

HALFEN INDUSTRIAL APPLICATIONS

UTILITY BROCHURE



HALFEN INDUSTRIAL APPLICATIONS

MT 14

FRAMING SYSTEMS

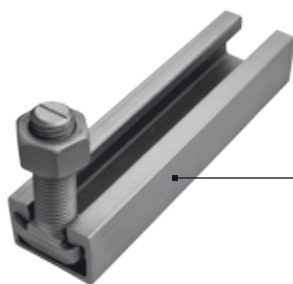


HALFEN
YOUR BEST CONNECTIONS

HALFEN INDUSTRIAL APPLICATIONS

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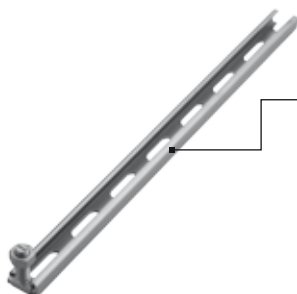
Heavy duty framing system

The heavy duty framing channel is predominantly hot-rolled and particularly suitable for heavy loads.



Medium duty framing system

All medium duty framing channels have the same profile width and are compatible with the innovative HALFEN Powerclick assembly system.



Low duty framing system

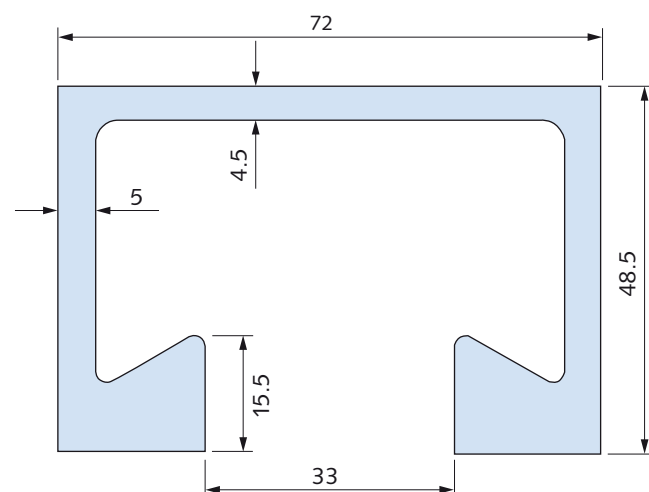
The low duty framing channel is the perfect fixing solution for low loads.

HALFEN FRAMING SYSTEMS

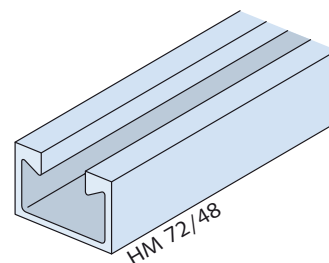
HALFEN Bolts and Accessories

Framing channels HM 72/48

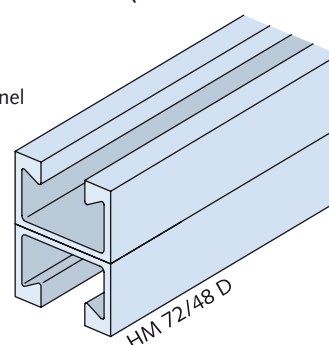
HM 72/48 hot-rolled



M1:1



Double channel
on request



Dimensions and load capacities HM 72/48

Material	Length [mm]	Channel-weight G [kg/m]	Channel-cross-section A [cm ²]	Moment of inertia		Moment of resistance		Max. point-load bearing capacity		Bending load capacity for span L [m]		
				I _y [cm ⁴]	I _z [cm ⁴]	W _y [cm ³]	W _z [cm ³]	F _z [kN] ①	≤ L [cm]	F _{flex} [kN]		
WB - FV - A4	6070	8.84	11.27	34.97	83.27	14.57	23.13	31.0	32.0	22.3	11.2	7.4

① F_z = maximum bending load capacity on the channel lips **WB** = steel mill-finish **FV** = hot-dip galvanised **A4** = Inox A4

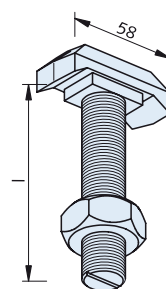
For the permissible loads for
HALFEN Bolts and Channel Properties
→ see the catalogue HALFEN MT-FBC 10-E page 13 and page 50

Locking plate GWP 72/48

Dimensions				
GV Thread	A4 Thread	a [mm]	b [mm]	d [mm]
M 12	M 12	62	31	22
M 16	M 16			
M 20	M 20			

Load capacity		
Permissible load	Thread	Load capacity [kN]
	M 12	9.3
	M 16	17.3
	M 20	22.0

HS 72/48 Bolt incl. nut HSR 72/48



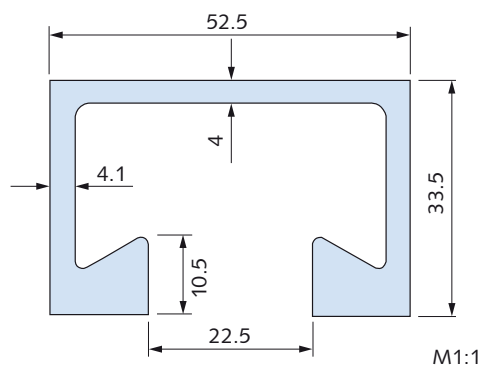
Dimensions HS 72/48 and HSR 72/48					
Length l [mm]	HS 72/48				HSR 72/48
	M 20	M 24	M 27	M 30	M20
50	FV	FV A4-50			
60	FV 8.8				
75	FV GV 8.8	FV FV 8.8	FV	FV	FV 8.8
100	FV GV 8.8	FV GV 8.8 A4-50	FV FV 8.8	FV	
150	FV	FV GV 8.8		FV	
200	FV	FV		FV	

HALFEN FRAMING SYSTEMS

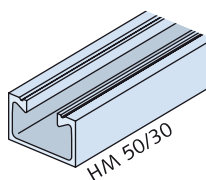
Framing Channels – Heavy Duty Framing System

Framing channel HM 52/34 and HM 50/30 and HM 49/30

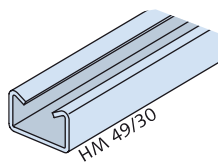
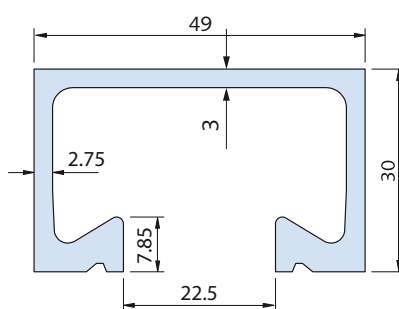
HM 52/34 hot-rolled



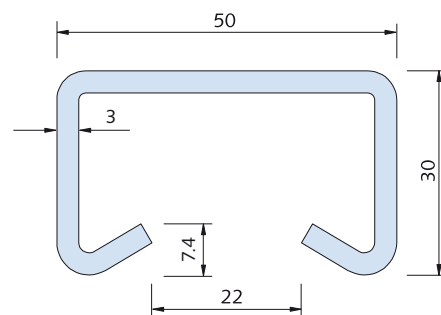
M1:1



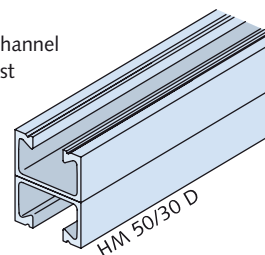
HM 50/30 hot-rolled



HM 49/30 cold-rolled



Double channel
on request



Dimensions and load bearing capacities HM 52/34

Material	length [mm]	Channel weight G [kg/m]	Channel cross-section A [cm ²]	Moment of inertia		Moment of resistance		Max. point-load bearing capacity		Bending load capacity for span L [m]		
				I _y [cm ⁴]	I _z [cm ⁴]	W _y [cm ³]	W _z [cm ³]	F _z [kN] ①	≤ L [cm]	F _{flex} [kN]		
WB - FV - A4	6070	4.98	6.34	9.33	23.70	5.35	9.03	17.0	21.0	8.8	4.4	2.8

① F_z = maximum bending load capacity on the channel lips WB = steel mill-finish FV = hot-dip galvanised A4 = Inox A4

Dimensions and load bearing capacities HM 50/30 and HM 49/30

Material	Length [mm]	Channel weight G [kg/m]	Channel cross-section A [cm ²]	Moment of inertia		Moment of resistance		Max. point-load bearing capacity		Bending load capacity for span L [m]		
				I _y [cm ⁴]	I _z [cm ⁴]	W _y [cm ³]	W _z [cm ³]	F _z [kN] ①	≤ L [cm]	F _{flex} [kN]		
50/30 - WB - FV - A4	6070	3.23	4.12	5.19	13.99	3.24	5.67	11.0	19.0	5.3	2.7	1.6
49/30 - WB - FV - A2② - A4②	6070	2.88	3.67	4.18	13.21	2.36	5.29	4.9	46	4.3	2.2	1.2

① F_z = maximum bending load capacity on the channel lips ② HCR version on request WB = steel mill-finish FV = hot-dip galvanised A2 = Inox A2 A4 = Inox A4

For the permissible loads for
HALFEN Bolts and Channel Properties

→ see the catalogue HALFEN MT-FBC 10-E page 17 and page 50

HALFEN FRAMING SYSTEMS

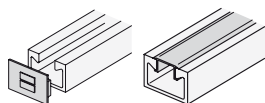
HALFEN System 52 (heavy duty)

System 52

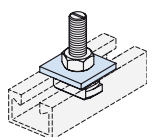
Our framing system for **heavy loads** consists of the hot-rolled channel HM 52/34 and 10 various connection parts.
For greater bending requirements the double channel HM 52/34 D can be used.
System 52 is also available as a channel ring system, which is produced to customer's specifications (→ see page 8).

Accessories

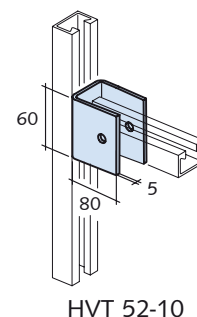
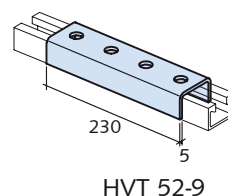
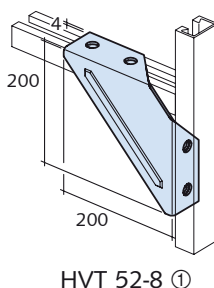
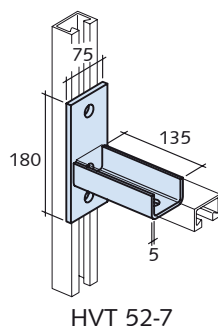
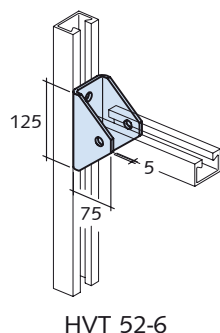
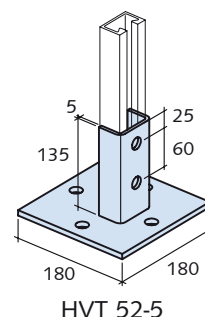
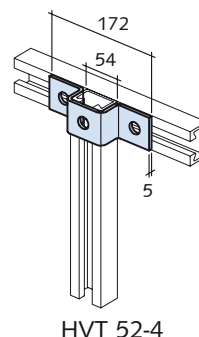
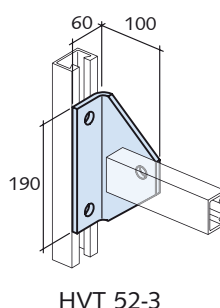
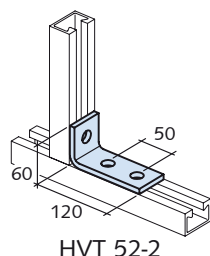
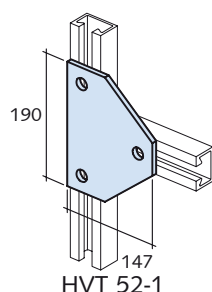
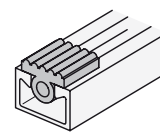
HPE 52/34 Channel end caps
PA - 22 Channel cover



VUS 52/34 Washers



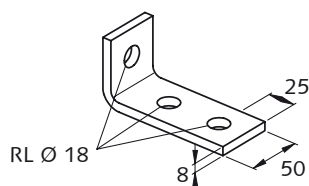
SDM 41/8 Vibration absorber



Fitting system HVT 52

Standard dimensions [mm]:

Unless otherwise stated, the following dimensions apply to all connection elements for HVT 52.



Recommended HALFEN Bolts:
HS 50/30 - M16 x 40 and
HSR 50/30 - M16 x 40

Fitting system System 52

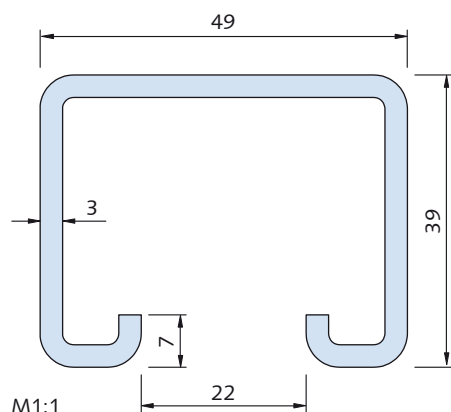
FV - hot dip galvanized		A4 = Stainless steel W1.4571/1.4401	
Item description	Order no. 0312.040-	Item description	Order no. 0312.040-
HVT - 52 - 1 - FV	00001	HVT - 52 - 1 - A4	00011
HVT - 52 - 2 - FV	00002	HVT - 52 - 2 - A4	00012
HVT - 52 - 3 - FV	00003	HVT - 52 - 3 - A4	00013
HVT - 52 - 4 - FV	00004	HVT - 52 - 4 - A4	00014
HVT - 52 - 5 - FV	00005	HVT - 52 - 5 - A4	00015
HVT - 52 - 6 - FV	00006	HVT - 52 - 6 - A4	00016
HVT - 52 - 7 - FV	00007	HVT - 52 - 7 - A4	00017
HVT - 52 - 8 - FV	00008	HVT - 52 - 8 - A4	00018
HVT - 52 - 9 - FV	00009	HVT - 52 - 9 - A4	00019
HVT - 52 - 10 - FV	00010	HVT - 52 - 10 - A4	00020

HALFEN FRAMING SYSTEMS

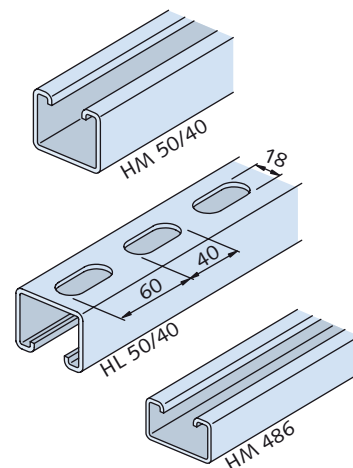
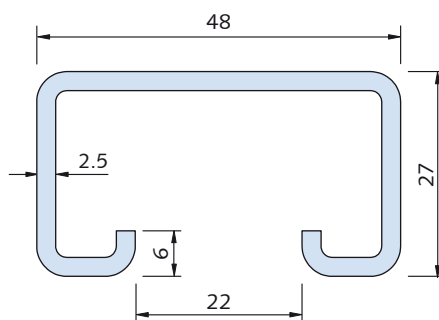
Framing Channels – Heavy Duty Framing System

Framing channels HM 50/40, HL 50/40 and HM 486

HM and HL 50/40 cold-rolled



HM 486 cold-rolled



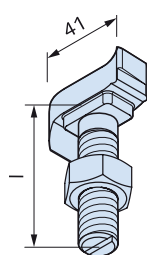
Dimensions and load bearing capacities HM 50/40, HL 50/40 and HM 486

Material	Length [mm]	Profile weight G [kg/m]	Channel cross-section A [cm ²]	Moment of inertia		Moment of resistance		Max. point-load bearing capacity		Bending load capacity for span L [m]		
				I _y [cm ⁴]	I _z [cm ⁴]	W _y [cm ³]	W _z [cm ³]	F _z [kN] ①	≤ L [cm]	F _{flex} [kN]		
HM 50/40 WB FV A4	6000	3.35	4.27	8.66	15.50	3.97	6.33	5.4	63.0	6.8	3.4	2.3
HL 50/40 WB FV A4	6000	3.15	3.73	7.14	15.36	3.65	6.27	5.4	53.0	5.7	2.9	1.9
HM 486 WB FV	6000	2.31	2.95	2.97	9.62	1.92	4.01	3.5	47.0	3.3	1.7	0.9

① F_z = maximum bending load capacity on the channel lips WB = steel mill-finish FV = hot-dip galvanised A4 = Inox A4

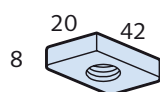
HALFEN Bolts HS 50/30 and HSR 50/30

For the permissible loads for
HALFEN Bolts and Channel Properties
→ see the catalogue HALFEN MT-FBC 10-E
page 17 and page 50

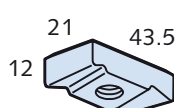


HS 50/30
HALFEN Bolt
incl. nut
Li = left hand thread
HSR 50/30

Locking plate
GWP 50/40



Locking plate
GWP 50/30



Dimensions HS 50/30

Length l [mm]	M 10	M 12	M 16	M 20	Length l [mm]	M 10	M 12	M 16	M 20
30	GV	GV	GV		65				GV
	FV	A4-70	A4-50		75				GV
35				GV					A4-50
40	GV	GV	GV/GV8.8		80		GV/GV8.8	GV/GV8.8	GV8.8
	FV	A4-70	FV					A4-50	
45		GV8.8	A4-50	GV/GV8.8	80 Li			A4-50	
				A4-50	100		GV	GV/GV8.8	GV/GV8.8
50	GV	GV	GV				A4-50	FV	FV
		A4-70	FV		125		GV	GV	A4-50
			A4-50						A4-50
55				GV	150		GV	GV	GV/GV8.8
				FV				FV	A4-50
				A4-50				A4-50	
60		GV/GV8.8	GV/GV8.8	GV8.8	200		GV	GV	GV
			A4-50		300			GV	GV

High corrosion resistant stainless steel HALFEN Bolts HS 50/30. Material order grade HCR, on request.

