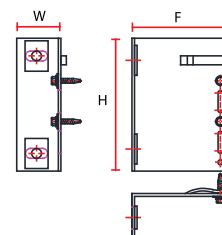
- Material: Extruded Aluminium Grade EN AW 6063 T66 mill finish and black anodised
- Table above is prepared according to Eurocode standards
- Loads stated are working resistance loads
- Channels can be provided up to 6 metres length.

HMP ALU channel systems - supports & restraints product details

HCSP3-AL Channel Support



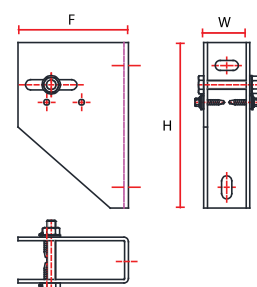
Product code	Width W (mm)	Height H (mm)	Form size F (mm)	Self drill screw	Exp. Bolt	Max Load (N)	Max wind load (N)
HCSP3-AL-55	50	120	55	5.5 x 30	M10x90	4000	2580
HCSP3-AL-75	50	120	75	5.5 x 30	M10x90	3500	2580
HCSP3-AL-95	50	120	95	5.5 x 30	M10x90	3000	2580
HCSP3-AL-125	50	120	125	5.5 x 30	M10x90	2200	2580
HCSP3-AL-155	50	120	155	5.5 x 30	M10x90	2200	2580
HCSP3-AL-185	50	120	185	5.5 x 30	M10x90	2200	2580
HCSP3-AL-215	50	120	215	5.5 x 30	M10x90	2000	2580
HCSP3-AL-245	50	120	245	5.5 x 30	M10x90	2000	2580
HCSP3-AL-275	60	120	275	5.5 x 30	M10x90	2000	2580
HCSP3-AL-305	60	120	305	5.5 x 30	M10x90	2000	2580



HCSP4-AL Channel Support



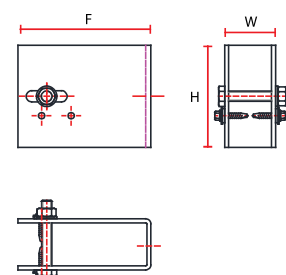
Product code	Width W (mm)	Height H (mm)	Form size F (mm)	Hex bolt	Exp. Bolt	Max Load (N)	Max wind load (N)
HCSP4-AL-100	50	175	100	M10x80	M10x90	5000	3500
HCSP4-AL-120	50	175	120	M10x80	M10x90	5000	3500
HCSP4-AL-140	50	175	140	M10x80	M10x90	5000	3500
HCSP4-AL-160	50	195	160	M10x80	M10x90	5000	3500
HCSP4-AL-180	50	195	180	M10x80	M10x90	5000	3500
HCSP4-AL-210	50	195	210	M10x80	M12x110	4500	3500
HCSP4-AL-240	50	195	240	M10x80	M12x110	4500	3500
HCSP4-AL-270	50	215	270	M10x80	M12x110	4000	3500
HCSP4-AL-300	50	215	300	M10x80	M12x110	4000	3500



HCSP5-AL Channel Support



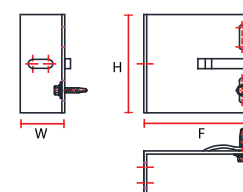
Product code	Width W (mm)	Height H (mm)	Form size F (mm)	Hex bolt	Exp. Bolt	Max Load (N)	Max wind load (N)
HCSP4-AL-100	50	175	100	M10x70	M10x90	4000	2850
HCSP4-AL-120	50	175	120	M10x70	M10x90	4000	2850
HCSP4-AL-140	50	175	140	M10x70	M10x90	4000	2850
HCSP4-AL-160	50	195	160	M10x70	M10x90	4000	2850
HCSP4-AL-180	50	195	180	M10x70	M10x90	4000	2850
HCSP4-AL-210	50	195	210	M10x70	M12x110	3500	2850
HCSP4-AL-240	50	195	240	M10x70	M12x110	3500	2850
HCSP4-AL-270	50	215	270	M10x70	M12x110	3000	2850
HCSP4-AL-300	50	215	300	M10x70	M12x110	3000	2850



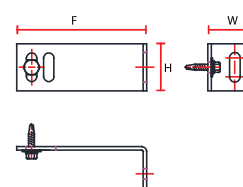
HCRS3-AL Channel Restraint



Product code	Width W (mm)	Height H (mm)	Form size F (mm)	Self drill screw	Exp. Bolt	Max wind load (N)
HCRS3-AL-70	40	80	70	5.5 x 30	M8x80	2580
HCRS3-AL-70	40	80	90	5.5 x 30	M8x80	2580
HCRS3-AL-90	40	80	110	5.5 x 30	M8x80	2580
HCRS3-AL-110	40	80	130	5.5 x 30	M8x80	2580
HCRS3-AL-130	40	80	150	5.5 x 30	M8x80	2580
HCRS3-AL-150	40	80	170	5.5 x 30	M8x80	2580
HCRS3-AL-170	40	80	190	5.5 x 30	M8x80	2580
HCRS3-AL-190	40	80	210	5.5 x 30	M8x80	2580
HCRS3-AL-210	40	80	230	5.5 x 30	M8x80	2580
HCRS3-AL-230	50	120	300	5.5 x 30	M8x80	2580



HCRS6-AL Channel Restraint



- Material : Stainless Steel 1.4301 (A2) & 1.4401 (A4) & Hot Dip Galvanized Steel
- Table above is prepared according to Eurocode standards
- Loads stated are working resistance loads
- Expansion bolts are provided separately
- More sizes available upon request