Dimensions HSR 50/30

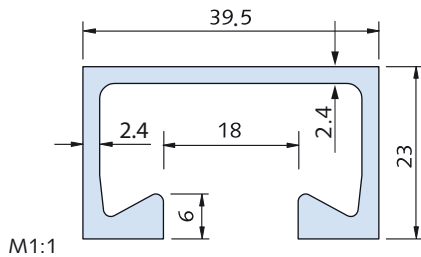
Length l [mm]	M 10	M 12	M 16	M 20	Length l [mm]	M 10	M 12	M 16	M 20
40			FV8.8		60			GV8.8	GV8.8
45				GV8.8	75				GV8.8

HALFEN FRAMING SYSTEMS

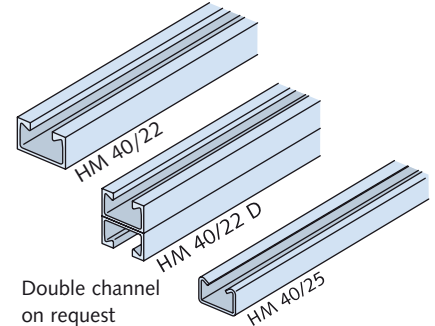
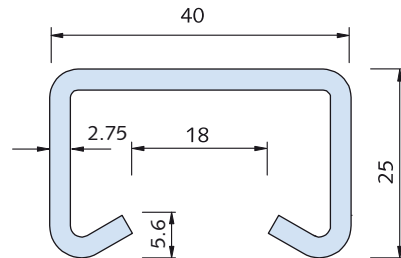
Framing Channels – Heavy Duty Framing Channels

Framing channels HM 40/22, HM 40/25 and HM 422

HM 40/22 hot-rolled



HM 40/25 cold-rolled

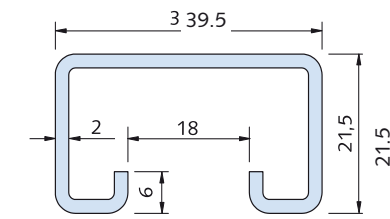


Dimensions and load bearing capacities HM 40/22 and HM 40/25

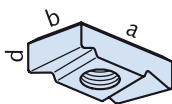
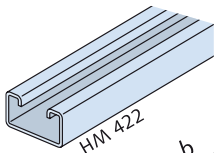
Material	Length [mm]	Profile-weight G [kg/m]	Channel cross-section A [cm ²]	Moment of inertia		Moment of resistance		Max. point-load bearing capacity		Bending load capacity for span L [m]		
				I _y [cm ⁴]	I _z [cm ⁴]	W _y [cm ³]	W _z [cm ³]	F _z [kN] ①	≤ L [cm]	0.5 m	1 m	1.5 m
HM 40/22 WB- FV - A4	6070	2.10	2.68	1.97	5.87	1.62	2.97	5.7	21.0	2.6	1.3	0.6
HM 40/25 WB- FV - A2 - A4	6070	2.09	2.66	2.06	6.09	1.39	3.05	3.8	33.0	2.6	1.3	0.6

① F_z = maximum bending load capacity on the channel lips **WB** = steel mill-finish **FV** = hot-dip galvanised **A4** = Inox A4

HM 422 (C40) cold-rolled



M1:1



GWP 40/22

Dimensions

GV Thread	A4 Thread	a [mm]	b [mm]	d [mm]
M 6		35	17	10
M 8	M 8			
M 10	M 10			
M 12	M 12			11.5

For the permissible loads for HALFEN Bolts and Channel Properties
→ see the catalogue HALFEN MT-FBC 10-E page 19 and page 50

Dimensions and load bearing capacities HM 422 (C40)

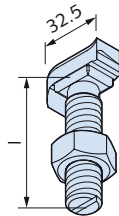
Material	Length [mm]	Channel weight G [kg/m]	Channel cross-section A [cm ²]	Moment of inertia		Moment of resistance		Max. point-load bearing capacity		Bending load capacity for span L [m]		
				I _y [cm ⁴]	I _z [cm ⁴]	W _y [cm ³]	W _z [cm ³]	F _z [kN] ①	≤ L cm	0.5 m	1 m	1.5 m
HM 422 WB - FV	6000	1.55	1.98	1.27	4.29	1.04	2.17	2.5	36.0	1.8	0.9	0.4

① F_z = maximum bending load capacity on the channel lips **WB** = steel mill-finish **FV** = hot-dip galvanised

HS 40/22

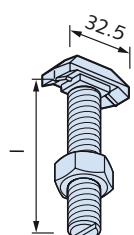
HALFEN Bolt incl. nut

Li = left hand thread



HSR 40/22

HALFEN Bolt with nib incl. nut



Dimensions HS 40/22

Length l [mm]	M 10 Material	M 12 Material	M 16 Material	Length l [mm]	M 10 Material	M 12 Material	M 16 Material
20	GV	GV		80	GV	GV	GV
30	GV	GV	GV	80 Li		A4-50	A4-50
	A4-70	A4-50	A4-50	100	GV	GV	GV
40	GV	GV	GV			A4-50	FV
	A4-70	A4-50	A4-50				A4-50
45		GV	GV	125		GV	GV
50	GV	GV	FV	150		GV	GV
	A4-70	A4-50	A4-50			A4-50	A4-50
50 Li				200		GV	GV
60	GV	GV	GV				A4-50
			A4-50	250			GV
				300			GV

Dimensions HSR 40/22

Length l [mm]	M 16 Material	Length l [mm]	M 16 Material
40	GV 8.8	60	GV 8.8

HALFEN FRAMING SYSTEMS

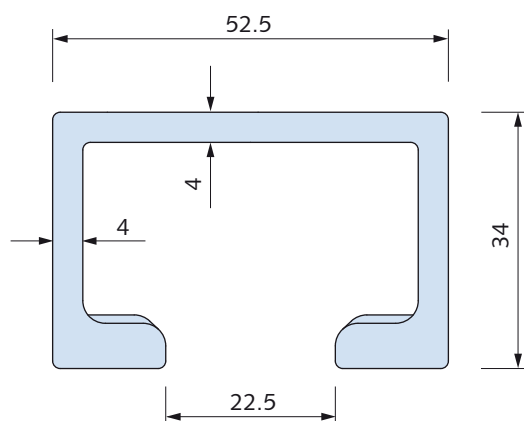
Framing Channels – Heavy Duty Framing System

Framing channels HZM 53/34

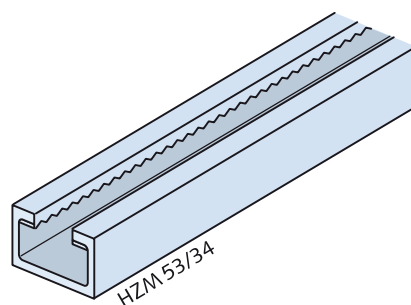
HZM 53/34 hot-rolled, toothed



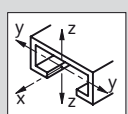
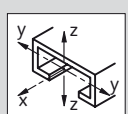
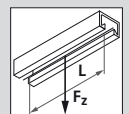
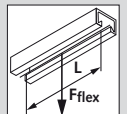
NEW!



M1:1



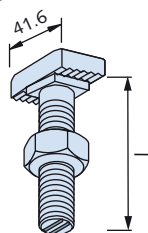
Dimensions and load bearing capacities HZM 53/34

Material	Order-no. 0284.	Length	Channel weight	Channel cross- section	Moment of inertia		Moment of resistance		Max. point-load bearing capacity		Bending load capacity for span L [m]		
													
		[mm]	G [kg/m]	A [cm²]	I _y [cm⁴]	I _z [cm⁴]	W _y [cm³]	W _z [cm³]	F _z [kN] ①	≤ L [cm]	0.5 m	1 m	1.5 m
WB	070-00002	6070	4.63	5.91	9.26	23.23	5.01	8.85	22.0	25	F _{flex} [kN]		
FV	070-00003												
A4	070-00001												

① F_z = maximum bending load capacity on the channel lips **WB** = steel mill-finish **FV** = hot-dip galvanised **A4** = Inox A4

HALFEN Bolts toothed HZS 53/34

NEW!



HZS 53/34
HALFEN Bolt,
toothed incl. nut

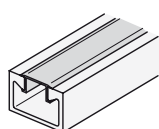
Dimensions HZS 53/34

Length l [mm]	M 16 Material	M 20 Material
60	GV8.8 A4-70	
65		GV8.8 A4-70
100	GV8.8 A4-70	GV8.8 A4-70

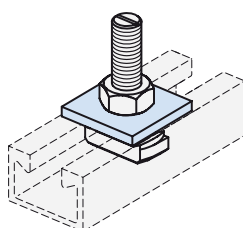
For the permissible loads for
HALFEN Bolts and Channel Properties
→ see the catalogue HALFEN
MT-FBC 10-E page 21 and page 50

Accessories

PA - 22 Channel cover



VUS 52/34 Washer

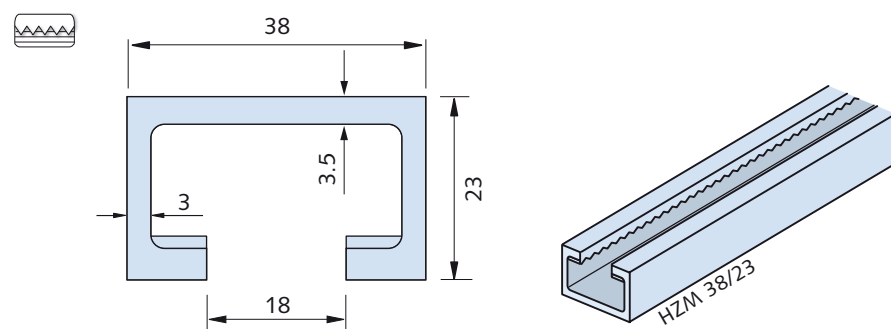


HALFEN FRAMING SYSTEMS

HALFEN Bolts and Accessories

Framing channel HZM 38/23

HZM 38/23 hot-rolled, toothed



M1:1

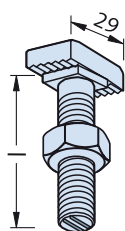
For the permissible loads for
HALFEN Bolts and Channel Properties
→ see the catalogue HALFEN
MT-FBC 10-E page 23 and page 50

Dimensions and load bearing capacities HZM 38/23

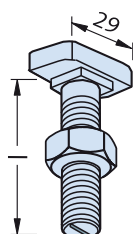
Material	Order-no. 0284.	Length [mm]	Channel weight G [kg/m]	Channel cross- section A [cm ²]	Moment of inertia		Moment of resistance		Max. point-load bearing capacity		Bending load capacity for span L [m]		
					I_y [cm ⁴]	I_z [cm ⁴]	W_y [cm ³]	W_z [cm ³]	F_z [kN] ①	$\leq L$ [cm]	0.5 m	1 m	1.5 m
WB	060-00001	6070	2.42	3.09	2.11	6.17	1.59	3.25	12.0	20	F_{flex} [kN]		
FV	060-00003												
A4	060-00002												

① F_z = maximum bending load capacity on the channel lips WB = steel mill-finish FV = hot-dip galvanised A4 = Inox A4

HALFEN Bolts HZS 38/23, HS 38/23 and HS 38/17

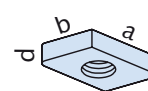


HZS 38/23
HALFEN Bolt
toothed,
incl. nut



HS 38/23
HALFEN Bolt,
incl. nut
HS 38/17
HALFEN Bolt,
incl. nut
Li = Left hand thread

Locking plate
GWP 38/17



Dimensions				
GV Thread	A4 Thread	a [mm]	b [mm]	d [mm]
M 6	M 6	33.5	17.5	6
M 8	M 8			
M 10	M 10			
M 12	M 12			

Dimensions HZS 38/23, HS 38/23 and HS 38/17

Length l [mm]	HZS 38/23		HS 38/23	HS 38/17			Length l [mm]	HZS 38/23		HS 38/23	HS 38/17		
	M 12	M 16	M 16	M 10	M 12	M 16		M 12	M 16	M 16	M 10	M 12	M 16
20				GV	GV	GV	70					FV8.8	
25					A4-70	A4-50	80	GV8.8	GV8.8	GV	GV	GV	GV
30	GV8.8	GV8.8	GV	GV FV	GV FV	GV FV	80 Li		A4-50/A4-70			A4-70	A4-50/A4-70
40	GV8.8	GV8.8	GV	A4-70	A2-70/A4-70	A2-50/A4-50	100	GV8.8	GV8.8	GV	GV	GV	GV
50	GV8.8	GV8.8	GV	GV	GV	GV	125	GV8.8	GV8.8	GV		A4-50	A4-50
50 Li				A4-70	A2-70/A4-70	A2-50/A4-50	150	GV8.8	GV8.8	GV	GV	GV	GV
60	GV8.8	GV8.8	GV	GV	GV	GV	200		GV8.8	GV		A4-50	A4-50
		A4-50/A4-70		A4-70	GV8.8	FV8.8	300		GV8.8			A4-50	A4-50

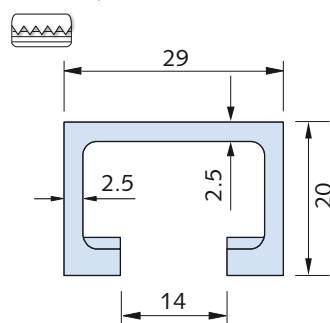
High corrosion resistant stainless steel bolts HS 38/17
Material order code HCR, on request.

HALFEN FRAMING SYSTEMS

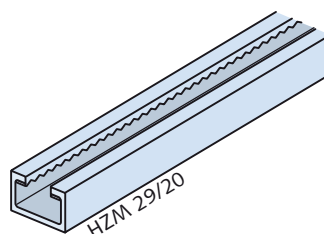
Framing Channels – Heavy Duty Framing System

Framing channel HZM 29/20

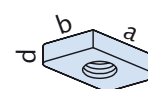
HZM 29/20 hot-rolled, toothed



M1:1



Locking plate GWP 28/15



Dimensions				
GV Thread	A4 Thread	a [mm]	b [mm]	d [mm]
M 6	M 6	24.5	13.0	4
M 8	M 8			
M 10	M 10	33.5	17.5	5

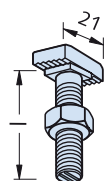
For the permissible loads for
HALFEN Bolts and Channel Properties
→ see the catalogue HALFEN MT-FBC 10-E page 25 and page 50

Dimensions and load capacities HZM 29/20

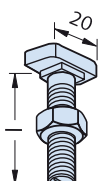
Material	Order-no. 0284.	Length [mm]	Channel weight G [kg/m]	Channel cross- section A [cm ²]	Moment of inertia		Moment of resistance		Max. point-load bearing capacity		Bending load capacity for span L [m]		
					I _y [cm ⁴]	I _z [cm ⁴]	W _y [cm ³]	W _z [cm ³]	F _z [kN] ①	≤ L [cm]	0.5 m	1 m	1.5 m
WB	050-00001	6070	1.51	1.98	1.02	2.42	0.91	1.67	8.0	15	F _{flex} [kN]		
FV	050-00003										2.4	0.7	0.3

① F_z = maximum bending load capacity on the channel lips WB = steel mill-finish FV = hot-dip galvanised

HALFEN Bolts HZS 29/20, HS 28/15 and HS 29/20



HZS 29/20
HALFEN Bolt
toothed
incl. nut



HS 28/15
HALFEN Bolt,
incl. nut

HS 29/20
HALFEN Bolt,
incl. nut

Dimensions HZS 29/20, HS 29/20 and HS 28/15

Length l [mm]	HZS 29/20 M 12	HS 29/20 M 12	HS 28/15				Length l [mm]	HZS 29/20 M 12	HS 29/20 M 12	M 6	M 8	M 10	M 12
15			GV	GV	GV		60	GV8.8	GV	GV	GV	GV	
20			GV	GV	GV		80	GV8.8	GV		GV	GV	GV
25			GV	GV	GV		100	GV8.8	GV		GV	GV	
30	GV8.8	GV	GV	GV	GV	GV	125	GV8.8	GV			GV	
40	GV8.8	GV	GV	GV	GV	GV	150	GV8.8	GV		GV	GV	
50	GV8.8	GV	GV	GV	GV	GV	200	GV8.8				GV	
50 Li							250	GV8.8				GV	
							300	GV8.8				GV	

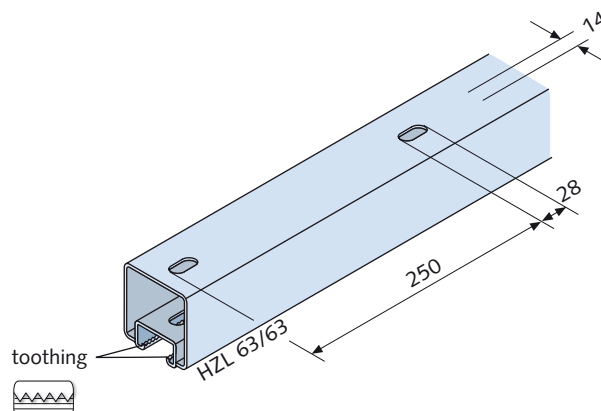
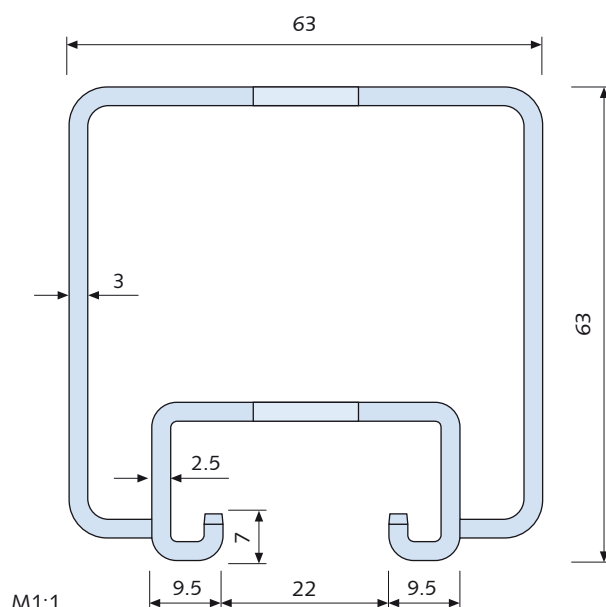
High corrosion resistant stainless steel bolts HS 38/17,
Material order reference HCR.

HALFEN FRAMING SYSTEMS

Framing Channels – Heavy Duty Framing System

Framing channel HZL 63/63

HZL 63/63 cold-rolled, toothed



Base channel for HALFEN Powerclick System 63. Information about the Powerclick assembly system can be found in our product catalogue "HALFEN Powerclick Technical Product Information PC63".

Dimensions and load bearing capacities HZL 63/63

Material	Order-no. 0283.	Length [mm]	Channel weight G [kg/m]	Channel cross-section A [cm ²]	Moment of inertia		Moment of resistance		Max. point-load bearing capacity		Bending load capacity for span L [m]		
					I _y [cm ⁴]	I _z [cm ⁴]	W _y [cm ³]	W _z [cm ³]	F _z [kN] ①	≤ L [cm]	0.5 m	1 m	1.5 m
FV	030-00001	3000	6.35	7.09	33.07	42.95	10.06	13.63	5.6	134.0	F _{flex} [kN]		
FV	030-00003	6000									16.5	8.2	5.5

① F_z = maximum bending load capacity on the channel lips FV = hot-dip galvanised

For the permissible loads for
HALFEN Bolts and Channel Properties
→ see the catalogue HALFEN MT-FBC 10-E pages 34,35 and page 52

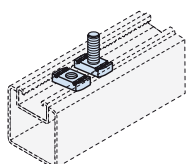
WB available on request.

Accessories

HALFEN Bolts and locking plates

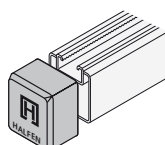
HZS 41/41, HZS 41/22,
GWP 41/41, GWP 41/22

→ see medium duty framing system



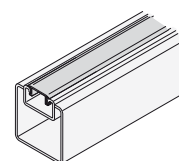
→ see pages 34,35

HPE 63/63 Channel end caps



→ see page 46

PA - 41 Channel cover



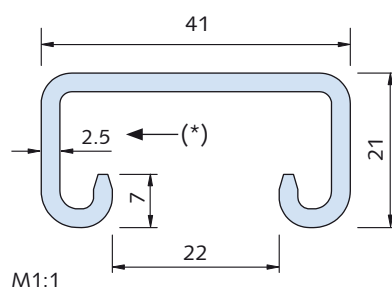
→ see page 46

HALFEN FRAMING SYSTEMS

Framing Channels – Medium Duty Framing System

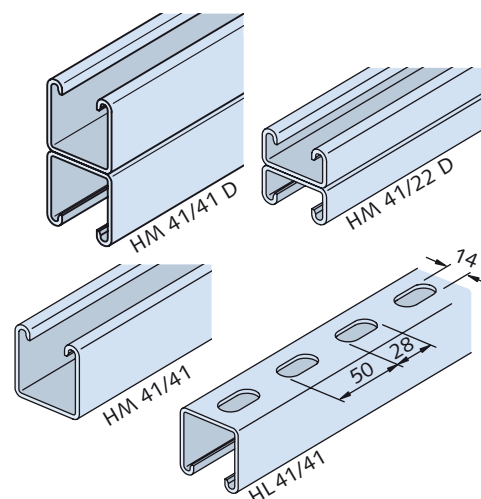
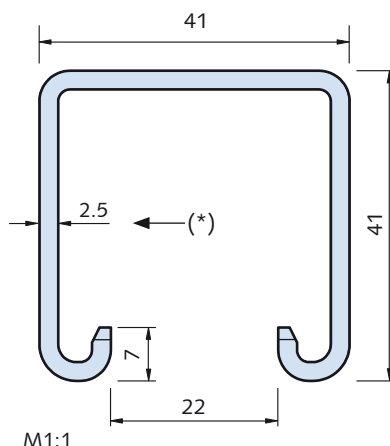
Framing channels HM 41/22 and HL 41/22

HM 41/22 and HL 41/22 cold-rolled



* On request (HM and HL) thick 2.0 or 3.0 with slots 11x20 or 13x30 (subject to minimum quantities)

HM 41/41 and HL 41/41 cold-rolled



For the permissible loads for HALFEN Bolts and Channel Properties
→ see the catalogue HALFEN MT-FBC 10-E pages 34,35 and pages 50,52

Dimensions and load bearing capacities HM 41/22 and HL 41/22

Material	Length [mm]	Channel weight G [kg/m]	Channel cross-section A [cm ²]	Moment of inertia		Moment of resistance		Max. point-load bearing capacity		Bending load capacity for span L [m]		
										0.5 m	1 m	1.5 m
HM 41/22 WB - SV		1.80	2.30	1.19	5.32	0.97	2.58	5.6	15.0	1.8	0.8	0.4
HL 41/22 FV - A4		1.57	1.95	0.99	5.27	0.89	2.55	5.6	12.0	1.6	0.7	0.3
HM 41/22 D WB - FV - A4		3.60	4.59	5.55	10.64	2.69	5.15	5.6	42.0	1.0 m	1.5 m	2.0 m
										2.3	1.5	0.9

① F_z = maximum bending load capacity on the channel lips WB = steel mill-finish SV = steel pre-galvanised FV = hot-dip galvanised A4 = Inox A4

Dimensions and load capacities HM 41/41 and HL 41/41

Material	Order-no.	Length [mm]	Channel weight G [kg/m]	Channel cross-section A [cm ²]	Moment of inertia		Moment of resistance		Max. point-load bearing capacity		Bending load capacity for span L [m]		
											0.5 m	1 m	1.5 m
HM 41/41 0280.			2.61	3.33	7.16	9.22	3.06	4.46	5.6	49.0	5.4	2.7	1.8
HL 41/41 0281.			2.46	2.98	6.07	9.16	2.84	4.43	5.6	42.0	4.7	2.3	1.6
SV 010-00003			2.61	3.33	7.16	9.22	3.06	4.46	5.6	49.0	5.4	2.7	1.8
HM 41/41 D 0280.											1.0 m	1.5 m	2.0 m
WB 150-00001			5.33	6.67	35.81	18.44	8.67	8.93	5.6	132.0	7.3	4.9	3.7
FV 150-00003													

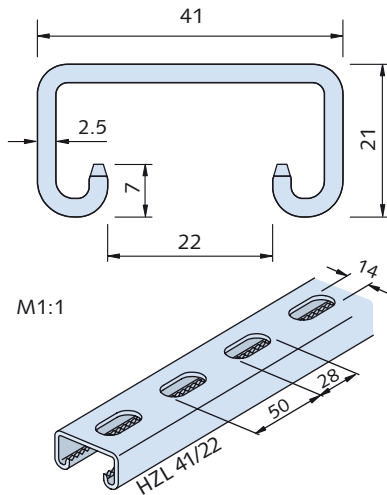
① F_z = maximum bending load capacity on the channel lips

HALFEN FRAMING SYSTEMS

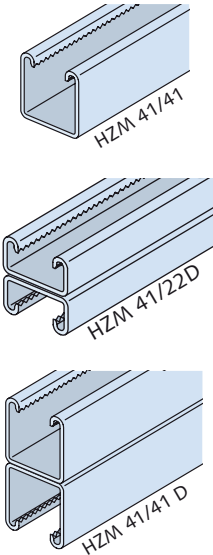
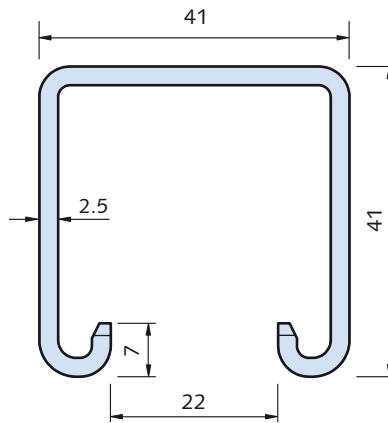
Framing Channels – Medium Duty Framing System

Framing channels HZM 41/22 and HZL 41/22

HZM 41/22 and HZL 41/22 cold-rolled

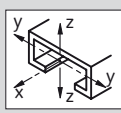
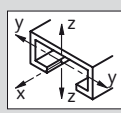
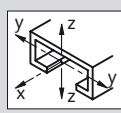
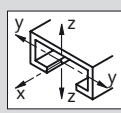
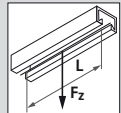
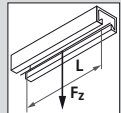
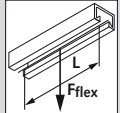
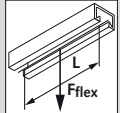
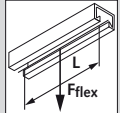


HZM 41/41 and HZL 41/41 cold-rolled



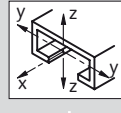
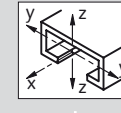
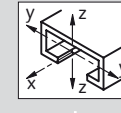
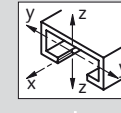
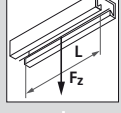
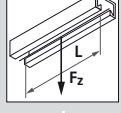
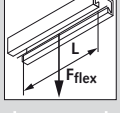
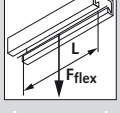
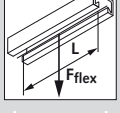
For the permissible loads for HALFEN Bolts and Channel Properties
→ see the catalogue HALFEN MT-FBC 10-E pages 34,35 and pages 50,52

Dimensions and load bearing capacities HZM 41/22 and HZL 41/22

Material	Order-no.	Length [mm]	Channel weight G [kg/m]	Channel cross- section A [cm ²]	Moment of inertia		Moment of resistance		Max. point-load bearing capacity		Bending load capacity for span L [m]		
					 I _y [cm ⁴]	 I _z [cm ⁴]	 W _y [cm ³]	 W _z [cm ³]	 F _z [kN] ①	 ≤ L [cm]	 0.5 m	 1 m	 1.5 m
HZM 41/22	WB - SV	6070	1.79	2.22	1.16	5.21	0.92	2.52	5.6	14.0	1.7	0.8	0.3
HZL 41/22	FV - A4	6000	1.57	1.87	0.97	5.15	0.86	2.49	5.6	12.0	1.5	0.6	0.3
HZM 41/22 D 0284.													
WB	040-00001	6070	3.58	4.66	5.64	11.00	2.68	5.33	5.6	42.0	1.0 m	1.5 m	2.0 m
FV	040-00002										2.3	1.5	0.9

① F_z = maximum bending load capacity on the channel lips WB = steel mill-finish SV = steel pre-galvanised FV = hot-dip galvanised A4 = Inox A4

Dimensions and load capacities HZM 41/41 and HZL 41/41

Material	Order-no.	Length [mm]	Channel weight G [kg/m]	Channel cross- section A [cm ²]	Moment of inertia		Moment of resistance		Max. point-load bearing capacity		Bending load capacity for span L [m]		
					 I _y [cm ⁴]	 I _z [cm ⁴]	 W _y [cm ³]	 W _z [cm ³]	 F _z [kN] ①	 ≤ L [cm]	 0.5 m	 1 m	 1.5 m
HZM 41/41	0284.	6000	2.63	3.25	6.91	9.10	2.91	4.41	5.6	47.0	5.2	2.6	1.7
HZL 41/41	0283.		2.46	2.90	5.87	9.04	2.69	4.38	5.6	41.0	4.5	2.3	1.1
SV	080-00002										1.0 m	1.5 m	2.0 m
HZM 41/41 D	0284.		5.11	6.51	33.74	18.38	8.16	8.90	5.6	126.0	6.9	4.6	3.5
WB	030-00001												
FV	030-00002												

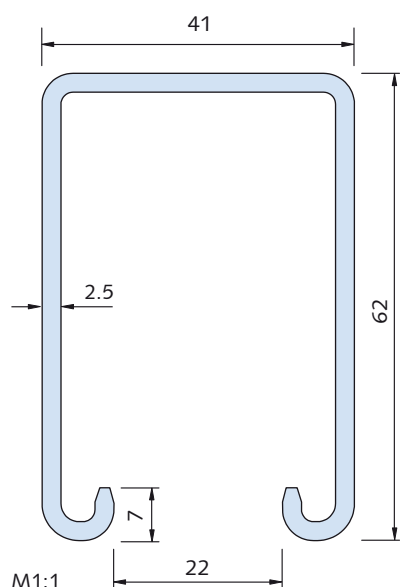
① F_z = maximum bending load capacity on the channel lips

HALFEN FRAMING SYSTEMS

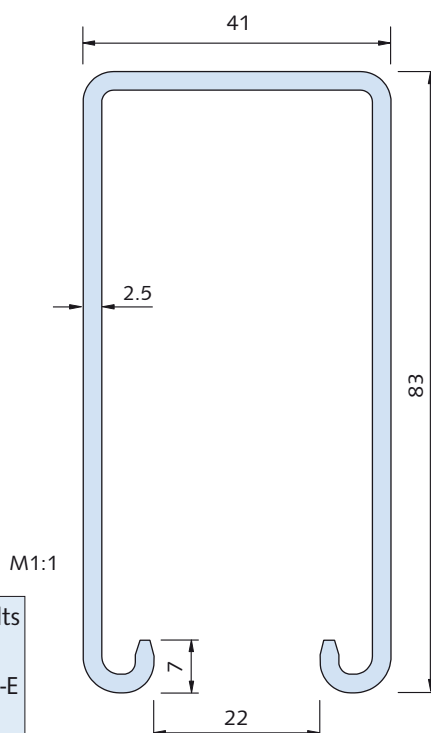
Framing Channels – Medium Duty Framing System

Framing channel HM 41/62, HL 41/62 and 41/83

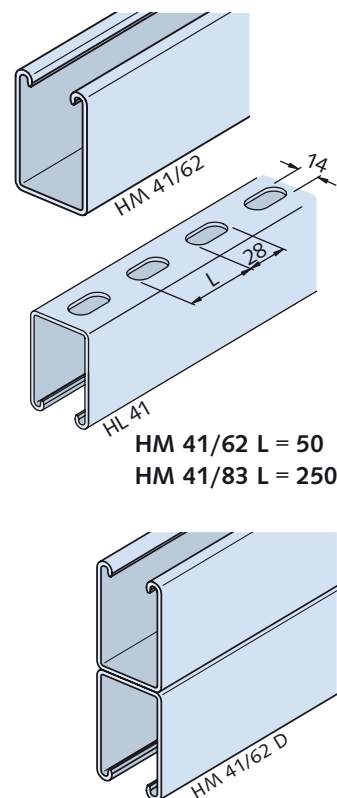
HM 41/62 and HL 41/62 cold-rolled



HM 41/83 and HL 41/83 cold-rolled



For the permissible loads for HALFEN Bolts and Channel Properties
→ see the catalogue HALFEN MT-FBC 10-E
pages 34,35 and pages 50,52



Dimensions and load capacities HM 41/62 and HL 41/62

Material	Length [mm]	Channel weight G [kg/m]	Channel cross-section A [cm ²]	Moment of inertia		Moment of resistance		Max. point-load bearing capacity		Bending load capacity for span L [m]		
				I _y [cm ⁴]	I _z [cm ⁴]	W _y [cm ³]	W _z [cm ³]	F _z [kN] ①	≤ L [cm]	F _{flex} [kN]		
HM - HL 41/62 WB - SV - FV	6000	3.42	4.36	20.18	13.10	5.92	6.35	5.6	92.0	5.1	2.6	1.5
HM - HL 41/62 D WB - FV		6.84	8.72	108.11	26.21	17.45	12.69	5.6	269.0	1.0 m	1.5 m	2.0 m
										14.8	9.9	7.4

① F_z = maximum bending load capacity on the channel lips WB = steel mill-finish SV = steel pre-galvanised FV = hot-dip galvanised

Dimensions and load capacities HM 41/83 and HL 41/83

Material	Length [mm]	Channel weight G [kg/m]	Channel cross-section A [cm ²]	Moment of inertia		Moment of resistance		Max. point-load bearing capacity		Bending load capacity for span L [m]		
				I _y [cm ⁴]	I _z [cm ⁴]	W _y [cm ³]	W _z [cm ³]	F _z [kN] ①	≤ L [cm]	F _{flex} [kN]		
HM - HL 41/82 WB - SV - FV	6000	4.23	5.39	42.50	17.00	9.52	8.23	5.6	148.0	8.2	4.1	2.7
		3.93	5.02	37.07	16.93	8.85	8.20	5.6	133.0	7.3	3.7	2.4

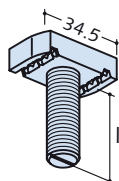
① F_z = maximum bending load capacity on the channel lips

HALFEN FRAMING SYSTEMS

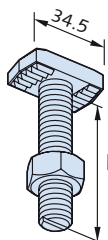
Framing Channels – Medium Duty Framing System

HALFEN Bolts HZS 41/41, HZS 41/22 and HS 41/41

HALFEN Bolts for all 41er profiles:

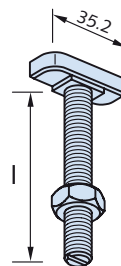


HZS 41/41
HALFEN Bolts
toothed
(order nut separately)



HZS 41/22
HALFEN Bolts
toothed, incl. nut

**for toothed Profiles
41/41 and 41/22**



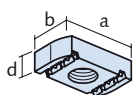
HS 41/41
HALFEN Bolts,
incl. nut

Dimensions HZS 41/41, HZS 41/22 and HS 41/41

Length l [mm]	HZS 41/41					HZS 41/22		HS 41/41	
	M6	M8	M10	M12	M16	M12	M16	M10	M12
30	zinc flake coated	zinc flake coated	zinc flake coated	zinc flake coated					
35						FV8.8 A4-50	A4-50	FV4.6 A4-50	FV4.6 A4-50
50		zinc flake coated	zinc flake coated	zinc flake coated		FV8.8 A4-50	FV8.8 A4-50		FV4.6
63					zinc flake coated				
75			zinc flake coated	zinc flake coated					
80						A4-50			
100				zinc flake coated FV			FV8.8		
102					zinc flake coated				

Locking plates GWP 41/41 - SN, - SH, GWP 41/22

Locking plates
GWP 41/41

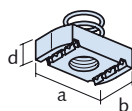


Locking plates for **all 41er Profiles** and
Profile **63/63**

Dimensions GWP 41/41					
GV Thread	FV Thread	A4 Thread	d [mm]	b [mm]	a [mm]
M 6		M 6	6	20	34.5
M 8	M 8	M 8	8 / 6		
M 10	M 10	M 10	9*		
F M12	F M12	F M12	12*		
M12	M12		12*	30	
M16		M16	12		

* (GV-FV available thickness 8 mm
A4 available thickness 6 mm)

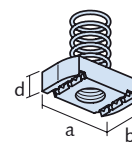
Locking plates
GWP 41/41 SN



Locking plates with short spring for
Profiles **41/22** and **63/63**

Dimensions GWP 41/41 SN			
GV Thread	d [mm]	b [mm]	a [mm]
M 6	6	20	34.5
M 8	8*		
M 10	9*		
F M 12			

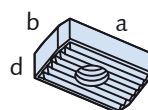
Locking plates
GWP 41/41 SH



Locking plates with long spring for
Profile **41/41**

Dimensions GWP 41/41 SH			
GV Thread	d [mm]	b [mm]	a [mm]
M 6	6	20	34.5
M 8	8*		
M 10	9*		
M 12	12*		

Locking plate
GWP 41/22



Dimensions GWP 41/22				
GV Thread	A4 Thread	d [mm]	b [mm]	a [mm]
M 6	-	7.5	20	34.5
M 8	M 8			
M 10	M 10			
M 12	M 12			
M 16 ②	M16 ②			

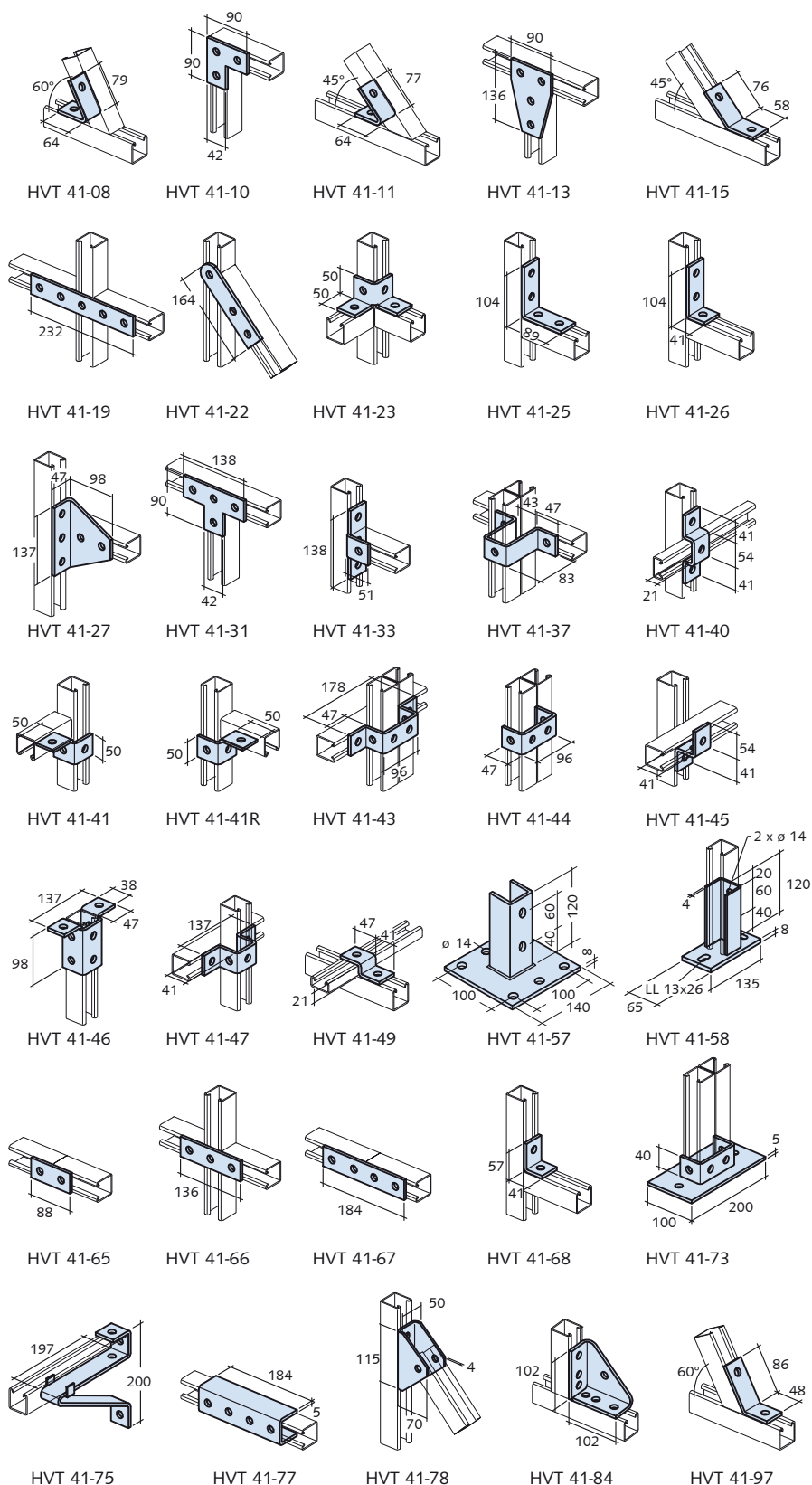
② On request

HALFEN FRAMING SYSTEMS

HALFEN System 41 (medium duty)

Note: each detail drawing shows only one of many possible applications

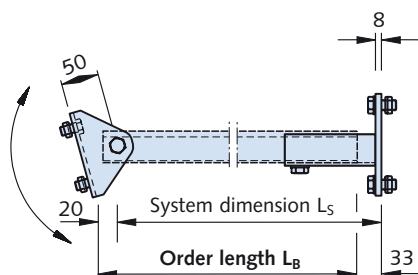
Fitting system System 41		
Article description	Order no.	
	fv = hot-dip galvanized 0312.	A4 = stainless steel 0312.
HVT 41 - 08	030-00001	
HVT 41 - 10	030-00002	030-00049
HVT 41 - 11	030-00003	
HVT 41 - 13	030-00004	030-00051
HVT 41 - 15	030-00005	030-00052
HVT 41 - 19	030-00006	
HVT 41 - 22	030-00008	030-00054
HVT 41 - 23	030-00009	
HVT 41 - 25	030-00010	030-00056
HVT 41 - 26	030-00011	030-00057
HVT 41 - 27	030-00012	030-00058
HVT 41 - 31	030-00013	
HVT 41 - 33	030-00014	
HVT 41 - 37	030-00018	
HVT 41 - 40	030-00019	
HVT 41 - 41L	030-00020	
HVT 41 - 41R	030-00021	
HVT 41 - 43	030-00022	
HVT 41 - 44	030-00023	
HVT 41 - 45	030-00024	
HVT 41 - 46	030-00025	030-00071
HVT 41 - 47	030-00026	030-00072
HVT 41 - 49	030-00027	
HVT 41 - 57	030-00029	030-00074
HVT 41 - 58	030-00030	030-00075
HVT 41 - 65	030-00032	
HVT 41 - 66	030-00033	
HVT 41 - 67	030-00034	
HVT 41 - 68	030-00035	030-00079
HVT 41 - 73	030-00037	
HVT 41 - 75	030-00038	
HVT 41 - 77	030-00039	030-00082
HVT 41 - 78	030-00040	030-00083
HVT 41 - 84	030-00041	030-00084
HVT 41 - 97	030-00047	



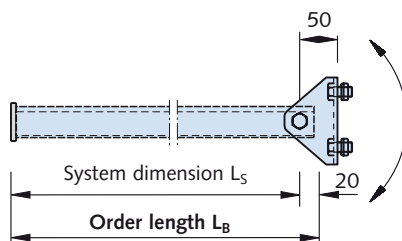
HALFEN FRAMING SYSTEMS

HALFEN System 41 (medium duty) - Construction Example

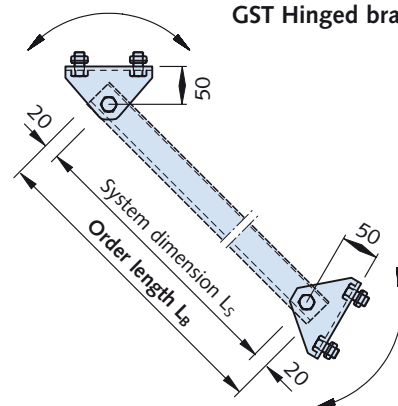
GET Hinged beam



STR Hinged cantilever



GST Hinged brace



Description and Order-no.	
Material: fv = hot-dip galvanized	Order no. 0304.
HCS - 41 - GET - P - fv Length L_B	050-00002 ①
HCS - 41 - GET - M - fv	040-00002
Type: A4 = Stainless steel	
HCS - 41 - GET - P - A4 Length L_B	050-00001 ①
HCS - 41 - GET - M - A4	040-00002
① State length L_B [mm] when ordering	

Assembly set includes:
channel **HCS - 41 - GET - P**:
HL 41/41 (for type A4: HZL 41/41),
order length L_B [mm] with holes

Assembly set includes: **HCS - 41 - GET - M**:
1 x U-adapter HVT 41 - 78
1 x HVT 41 - 58
1 x Bolt fixing set HCS-41-B3
1 x Bolt fixing set HCS-41-B4

Description and Order-no.	
Material: fv = hot-dip galvanized	Order no. 0304.
HCS - 41 - STR - P - fv Length L_B	080-00002 ①
HCS - 41 - STR - M - fv	090-00002
Type: A4 = Stainless steel	
HCS - 41 - STR - P - A4 Length L_B	080-00001 ①
HCS - 41 - STR - M - A4	090-00002
① State length L_B [mm] when ordering	

Assembly set includes:
channel **HCS - 41 - STR - P**:
HL 41/41, order length L_B [mm] with holes

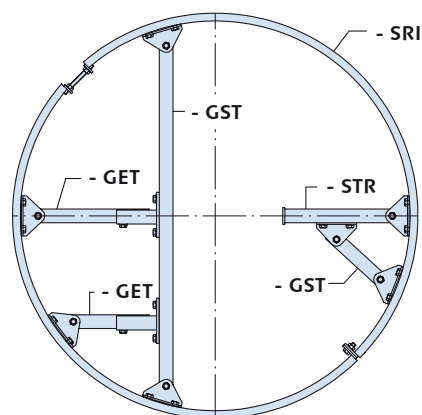
Assembly set includes: **HCS - 41 - STR - M**:
1 x U-adapter HVT 41 - 78
1 x Bolt fixing set HCS-41-B4
1 x Channel end cap HPE 41/41

Description and Order-no.	
Material: fv = hot-dip galvanized	Order no. 0304.
HCS - 41 - GST - P - fv Length L_B	060-00002 ①
HCS - 41 - GST - M - fv	070-00002
Type: A4 = Stainless steel	
HCS - 41 - GST - P - A4 Length L_B	060-00001 ①
HCS - 41 - GST - M - A4	070-00002
① State length L_B [mm] when ordering	

Assembly set includes:
channel **HCS - 41 - GST - P**:
HL 41/41 (for type A4: HZL 41/41),
order length L_B [mm] with holes

Assembly set includes: **HCS - 41 - GST - M**:
2 x HVT 41 - 78
2 x Bolt fixing set HCS - 41 - B4

Construction example for a channel ring HCS - 41 - SRI with GET hinged beam, GST hinged cantilever and a STR hinged brace.



If you have any further questions:

Our technical department and our field support technicians will gladly advise and support you in resolving questions concerning HALFEN assembly systems.

HALFEN Engineering Support

Tel.: +49 (0) 2173 - 970 9021

Fax: +49 (0) 2173 - 970 349

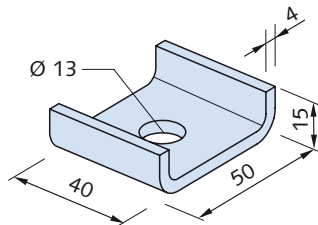
e-Mail: es.fra@halfen.com ■ www.halfen.com

HALFEN FRAMING SYSTEMS

Adjustable Framework Construction - Accessories for System 41

U-Clamp-Plate KUS for 41 System

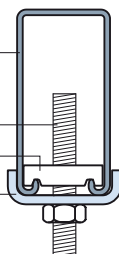
KUS U-clamp-plates fit on all HALFEN 41 System channels



Assembly diagram

e.g. Channel 41/62

Threaded rod
locking plate 41/41
KUS



U-clamp-plate KUS

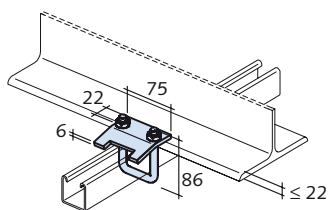
Type	fv = hot-dip galvanized Order no.
KUS	0314.000-00001
Type	A4 = stainless steel Order no.
KUS	0314.000-00002

Beam clamps for 41 System

Beam clamps for 41 series; used in pairs

HVT 41 - 85

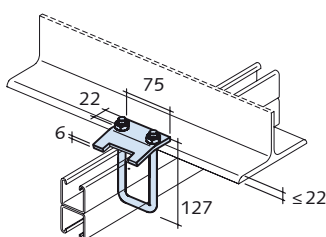
for channels 41/41, 41/22 and 41/22D



Load cap. per clamp pair: **4,55 kN**
Clamp thickness: max. 22 mm

HVT 41 - 86

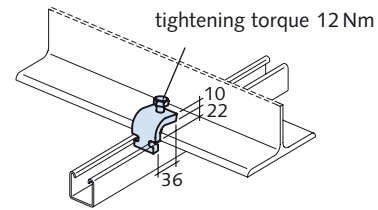
for channels 41/41D, 41/62 and 41/83



Load cap. per clamp pair: **4,55 kN**
Clamp thickness: max. 22 mm

HVT 41 - 89

for all channels in the 41 series



Load cap. per clamp pair: **3,0 kN**
Load cap. per clamp pair for channel HLL 41/41: **2,5 kN**
Clamp thickness: max. 22 mm

Beam clamps HCS TK

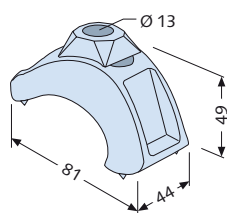
HCS TK

Beam clamps

Beam clamp with "Grip".

4 teeth for good load transmission, used in pairs.

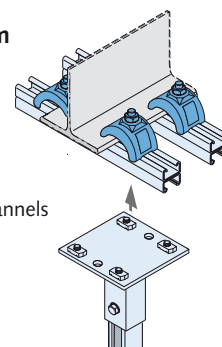
Adjustable flange height 5–40 mm.



Please order HALFEN Bolts and nuts separately. The torque value depends on the bolts used.

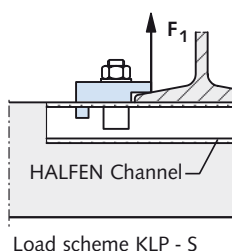
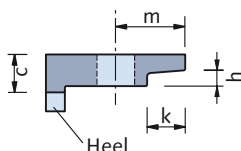
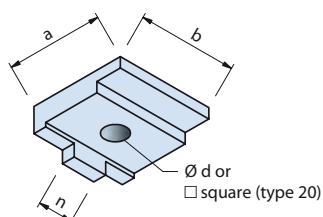
Assembly diagram

e.g. steel beam on
HALFEN Framing channels



Beam clamp KLP - S

KLP - S Beam clamps, S235 forged steel

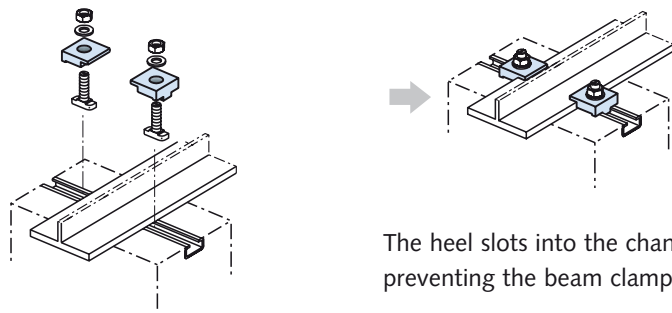


For the permissible loads for HALFEN Bolts and Channel Properties
→ see the catalogue HALFEN MT-FBC
10-E page 20-21

HALFEN FRAMING SYSTEMS

Adjustable Framework Construction - Accessories

Assembly diagram KLP - S

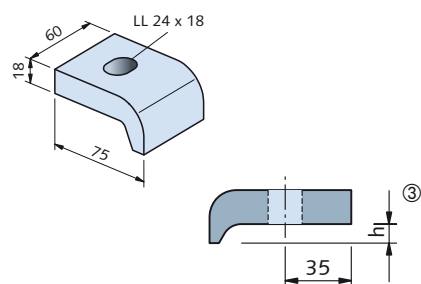


The heel slots into the channel slit preventing the beam clamp rotating.

Beam clamps KLP - 60

KLP - 60

Beam clamps



Dimensions and load bearing capacities KLP - 60

fv hot-dip Type	galvanized Order no.	Clamping height h [mm]	Perm. loading ② [kN]	primarily used with		
	0325.020-			Standard profiles I	Standard profiles I P B (HE-B)	Railtracks- ③ crane-rails etc.
60/10	00001	10	F ₁ = 7,0 HALFEN Bolts M 16 x 60, grade 4.6	120 - 160	100	A65, S 33, S 41
60/12	00002	12		220 - 240	140	A100, S 49, A75
60/14	00003	14		240 - 280	160 - 180	A120, S 54
60/16	00004	16		300 - 340	200 - 220	S 64
60/18	00005	18 ①	F ₂ = 11,25 HALFEN Bolts M 16 x 60, grade 8.8	360 - 380	240 - 260	—
60/20	00006	20 ①		400 - 450	280 - 300	—

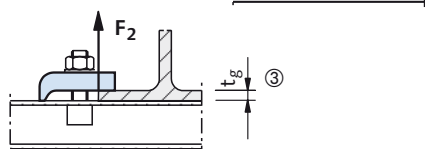
① T-head bolt M 16 x 80 is required (bolt length depends on clamping height and channel type)

② Do not exceed HALFEN Framing channel bearing capacity!

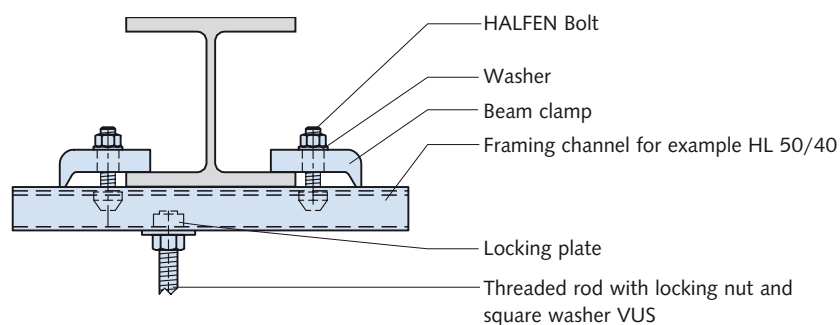
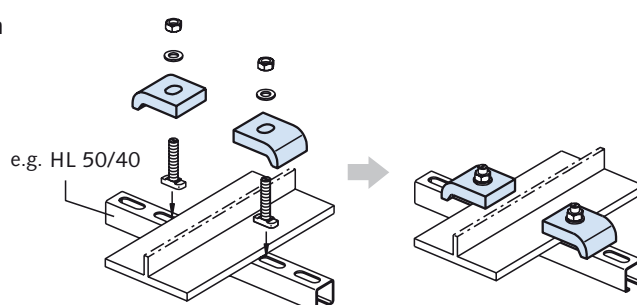
③ Check flange thickness of the channel!

Loading diagram

IPB
HE-B



Assembly diagram



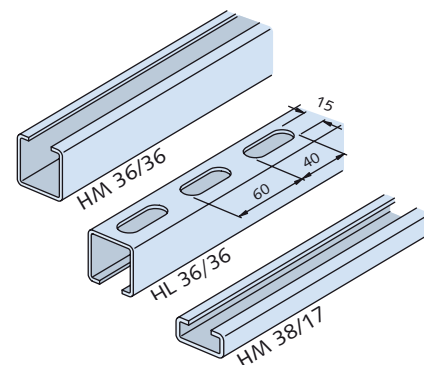
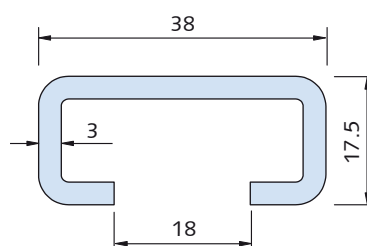
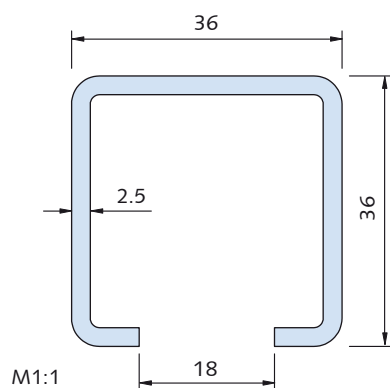
HALFEN FRAMING SYSTEMS

Framing Channels – Light Duty Framing Systems

Framing channels HM 36/36, HL 36/36 and HM 38/17

HM 36/36 and
HL 36/36 cold-rolled

HM 38/17 cold-rolled

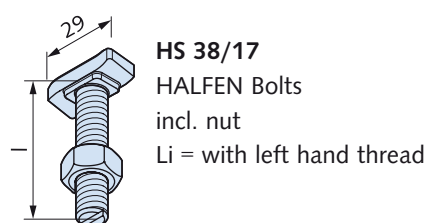


Dimensions and load capacities HM 36/36, HL 36/36, HM 38/17

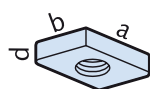
Material	Length [mm]	Channel weight G [kg/m]	Channel cross- section A [cm ²]	Moment of inertia		Moment of resistance		Max. point-load bearing capacity		Bending load capacity for span L [m]		
				I _y [cm ⁴]	I _z [cm ⁴]	W _y [cm ³]	W _z [cm ³]	F _z [kN] ①	≤ L [cm]	F _{flex} [kN]		
WB - FV - A4	6000	2.19	2.79	4.51	5.85	2.18	3.25	4.4	44.0	3.9	1.9	1.3
WB - FV - A4		2.00	2.42	3.65	5.78	1.97	3.21	4.4	36.0	3.2	1.6	1.1
WB - FV - A2 ② - A4 ②	6070	1.81	2.30	0.85	4.29	0.82	2.26	4.8	11.0	1.5	0.6	0.3

① F_z = maximum bending load capacity on the channel lips ② HCR version on request WB = steel mill-finish FV = hot-dip galvanised A2 = Inox A2 A4 = Inox A4

HALFEN Bolts HS 38/17



Locking plates GWP 38/17



Dimensions				
GV Thread	A4 Thread	a [mm]	b [mm]	d [mm]
M 6	M 6	33.5	17.5	6
M 8	M 8			
M 10	M 10			
M 12	M 12			

Dimensions HS 38/17

Length l [mm]	M 10	M 12	M 16	Length l [mm]	M 10	M 12	M 16
20	GV	GV	GV	60	GV	GV	GV
25		A4-70	A4-50				FV8.8
30	GV	GV	GV		A4-70	A4-70	A4-50
	FV	FV	FV	70		FV8.8	
	A4-70	A2-70	A2-50	80	GV	GV	GV
		A4-70	A4-50			A4-70	A4-50
40	GV	GV	GV	80Li		A4-50	A4-50
		FV	FV	100	GV	GV	GV
	A4-70	A2-70	A2-50			A4-50	FV
		A4-70	A4-50				A4-50
50	GV	GV	GV	125		GV	GV
		FV	FV	150	GV	GV	GV
	A4-70	A2-70	A2-50			A4-50	A4-50
		A4-70	A4-50	200		GV	GV
50Li		A4-50	A4-50			A4-50	A4-50

High corrosion resistant stainless steel bolts HS 38/17,
Material order code HCR, on request.

For the permissible loads for HALFEN Bolts and Channel Properties
→ see the catalogue HALFEN MT-FBC 10-E page 37 and pages 50,52

HALFEN FRAMING SYSTEMS

HALFEN System 36 (light duty)

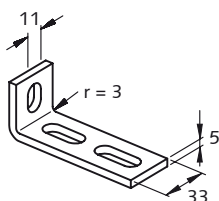


Fitting system HVT 36

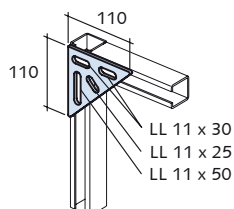
Note: each detail drawing shows only one of many possible applications.

Standard dimensions [mm]:

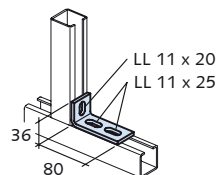
Unless otherwise stated, the following dimensions apply to all connecting members for **HVT 36**:



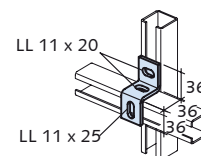
Recommended HALFEN Bolts:
HS 38/17 - M10 x 30 and
HS 38/17 - M12 x 30
and washers.



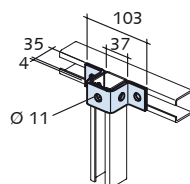
HVT 36-1



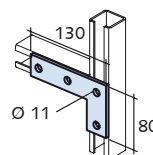
HVT 36-2



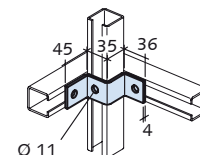
HVT 36-3



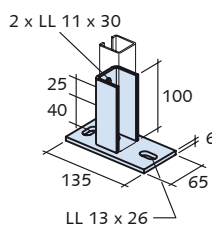
HVT 36-4



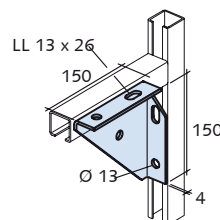
HVT 36-5



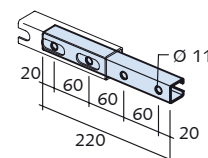
HVT 36-6



HVT 36-7



HVT 36-8



HVT 36-9 ①

① The fitting is fixed to channels by using T-head bolts type HS 28/15 - M10 x 25 and washers M10 DIN EN ISO 7093-1.

Fitting system System 36		
Article-description	Order-no.	
	fv = hot-dip galvanized gv = zinc plated 0312.020-	A4 = Stainless steel 0312.020-
HVT 36 - 1 - gv	00001	
HVT 36 - 2 - gv	00002	00010
HVT 36 - 3 - gv	00003	
HVT 36 - 4 - gv	00004	
HVT 36 - 5 - gv	00005	
HVT 36 - 6 - gv	00006	
HVT 36 - 7 - fv	00007	00011
HVT 36 - 8 - gv	00008	
HVT 36 - 9 - fv	00009	

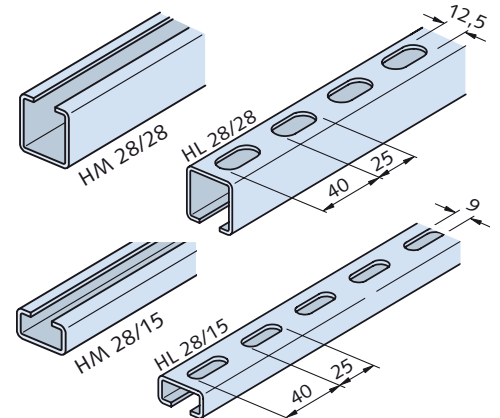
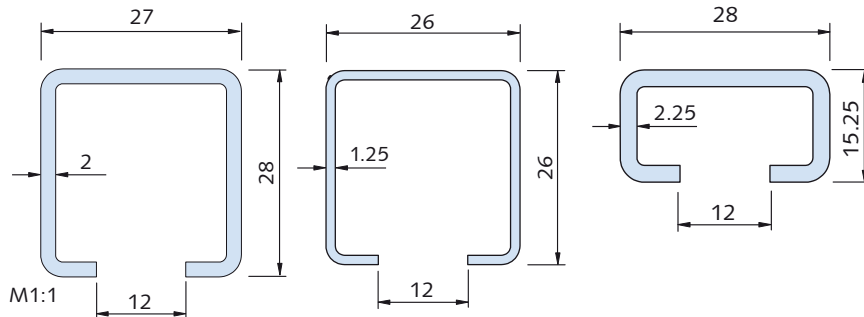
HALFEN FRAMING SYSTEMS

Framing Channels – Light Duty Framing Systems

Framing channels HM 28/28 and HL 28/28

HM 26/26 and HL 26/26 cold-rolled
HM 28/28 and HL 28/28 cold-rolled
HM 28/15 and HL 28/15 cold-rolled

For loads → see the catalogue HALFEN
MT-FBC 10-E pages 37,41,50,52



Dimensions and load capacities HM 28/28 and HL 28/28

Material	Length [mm]	Channel weight G [kg/m]	Channel cross- section A [cm ²]	Moment of inertia		Moment of resistance		Max. point-load bearing capacity		Bending load capacity for span L [m]		
				I _y [cm ⁴]	I _z [cm ⁴]	W _y [cm ³]	W _z [cm ³]	F _z [kN] ①	≤ L [cm]	0.5 m	1 m	1.5 m
WB - SV	6000	1.36	1.73	1.70	2.01	1.08	1.49	3.0	31.0	1.9	0.9	0.5
FV - A4		1.22	1.48	1.33	1.98	0.95	1.47	3.0	25.5	1.5	0.8	0.4

① F_z = maximum bending load capacity on the channel lips WB = steel mill-finish FV = hot-dip galvanised SV = steel pre-galvanised A4 = Inox A4

Dimensions and load capacities HM 26/26 and HL 26/26

Material	Length [mm]	Channel weight G [kg/m]	Channel cross- section A [cm ²]	I _y [cm ⁴]	I _z [cm ⁴]	W _y [cm ³]	W _z [cm ³]	F _z [kN] ①	≤ L [cm]	0.5 m	1 m	1.5 m
										F _{flex} [kN]		
SV	6000	0.82	1.05	0.94	1.18	0.64	0.91	1.10	50.0	1.1	0.5	0.3
SV		0.72	0.89	0.73	1.16	0.56	0.89	1.10	40.0	0.9	0.4	0.22

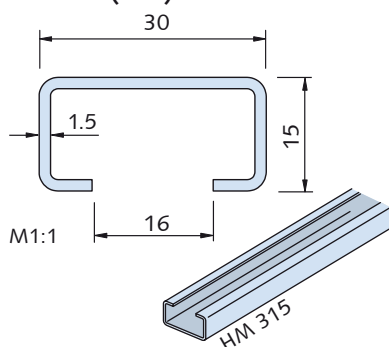
① F_z = maximum bending load capacity on the channel lips SV = steel pre-galvanised

Dimensions and load capacities HM 28/15, HL 28/15, HM 315 (C30)

Material	Length [mm]	Channel weight G [kg/m]	Channel cross- section A [cm ²]	I _y [cm ⁴]	I _z [cm ⁴]	W _y [cm ³]	W _z [cm ³]	F _z [kN] ①	≤ L [cm]	0.5 m	1 m	1.5 m
										F _{flex} [kN]		
WB - FV	6070	1.09	1.39	0.41	1.45	0.46	1.03	3.9	8.2	0.8	0.3	0.12
A2 ② - A4 ②		0.86	1.16	0.32	1.35	0.40	0.98	3.9	7.0	0.7	0.22	0.10

① F_z = maximum bending load capacity on the channel lips ② HCR version on request WB = steel mill-finish FV = hot-dip galvanised A2 = Inox A2 A4 = Inox A

HM 315 (C30) cold-rolled



Dimensions and load bearing capacities HM 315 (C30)

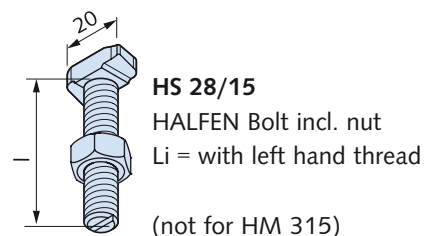
Mat.	Order-no. 0280.	Length [mm]	Channel weight G [kg/m]	Channel cross- section A [cm ²]	Moment of inertia		Moment of resistance		Max. point-load bearing capacity		Bending load capacity for span L [m]		
					I _y [cm ⁴]	I _z [cm ⁴]	W _y [cm ³]	W _z [cm ³]	F _z [kN] ①	≤ L [cm]	0.5 m	1 m	1.5 m
WB	060-00001	6000	0.77	0.97	0.30	1.26	0.32	0.84	1.66	17.7	0.59	0.16	0.07
FV	060-00002												

① F_z = maximum bending load capacity on the channel lips

HALFEN FRAMING SYSTEMS

HALFEN Bolts and Accessories

HALFEN Bolt HS 28/15



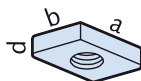
Dimensions HS 28/15

Length l [mm]	M 6	M 8	M 10	M 12	Length l [mm]	M 6	M 8	M 10	M 12
15	GV	GV	GV		50	GV	GV	GV	GV
20	GV	GV	GV					FV	
			A2-70					A2-70	
			A4-70					A4-70	
25	GV	GV	GV		60	GV	GV	GV	
			A2-70					A4-70	
			A4-70		80		GV	GV	GV
30	GV	GV	GV	GV	100		GV	GV	
		A2-70	FV					A4-50	
		A4-70	A2-70		125			GV	
			A4-70					A4-50	
40	GV	GV	GV		150		GV	GV	
			FV8.8					A4-50	
			A2-70		200			GV	
			A4-70					A4-50	
50 Li			A4-50						

High corrosion resistant stainless steel HALFEN Bolts HS 28/15,
Material order code **HCR**, on request.

Locking plates

Locking plates **GWP 28/15**
for Profiles 28/15 and 315 (C30)



Dimensions				
GV Thread	A4 Thread	a [mm]	b [mm]	d [mm]
M 6	M 6	24.5	13.0	4
M 8	M 8			
M 10	M 10	33.5	17.5	5

Load bearing capacity		
Permissible load	Thread	Load capacity [kN]
	M 6	1.9
	M 8	2.8
	M 10	3.0

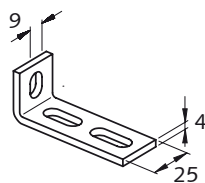
Installation note: **M 6** and **M 8**: Insert locking plate at a slant through the channel slit.
M 10: First insert the locking plate then screw in the threaded rod.



Fitting system HVT 28

Standard dimensions [mm]:

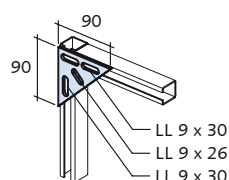
Unless otherwise stated, the following dimensions apply to all connecting elements for HVT 28:



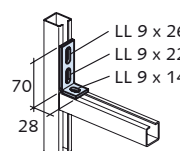
Recommended HALFEN Bolts:
HS 28/15 - M8 x 20 and washers.

Fitting system HVT 28

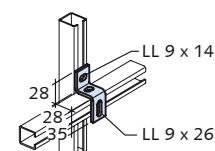
	Order-no. 0312.010-
fv = hot-dip galvanized gv = zinc plated.	
HVT 28 - 1 - gv	00001
HVT 28 - 2 - gv	00002
HVT 28 - 3 - gv	00003
HVT 28 - 4 - gv	00004
HVT 28 - 5 - gv	00005
HVT 28 - 6 - gv	00006
HVT 28 - 7 - fv	00007
HVT 28 - 8 - gv	00008
HVT 28 - 9 - fv	00009



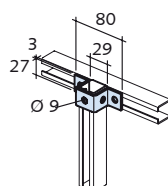
HVT 28-1



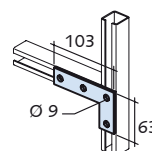
HVT 28-2



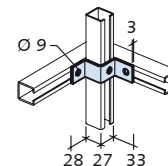
HVT 28-3



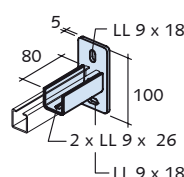
HVT 28-4



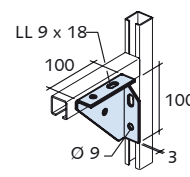
HVT 28-5



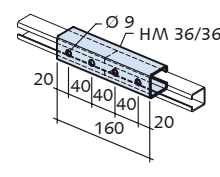
HVT 28-6



HVT 28-7



HVT 28-8



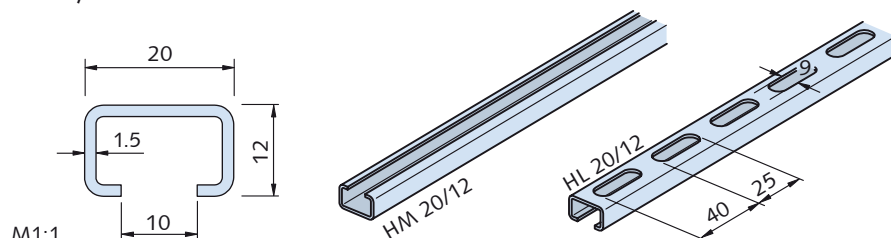
HVT 28-9

HALFEN FRAMING SYSTEMS

Framing Channels – Light Duty Framing Systems

Framing channels HM 20/12 and HL 20/12

HM 20/12 and
HL 20/12 cold-rolled



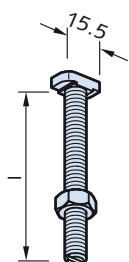
For the permissible loads for HALFEN Bolts and Channel Properties
→ see the catalogue HALFEN MT-FBC 10-E page 43 and pages 50,52

Dimensions and load bearing capacities HM 20/12 and HL 20/12

Material	Length [mm]	Channel weight G [kg/m]	Channel cross-section A [cm ²]	Moment of inertia		Moment of resistance		Max. point-load bearing capacity		Bending load capacity for span L [m]		
				I _y [cm ⁴]	I _z [cm ⁴]	W _y [cm ³]	W _z [cm ³]	F _z [kN] ①	≤ L [cm]	F _{flex} [kN]		
HM 20/12 WB FV A2	6000	0.52	0.66	0.12	0.36	0.16	0.36	2.24	5.8	0.3	0.08	0.04
HL 20/12 WB FV A2		0.45	0.53	0.09	0.35	0.14	0.36	2.24	4.6	0.23	0.06	0.03

① F_z = maximum bending load capacity on the channel lips **WB** = steel mill-finish **FV** = hot-dip galvanised **A2** = Inox A2

HALFEN Bolts HS 20/12

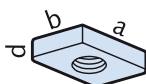


HS 20/12
HALFEN Bolts
incl. nut

Dimensions HS 20/12		
Length l [mm]	M 6	M 8
15		GV
20	GV	GV A2-70
25		GV
30	GV	GV A2-70
40	GV	GV A2-70
50	GV	GV A2-70
60	GV	GV
80		GV
100		GV

Locking plates

Locking plates **GWP 20/12**



Dimensions				
GV Thread	A4 Thread	a [mm]	b [mm]	d [mm]
M 5	M 5	16	9	4
M 6	M 6			

Load bearing capacity		
permissible load	Thread	Load capacity [kN]
	M 5	1.5
	M 6	1.9

HALFEN FRAMING SYSTEMS

Threaded Rods, Hexagon Head Bolts, Nuts, Washers

GWS

Threaded rod
DIN 976-1

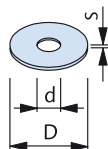


GV FK 4.6	Stainless steel A4	Length	Load capacity
Thread	Thread	[mm]	[kN]
M 6	M 6	1000	2.2
M 8	M 8	1000	4.0
M 10	M 10	1000	6.4
M 12	M 12	1000	9.3
M 16	M 16	1000	17.3
M 20	M 20	1000	27.0
M 24		1000	38.8

Order example: GWS - M 12 x 1000 - GV

US

Washers
DIN EN ISO
7093-1/7094,
DIN 440

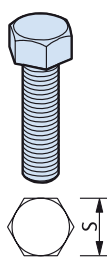


DIN EN	GV for Screw size	Stainless steel A4 for Screw size	D [mm]	d [mm]	s [mm]
7094	M 6		22	6.6	2
7093-1	M 8	M 8	24	8.4	2
7093-1	M 10	M 10	30	10.5	2.5
7094	M 12		45	13.5	4
7093-1	M 12	M 12	37	13	3
7093-1	M 16	M 16	50	17	3
7094	M 20		72	22	6

Order example: US - M 12 - GV - DIN EN ISO 7093-1

HSK

Hex. head bolt
DIN 933 or
DIN EN ISO 4017
(without nut)

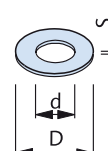


Hex. head bolts are
used in combination
with HALFEN locking
plates

GV FK 8.8	Stainless steel A4	S DIN	S EN
Dimensions	Dimensions	[mm]	[mm]
M 6 x 12		10	10
M 6 x 25			
M 8 x 25	M 8 x 25	13	13
M 8 x 40			
M 10 x 20			
M 10 x 30	M 10 x 30		
M 10 x 45	M 10 x 45	17	16
M 10 x 60			
M 10 x 70			
M 12 x 22			
M 12 x 25	M 12 x 25		
M 12 x 30	M 12 x 30		
M 12 x 40	M 12 x 40	19	18
M 12 x 50			
M 12 x 60	M 12 x 60		
M 12 x 80	M 12 x 80		
M 12 x 90			
M 16 x 40	M 16 x 40		
M 16 x 60	M 16 x 60	24	24
M 16 x 90	M 16 x 90		

US

Washers
DIN 125/
DIN EN
ISO 7089

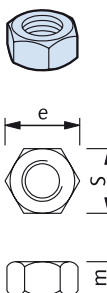


GV for Screw size	Stainless steel A4 for Screw size	D [mm]	d [mm]	s [mm]
M 6	M 6	12	6.4	1.6
M 8	M 8	16	8.4	1.6
M 10	M 10	21	10.5	2
M 12	M 12	24	13	2.5
M 16	M 16	30	17	3
M 20	M 20	37	21	3
M 24	M 24	44	25	4
FV for Screw size	Stainless steel A2 for Screw size	D [mm]	d [mm]	s [mm]
	M 8	17	8.4	1.6
M 10	M 10	21	10.5	2
M 12	M 12	24	13	2.5
M 16	M 16	30	17	3

Order example: US - GV - M 12 - DIN 125

MU

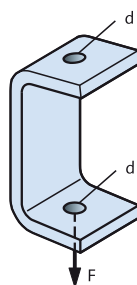
Hex. head bolt
DIN 934 or
DIN EN ISO 4032



GV FK 8	Stainless steel A4 Thread	S/m DIN	S/m ISO	e DIN
Thread	Thread	[mm]	[mm]	[mm]
M 6	M 6	10/5	10/5	11.5
M 8	M 8	13/6.5	13/6.5	15.0
M 10	M 10	17/8	16/8	19.6
M 12	M 12	19/10	18/10.5	21.9
M 16	M 16	24/13	24/14.5	27.7
M 20	M 20	30/16	30/18	34.6
M 24	M 24	36/19	36/21	41.5
FV	Stainless steel A2 Thread	S/m DIN	S/m EN	e
Thread	Thread	[mm]	[mm]	[mm]
M6, M8	M 8	13/6.5	13/6.5	15.0
M 10	M 10	17/08	16/8	19.6
M 12	M 12	19/10	18/10.5	21.9
M 16	M 16	24/13	24/14.5	27.7

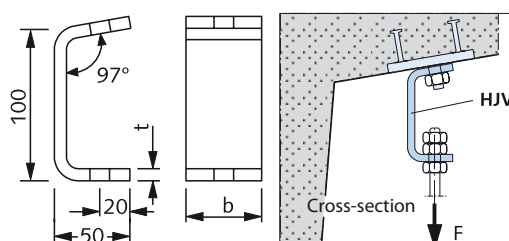
HJV

Adapter
coupler



FV Type	Stainless steel A4 Type	t [mm]	b [mm]	d [mm]	F ① [kN]
1	1	6	40	13	1.5
2	2	8	50	17	3.3
3	3	10	50	17	5.0

① recommended. max. load

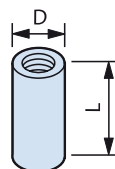


HALFEN FRAMING SYSTEMS

Couplers, Ring Nuts, Square Washers

VBM

Coupler, round



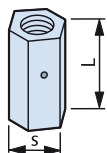
GV thread size	Stainless steel A4 thread size	D ② [mm]	L [mm]	load capacity ① [kN]
M 6	M 6	10/10	15	2.2
M 8	M 8	12/14	20	4.0
M 10	M 10	13/16	25	6.4
M 12	M 12	16/20	30	9.3
M 16	M 16	21/25	40	17.3
M 20	M 20	26/32	50	27.0

① Recomm. maximum working load at centric-pull

② Size D for type GV / A4

SKM

Hexagonal rod
coupler with
view hole

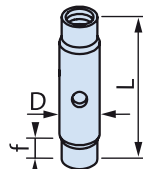


FV thread size	Stainless steel A4 thread size	S [mm]	L [mm]	load capacity ① [kN]
M 10	M 10	13	40	6.4
M 12	M 12	17	40	9.3
M 16	M 16	22	50	17.3

① Recomm. maximum working load at centric-pull
Order example: SKM - FV - M 12

SPH

Turnbuckle
(right and left-
hand thread)



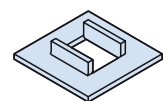
f = min.
Screw-in depth
M12 = 10mm
M16 = 13mm

Stainless steel A4 Thread M 12 × Length L [mm]	Stainless steel A4 Thread M 16 × Length L [mm]	D for M12 [mm]	D for M16 [mm]
M12 × 60	M16 × 60	16	22
M12 × 75	M16 × 75	16	22
M12 × 95	M16 × 95	16	22
M12 × 115	M16 × 115	16	22
M12 × 135	M16 × 135	16	22

perm. load: 5 kN perm. load: 10 kN

Order example: SPH - A4 - M 12 x 75

SIC



Locking plate

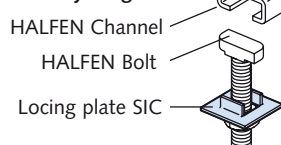
GV Article description	Stainless steel A4 Article description	Type	Dimensions
SIC - 50/30 - GV	SIC - 50/30 - A4	50/30	M16, M20
SIC - 40/22 - GV	SIC - 40/22 - A4	38/17 40/22	M16
SIC - 38/23 - GV		38/23	M16
SIC - 29/20 - GV		29/20	M12
SIC - 38/17 - GV	SIC - 38/17 - A4	38/17 40/22	M12, M10
SIC - 28/15 - GV	SIC - 28/15 - A4	28/15	M8, M10
SIC - 20/12 - GV	SIC - 20/12 - A4	20/12	M8

Order example: SIC - 38/17- GV

Application:

To prevent bolts
turning during assembly.

Assembly Diagram:



RM

Ring-nut

(DIN 582

Issue date 2003-8)



GV C 15 E thread size	d [mm]	load capacity ③ [kN]
M 8	20	1.4
M 10	25	2.3
M 12	30	3.4
M 16	35	7.0
M 20	40	12.0

③ Recomm. maximum working load at centric-pull
according to DIN 582

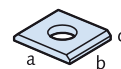
VUS

square - washers

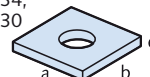
VUS 40/25
for profiles
40/25;
HZA
41/22



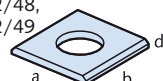
VUS 49/30
for profiles
54/33,
49/30



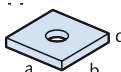
VUS 52/34
for profiles
52/34,
50/30



VUS 72/49
for profiles
72/48,
72/49



VUS 41/41
for all 41 profiles



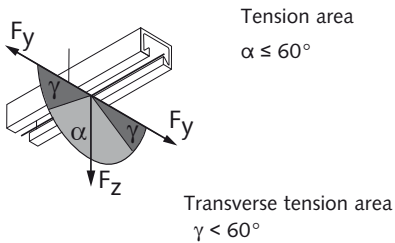
FV for bolts	Stainless steel A4 for bolts	a x b x d [mm]
M 10	M 10	40 x 40 x 5
M 12	M 12	40 x 40 x 5
M 16	M 16	40 x 40 x 5
M 10	M 10	37 x 37 x 5
M 12	M 12	37 x 37 x 5
M 16	M 16	37 x 37 x 5
M 20	M 20	37 x 37 x 5
M 16	M 16	50 x 50 x 6
M 20	M 20	50 x 50 x 6
M 20	M 20	54 x 54 x 6
M 24	M 24	54 x 54 x 6
M 27	M 27	54 x 54 x 6
M 30	M 30	54 x 54 x 6
M 6	M 6	40 x 40 x 6
M 10	M 10	40 x 40 x 6
M 12	M 12	40 x 40 x 6

Order example: VUS 52/34 - FV - M 20

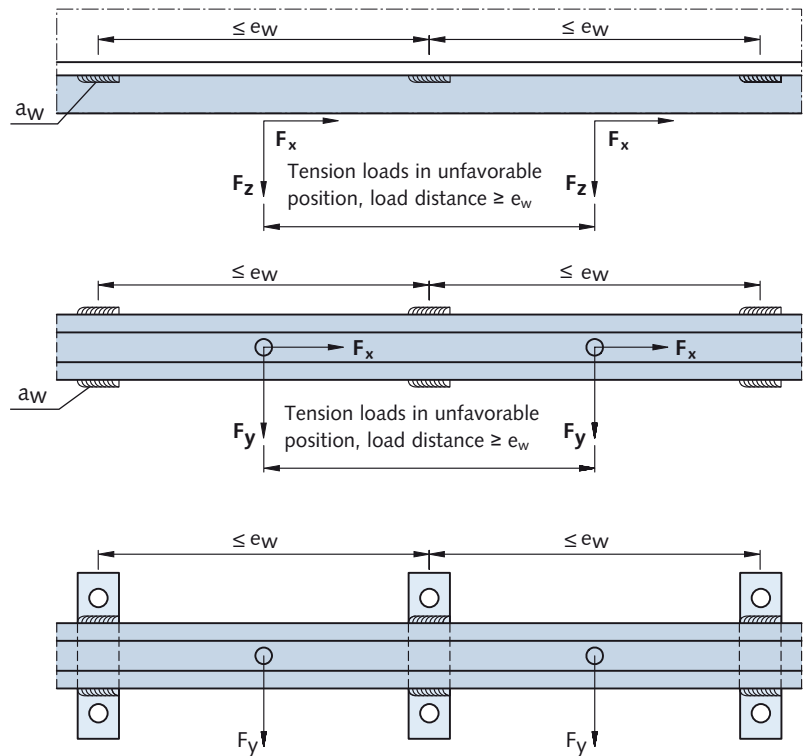
HALFEN FRAMING SYSTEMS

Bearing Capacity Values for Welded and Bolted HALFEN Framing Channels

Framing channels welded on to steel elements or anchored in concrete elements



The bearing capacity values for transverse tensions apply to a transverse tension load on the channel's front edge. With greater load distances (e.g. installation distance) the additional bolt bending moment must be considered and overlaid with the transverse tension loads; → see page 57



Bearing capacity values for welded/bolted HALFEN Framing channels

Type	Channel	Weld seam		Support distance e_w [mm]	Bearing capacity		longitudinal-pull F_x [kN]
		Thickness a_w [mm]	Length l_w [mm]		Tension $\alpha \leq 60^\circ$ F_z [kN]	Tran. Pull $\gamma < 60^\circ$ F_y [kN]	
Hot-rolled channel	HM 72/48	5	50	300	31.0	9.3	①
	HM 52/34	4	30	200	17.0	5.9	
	HM 50/30	3	30	200	11.0	3.0	
	HM 40/22	3	30	150	5.7	2.5	
	HZM 53/34	4	30	200	22.0	6.2	22.0 / 19.0 ②
	HZM 38/23	3	30	200	12.0	3.3	12.0
	HZM 29/20	3	30	150	8.0	2.2	8.0
Cold-rolled channel	HM 50/40	3	30	400	5.4	1.9	①
	HZM 41/41	3	30	300	5.6	1.2	5.0
	HZM 41/22	3	30	120	5.6	1.5	5.0
	HM 41/41	3	30	300	5.6	1.2	①
	HM 41/22	3	30	120	5.6	1.5	
	HM 36/36	3	30	300	4.4	1.2	
	HM 38/17	3	30	100	4.8	2.5	
	HM 28/15	3	30	100	2.5	1.2	

① Recommended loads for longitudinal channel direction for smooth (non-toothed) framing channels can be found on the respective product page.

② For stainless steel.

HALFEN FRAMING SYSTEMS

Application Examples

HALFEN Framing channels as compression elements

Standardised complete system consists of:



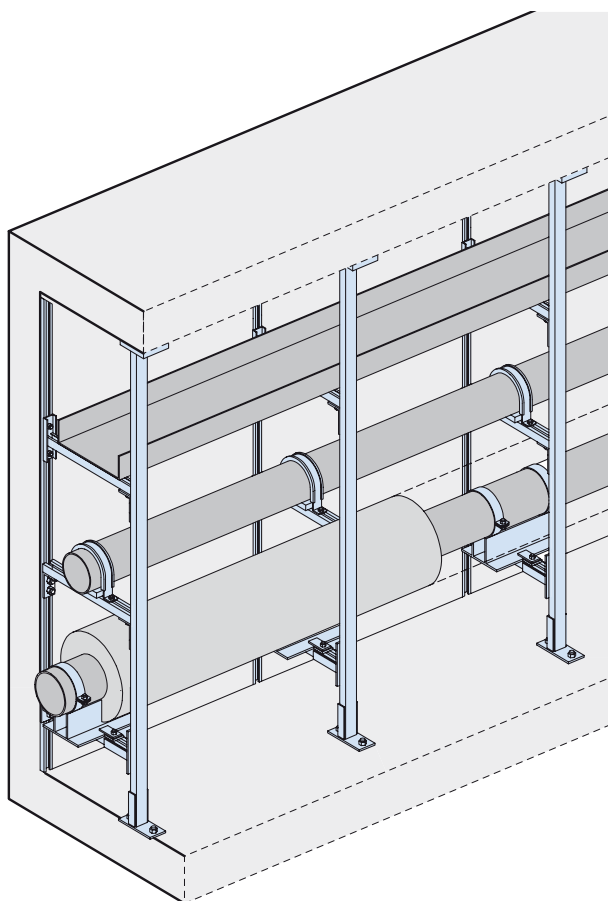
HALFEN Framing channels



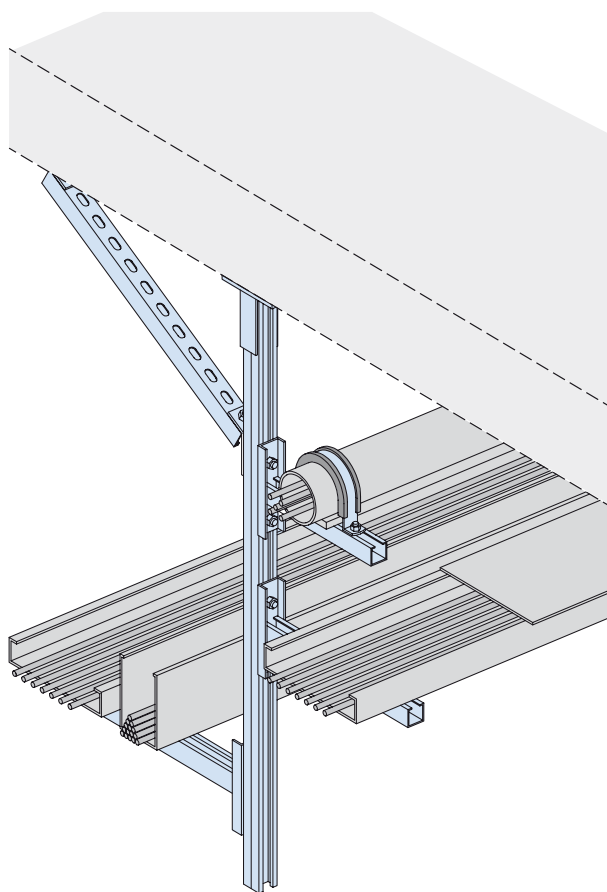
HALFEN Bolts / Locking plates



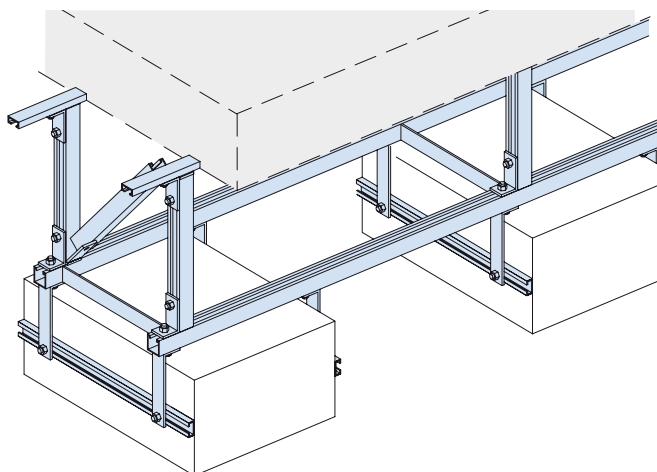
HALFEN Connection elements



Pipe support in walk-in utility tunnel.



Pipes and cable-trays with height adjustable cantilevers.



Lighting equipment suspended from the ceiling of a road tunnel.

Highly versatile

HALFEN Channels can be fixed onto support constructions in various ways:

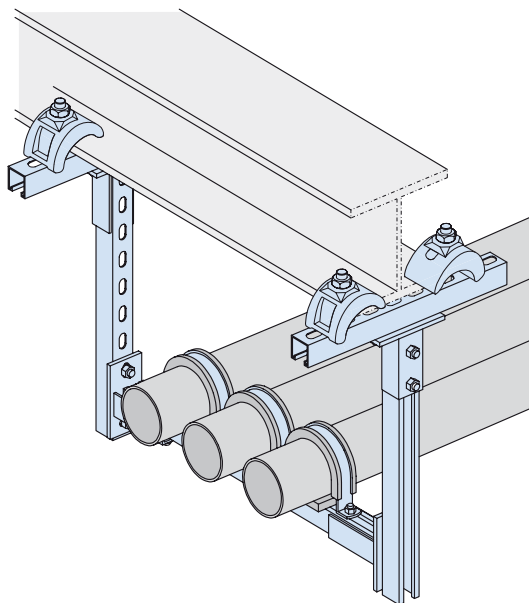
- clamped on sectional steel supports
- welded on to structural steel members
- bolted onto HALFEN Cast-in channels
- bolted onto concrete or brick-work etc.

The HALFEN Bolts and locking plates can be inserted anywhere on the framing channels in the profile slit allowing a quick, safe and fully adjustable connection of components.

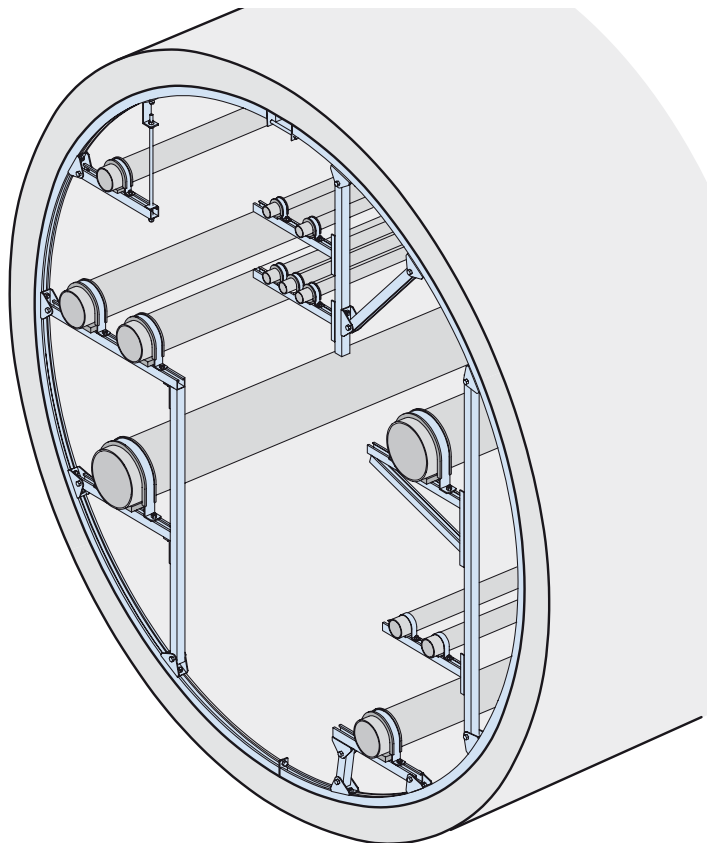
HALFEN FRAMING SYSTEMS

Application Examples

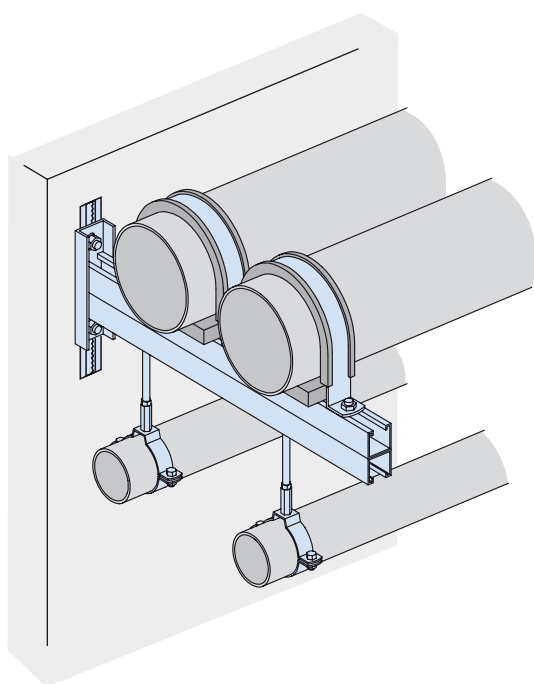
Flexible framework construction



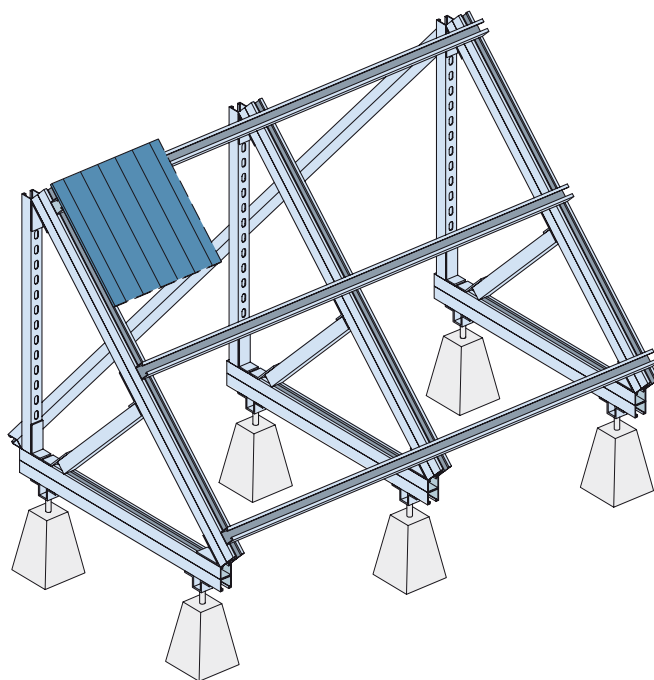
Fitting a framework construction made from HALFEN Framing channels and connection parts on steel supports with HALFEN Beam clamps.



Pipe distribution in a walk-in utility tunnel.



Pipe fixings on a HALFEN Cantilever.

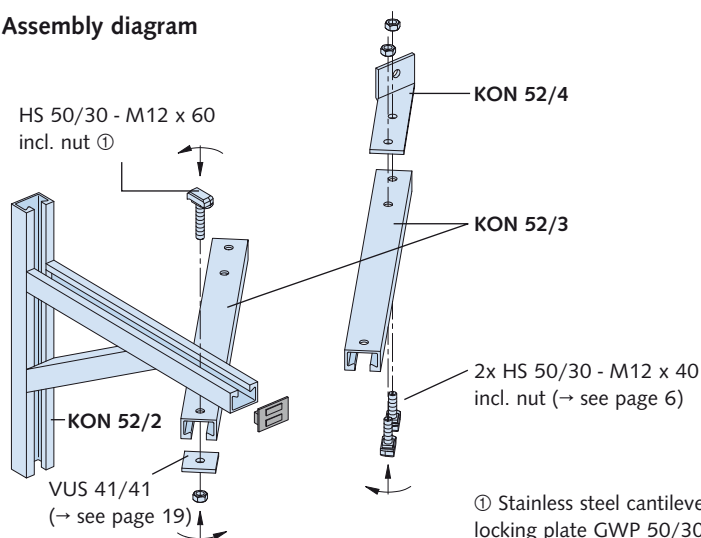


Support structure for solar equipment.

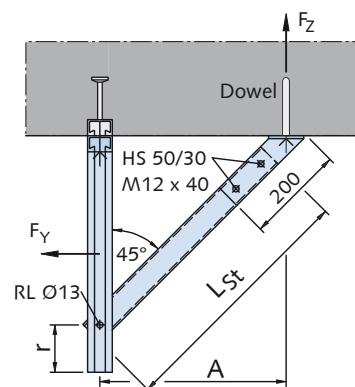
HALFEN FRAMING SYSTEMS

Cantilevers

Assembly diagram



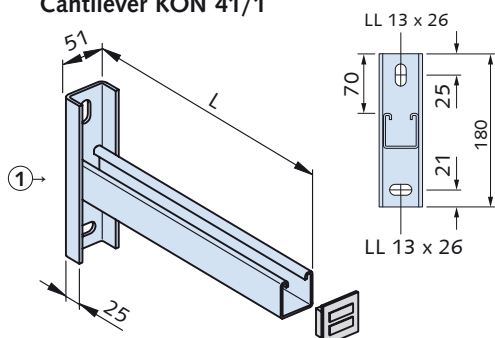
① Stainless steel cantilevers are fixed with locking plate GWP 50/30 - M 12 and T-head bolt HSK - M12 x 60, DIN 933.



Note: The max. bearable load of lateral braces depends on permissible load FZ of dowels.

Cantilever - Medium duty framing systems

Cantilever KON 41/1



Dimensions and load bearing capacities KON 41/1

Length L	fv hot-dip galvanized	A4 Stainless steel				
[mm]	Order no. 0310.010-	Order no. 0310.010-	F1 [kN]	F1 [kN]	F2 [kN]	F3 [kN]
175	00001	00004	5.35	2.65	2.65	1.75
325	00002	00005	2.65	1.30	1.30	0.85
475	00003	00006	1.75	0.85	0.85	0.55

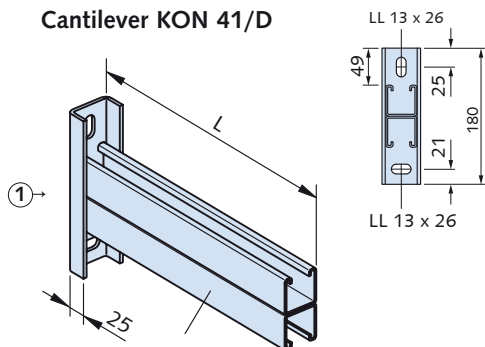
* Possibilità di farle su misura ① → Disponibile versione "leggera" con piatto 136 x 50

Connection forces KON 41/1

	Length [mm]	Fz [kN]	FQ [kN]
	175	3.23	5.35
	325	2.97	2.65
	475	2.87	1.75

Assembly example with bracing KON 21
(→ see page)

Cantilever KON 41/D



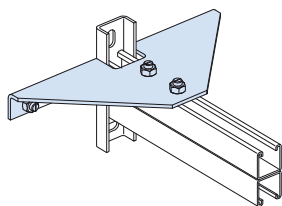
Dimensions and load bearing capacities KON 41/D

Length L	fv hot-dip galvanized	A4 Stainless steel				
[mm]	Order no. 0310.030-	Order no. 0310.030-	F1 [kN]	F1 [kN]	F2 [kN]	F3 [kN]
325	00001	00004	5.60	2.80	2.80	1.85
475	00002	00005	3.70	1.85	1.85	1.20
625	00003	00006	2.80	1.40	1.40	0.90

* Possibilità di farle su misura ① → Disponibile versione "leggera" con piatto 136 x 50

HALFEN FRAMING SYSTEMS

Cantilevers

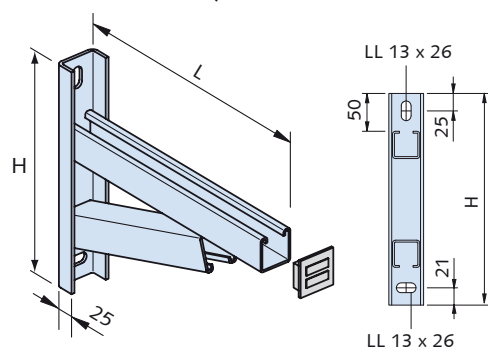


Assembly example with bracing KON Z1
(→ see page 30)

Connection forces KON 41/D

	Length [mm]	F _Z [kN]	F _Q [kN]
	325	6.28	5.60
	475	6.06	3.70
	625	6.03	2.80

Cantilever KON 41/2



Dimensions and load bearing capacities KON 41/2

Length L [mm]	fv hot-dip galvanized Order no. 0310.020-	A4 Stainless steel Order no. 0310.020-					Dimensions H [mm]
			F ₁ [kN]	F ₁ [kN]	F ₂ [kN]	F ₃ [kN]	
325	00001	00005	7.50	4.90	4.80	3.40	270
475	00002	00006	5.00	4.75	3.70	2.45	330
625	00003	00007	3.50	3.50	2.75	1.85	380
775	00004	00008	2.65	2.65	2.05	1.40	430

* Possibilità di farle su misura

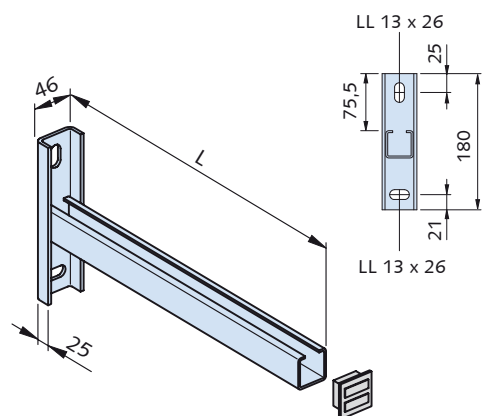
Connection forces KON 41/2

	Length [mm]	F _Z [kN]	F _Q [kN]
	325	9,30	10,20
	475	10,16	7,40
	625	8,23	5,55
	775	6,63	4,20

Assembly example with bracing KON Z1
(→ see page 30)

Cantilevers - Light duty framing systems

Cantilever KON 36/1



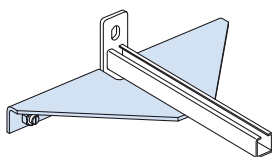
Dimensions and load bearing capacities KON 36/1

Length L [mm]	fv hot-dip galvanized Order no. 0310.060-	A4 Stainless steel Order no. 0310.060-				
			F ₁ [kN]	F ₁ [kN]	F ₂ [kN]	F ₃ [kN]
300	00001	00005	2.00	1.00	1.00	0.70
400	00002	00006	1.50	0.75	0.75	0.50
500	00003	00007	1.20	0.60	0.60	0.40
600	00004	00008	1.00	0.50	0.50	0.33

* Possibilità di farle su misura

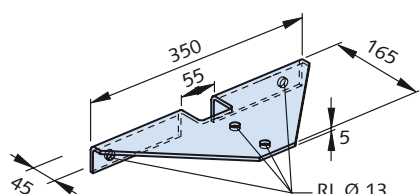
HALFEN FRAMING SYSTEMS

Cantilevers

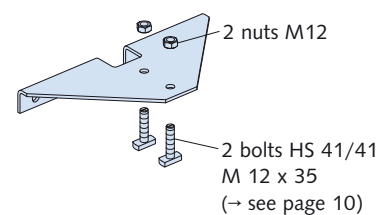


Connection forces KON 28/1			
	Length [mm]	F _Z [kN]	F _Q [kN]
	100	1.82	2.70
	200	1.82	1.36
	300	1.82	0.90
	400	1.89	0.70

Bracing KON Z1 for cantilevers



KON Z1	
fv hot-dip galvanized	A4 Stainless steel
Order no. 0310.110- 00002	Order no. 0310.110- 00001

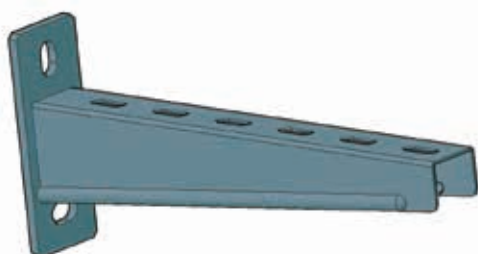


Assembly diagram

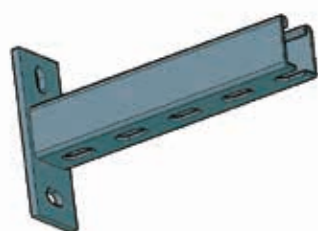
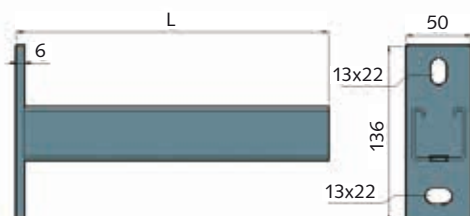
(bolts, nuts and cantilevers to be ordered separately)

Connection to underside of cantilever possible
(2 holes need to be made on site)

KON 41 Steel pressed (FV-A2-A4) LENGHT 120/620



KON 41/41 LIGHT (FV-A2-A4)



Dimensions and load capacities		
	length L [mm]	F [kN]
	200	1,8
	250	1,45
	300	1,2
	350	1,05
	450	0,8
	550	0,65
	650	0,55
	750	0,47
	850	0,41
	950	0,36
	1050	0,32

HALFEN FRAMING SYSTEMS

Pipe Clamps, Pipe Supports

HALFEN Pipe clamps, pipe supports

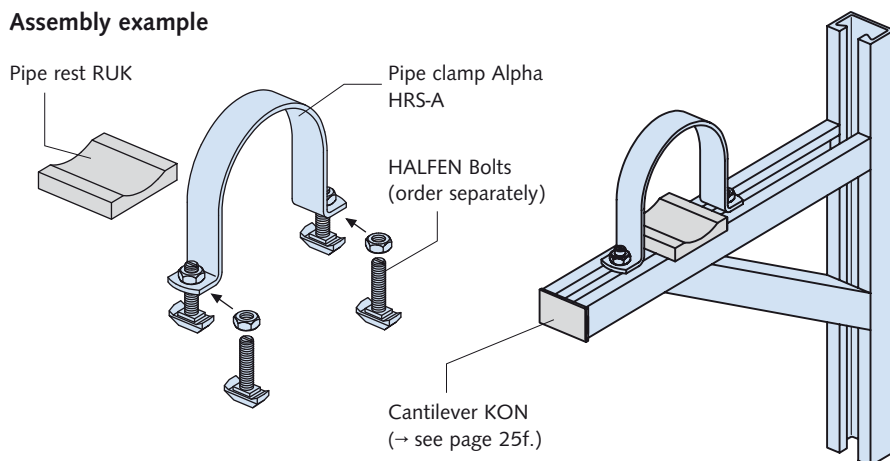
Adjustable pipe clamps

HALFEN Pipe clamps are a fully optimised and flexible solution for use in combination with the HALFEN Cast-in channel and framing systems. HALFEN supplies pipe clamps of

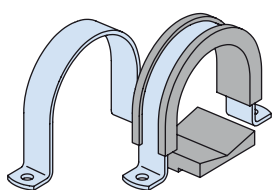
various types for pipe diameters of 15 to 530 mm. The flexibility of the pipe fixings guarantees adjustability in all directions.



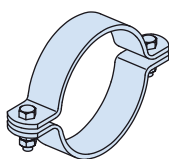
Assembly example



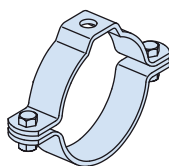
Type selection



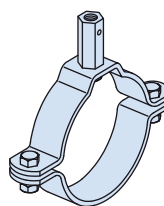
HRS-A/HCS-RAD
Pipe clamp Alpha
(→ see page 32)



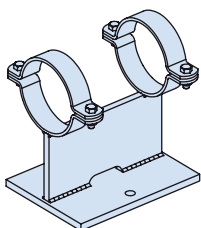
HRS-B
Pipe clamp Beta
(→ see page 34)



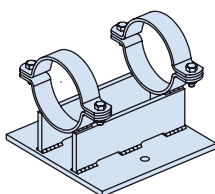
HRS-G
Pipe clamp Gamma
(→ see page 35)



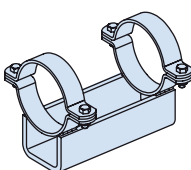
HRS-D
Pipe clamp Delta
(→ see page 36)



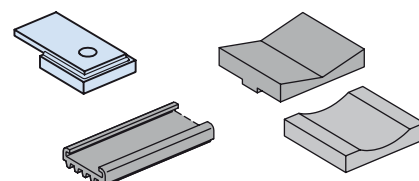
HRG-1
Pipe support
(→ see page 37)



HRG-2
Pipe support
(→ see page 37)



HRG-3
Pipe support
(→ see page 37)



Accessories
lift off safety device, pipe rests,
Vibration absorber (→ see page 38f.)

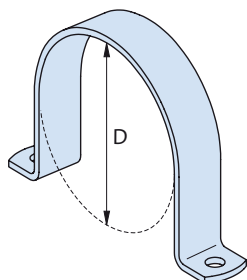
HALFEN FRAMING SYSTEMS

Pipe Clamps, Pipe Supports

Pipe clamp - Assembly set

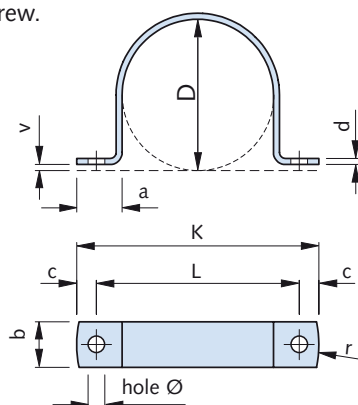
HRS-A

Pipe clamp Alpha

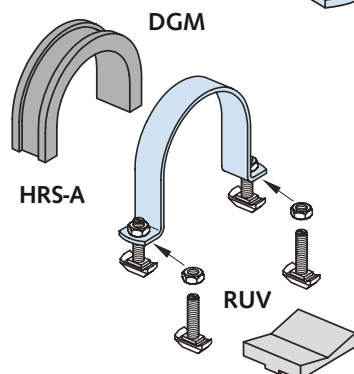
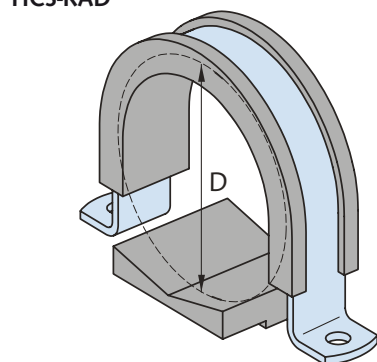


Assembly note:

Pre-assemble Alpha pipe clamps with T-head bolts, then apply to HALFEN Channel resp. canilever and tighten screw.



HCS-RAD



Pipe clamp HRS-A										HCS-RAD		
FV	Span with from - to	Dimensions								Span with from - to	DGM Rubber insulation	
Ø D [mm]	[mm]	hole Ø [mm]	b/d [mm]	L [mm]	K [mm]	a [mm]	c [mm]	r [mm]	Pretension dim. v [mm]	[mm]	Length [mm]	Type
17	16 - 19	11 for M10	25/2.5	51	77	30	13	16	2.75			
21.5	20.5 - 23.5			55.5	81.5							
27	26 - 29			61	87							
33.5	32.5 - 35.5			67.5	93.5					16.5 - 21.5	1 × 75	
42.5	41.5 - 44.5			76.5	102.5					25.5 - 30.5	1 × 75	
48.5	47.5 - 50.5			82.5	108.5					31.5 - 36.5	1 × 120	
50	49 - 52			84	110					33 - 38	1 × 120	
56	55 - 58			90	116					39 - 44	1 × 120	
60	59 - 62			94	120					43 - 48	1 × 150	
64	63 - 66			98	124					47 - 52	1 × 150	
77	76 - 79	11 for M10	30/4	111	137	30	13	19	4	60 - 65	1 × 180	
80	79 - 82			114	140					63 - 68	1 × 180	
84	83 - 86			118	144					67 - 72	1 × 180	
89	88 - 91			123	149					72 - 77	1 × 210	
96	95 - 98			130	156					79 - 84	1 × 210	
100	98 - 102			134	160					83 - 88	1 × 250	
105	103 - 107			139	165					88 - 93	1 × 250	
110	108 - 112			144	170					93 - 98	1 × 250	
116	114 - 118			150	176					99 - 104	1 × 250	
125	123 - 127			159	185					108 - 113	1 × 305	
131	129 - 133	13 for M12	40/4	165	191	40	16	24	4	114 - 119	1 × 305	
137	135 - 139			171	197					120 - 125	1 × 305	
141	139 - 143			175	201					124 - 129	1 × 305	
150	148 - 152			184	210					133 - 138	1 × 355	
157	155 - 159			191	217					140 - 145	1 × 355	
160	158 - 162			208	240					143 - 148	1 × 395	
168	166 - 170			216	248					151 - 156	1 × 395	
176	174 - 178			224	256					159 - 164	1 × 395	
185	183 - 187			233	265					168 - 173	1 × 450	
200	198 - 202			248	280					183 - 188	1 × 450	
212	210 - 214	17 for M16	50/5	260	292	50	25	36	5	195 - 200	1 × 500	
218	216 - 220			266	298					201 - 206	1 × 500	
225	223 - 227			273	305					208 - 213	1 × 560	
235	233 - 237			283	315					218 - 223	1 × 560	
267	265 - 269			317	367					250 - 255	1 × 650	
273	271 - 275			323	373					256 - 261	1 × 650	
285	283 - 287			335	385					268 - 273	1 × 700	
326	324 - 328			376	426					309 - 314	1 × 800	
340	338 - 342			390	440					323 - 328	1 × 800	
355	353 - 357	17 for M16	50/5	405	455	50	25	36	5	338 - 343	1 × 860	
400	398 - 402			450	500					383 - 388	1 × 1015	
406	404 - 408			456	506					389 - 394	1 × 1015	
420	418 - 422			470	520					403 - 408	1 × 1015	
429	427 - 431			479	529					412 - 417	1 × 1015	
508	506 - 510			558	608					491 - 496	1 × 1295	
525	523 - 527			575	625					508 - 513	1 × 1295	
532	530 - 534			582	635					515 - 520	1 × 1295	

• standard ○ to order

Order example: **HRS - A - 168 - fv**

Type _____
 Ø D [mm] _____
 grade _____
 or _____
 Stock no.: **0311.010-00074**

Designation: **HCS - RAD - 326 - fv**

Type _____
 Ø D [mm] _____
 Material _____

HALFEN FRAMING SYSTEMS

Pipe Clamps, Pipe Supports

Pipe clamp Type Beta

HRS-B

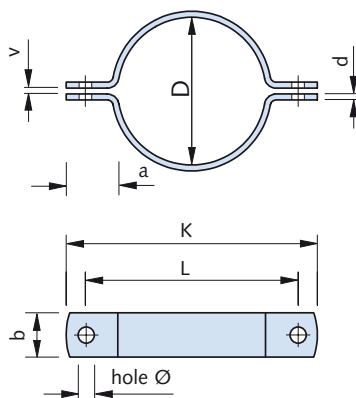
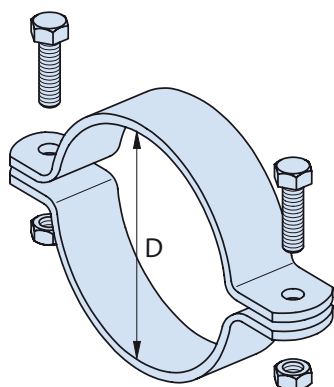
Pipe clamp Beta

Set includes:

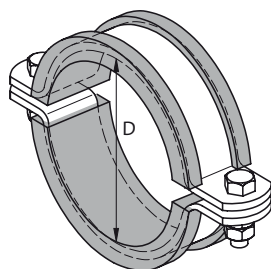
1 x Pipe clamp HRS-B

2 x Hex. head bolts

2 x Nuts



Accessory:



DGM Vibration absorber

(→ see page 40)

Pipe clamp HRS-B

Type fv hot-dip galvanized		Type A4 Stainless steel		Clamping range from - to [mm]	Dimensions					Pretension value v [mm]	Load capacity [kN]
Ø D [mm]	Order no. 0311.030-	Ø D [mm]	Order no. 0311.030-		Hole Ø [mm]	b/d [mm]	L [mm]	K [mm]	a [mm]		
21,5	00049	21,5	00002	20.5 - 23.5	6,5 for M6	25/2,5	49.5	71.5	25	2.75	1.9
27	00050	27	00003	26 - 29			55	77			
33,5	00051	33,5	00004	32.5 - 35.5			61.5	83.5			
42,5	00052	42,5	00005	41.5 - 44.5			70.5	92.5			
48,5	00053	48,5	00006	47.5 - 50.5			76.5	98.5			
50	00054	50	00007	49 - 52			78	100			
56	00055	56	00008	55 - 58			84	106			
60	00056	60	00009	59 - 62			88	110			
64	00057	64	00010	63 - 66			92	114			
77	00058	77	00011	76 - 79			105	127			
80	00059	80	00012	79 - 82	8,5 for M8	25/2,5	108	130	25	2.75	1.9
84	00060	84	00013	83 - 86			112	134			
89	00061	89	00014	88 - 91			118	140			
96	00062	96	00015	95 - 98			125	147			
100	00063	100	00016	98 - 102			144	170			
105	00064	105	00017	103 - 107			149	175			
110	00065	110	00018	108 - 112			154	180			
116	00066	116	00019	114 - 118			160	186			
125	00067	125	00020	123 - 127			169	195			
131	00068	131	00021	129 - 133			175	201			
137	00069	137	00022	135 - 139	11 for M10	30/4	181	207	35	4	4.1
141	00070	141	00023	139 - 143			185	211			
150	00071	150	00024	148 - 152			194	220			
157	00072	157	00025	155 - 159			201	227			
160	00073	160	00026	158 - 162			208	240			
168	00074	168	00027	166 - 170			216	248			
176	00075	176	00028	174 - 178			224	256			
185	00076	185	00029	183 - 187			233	265			
200	00077	200	00030	198 - 202			248	280			
212	00078	212	00031	210 - 214			260	292			
218	00079	218	00032	216 - 220	13 for M12	40/4	266	298	40	4	4.9
225	00080	225	00033	223 - 227			273	305			
235	00081	235	00034	233 - 237			283	315			
267	00082	267	00035	265 - 269			317	367			
273	00083	273	00036	271 - 275			323	373			
285	00084	285	00037	283 - 287			335	385			
326	00085	326	00038	324 - 328			376	426			
340	00086	340	00039	338 - 342			390	440			
355	00087	355	00040	353 - 357			415	465			
400	00088	400	00041	398 - 402			460	510			
406	00089	406	00042	404 - 408	17 for M16	60/6	466	516	55	5	9.7
420	00090	420	00043	418 - 422			480	530			
429	00091	429	00044	427 - 431			489	539			
508	00092	508	00045	506 - 510			568	618			
525	00093	525	00046	523 - 527			585	635			
532	00094	532	00047	530 - 534			592	642			

HALFEN FRAMING SYSTEMS

Pipe Clamps, Pipe Supports

Pipe clamps Type Gamma

HRS-G

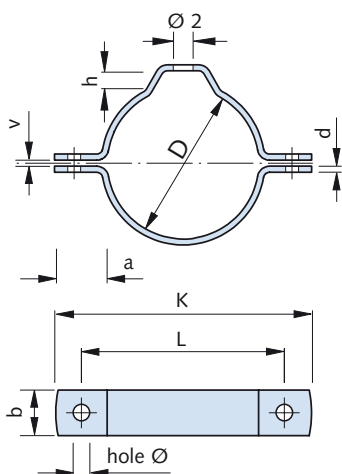
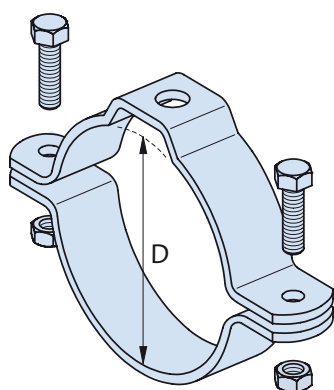
Pipe clamp Gamma

Set includes:

1 x Pipe clamp Gamma

2 x Hex. head bolts

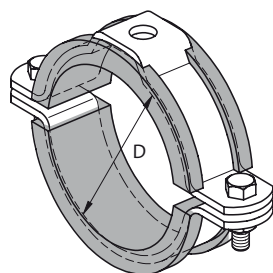
2 x Nuts



Pipe clamp HRS-G

Type fv hot-dip galvanized		Type A4 Stainless steel		Clamping range from - to [mm]	Dimensions								Pretension value [kN]	Load capacity [kN]
Ø D [mm]	Order no. 0311.060-	Ø D [mm]	Order no. 0311.060-		Hole Ø [mm]	b/d [mm]	L [mm]	K [mm]	a [mm]	h [mm]	Ø 2 [mm]	v [mm]		
64	00030	64	00001	63 - 66	8,5 for M8	25/2,5	92	114	25	9	11	2,75	1,9	
77	00031	77	00002	76 - 79			105	127						
80	00032	80	00003	79 - 82			108	130						
89	00033	89	00004	88 - 91			118	140						
96	00034	96	00005	95 - 98			125	147						
100	00035	100	00006	98 - 102	11 for M10	30/4	144	170	35	11	13	4	4,1	
105	00036	105	00007	103 - 107			149	175						
110	00037	110	00008	108 - 112			154	180						
116	00038	116	00009	114 - 118			160	186						
125	00039	125	00010	123 - 127			169	195						
131	00040	131	00011	129 - 133			175	201						
137	00041	137	00012	135 - 139			181	207						
141	00042	141	00013	139 - 143			185	211						
150	00043	150	00014	148 - 152	13 for M12	40/4	194	220	40	14	17	4	4,9	
157	00044	157	00015	155 - 159			201	227						
160	00045	160	00016	158 - 162			208	240						
168	00046	168	00017	166 - 170			216	248						
176	00047	176	00018	174 - 178			224	256						
185	00048	185	00019	183 - 187			233	265						
200	00049	200	00020	198 - 202			248	280						
212	00050	212	00021	210 - 214			260	292						
218	00051	218	00022	216 - 220	17 for M16	50/5	266	298	50	18	17	5	7,8	
225	00052	225	00023	223 - 227			273	305						
235	00053	235	00024	233 - 237			283	315						
267	00054	267	00025	265 - 269			317	367						
273	00055	273	00026	271 - 275			323	373						
285	00056	285	00027	283 - 287			335	385						
326	00057	326	00028	324 - 328			376	426						
340	00058	340	00029	338 - 342			390	440						

Accessory:



DGM Vibration absorber

(→ see page 40)

HALFEN FRAMING SYSTEMS

Pipe Clamps, Pipe Supports

Pipe clamps Type Delta

HRS-D

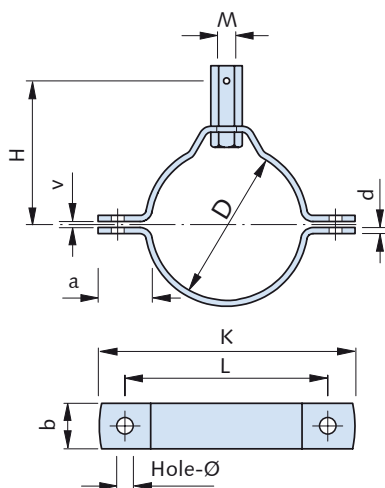
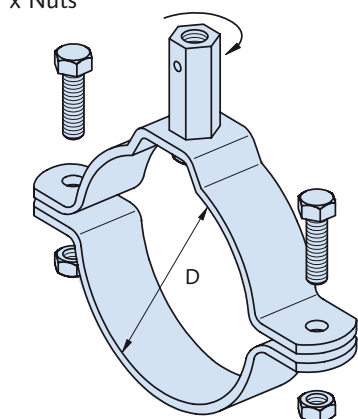
Pipe clamps Delta

Set includes:

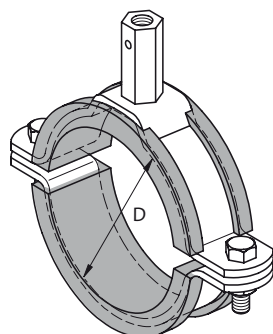
1 x Pipe clamp with hexagonal rod coupler, pivoted and permanently fixed to pipe clamp

2 x Hex. head bolts

2 x Nuts



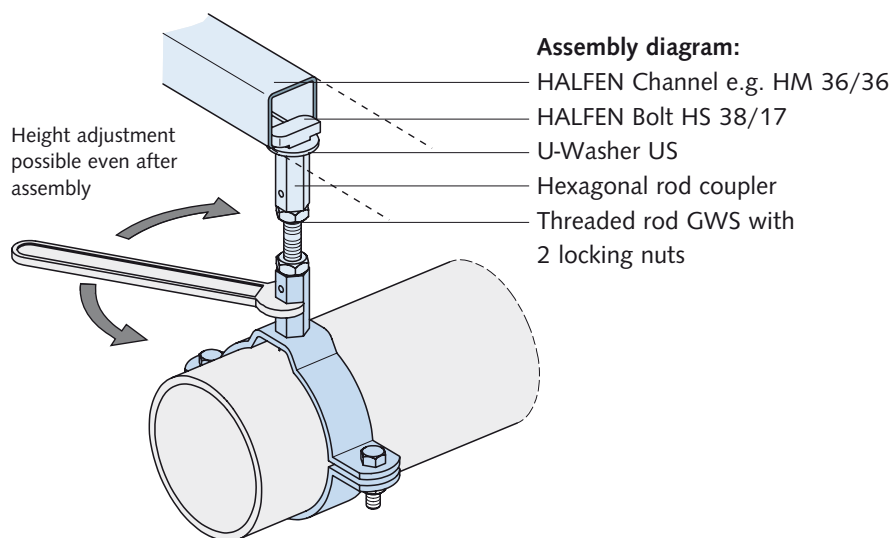
Accessory:



DGM Vibration absorber (→ see page 40)

Pipe clamps HRS-D

Type fv hot-dip galvanized		Type Stainless steel A4		Clamping range from - to	Hole Ø [mm]	Dimensions					with view-hole	Pretension value	Load capacity
Ø D [mm]	Order no. 0311.050-	Ø D [mm]	Order no. 0311.050-	[mm]		b/d [mm]	L [mm]	K [mm]	a [mm]	H [mm]	M [mm]	v [mm]	[kN]
64	00030	64	00001	63 - 66	8 for M8	25/2.5	92	114	25	78	M10 x 40	2.75	1.9
77	00031	77	00002	76 - 79			105	127		85			
80	00032	80	00003	79 - 82			108	130		86			
89	00033	89	00004	88 - 91			118	140		91			
96	00034	96	00005	95 - 98			125	147		94			
100	00035	100	00006	98 - 102			144	170		98			
105	00036	105	00007	103 - 107			149	175		100			
110	00037	110	00008	108 - 112			154	180		103			
116	00038	116	00009	114 - 118	11 for M10	30/4	160	186	35	106	M12 x 40	4	4.1
125	00039	125	00010	123 - 127			169	195		110			
131	00040	131	00011	129 - 133			175	201		113			
137	00041	137	00012	135 - 139			181	207		116			
141	00042	141	00013	139 - 143			185	211		118			
150	00043	150	00014	148 - 152			194	220		123			
157	00044	157	00015	155 - 159			201	227		126			
160	00045	160	00016	158 - 162			208	240		139			
168	00046	168	00017	166 - 170	13 for M12	40/4	216	248	40	143	M16 x 50	4	4.9
176	00047	176	00018	174 - 178			224	256		147			
185	00048	185	00019	183 - 187			233	265		151			
200	00049	200	00020	198 - 202			248	280		159			
212	00050	212	00021	210 - 214			260	292		165			
218	00051	218	00022	216 - 220			266	298		168			
225	00052	225	00023	223 - 227			273	305		171			
235	00053	235	00024	233 - 237			283	315		176			
267	00054	267	00025	265 - 269	17 for M16	50/5	317	367	50	197	M16 x 50	5	7.8
273	00055	273	00026	271 - 275			323	373		200			
285	00056	285	00027	283 - 287			335	385		206			
326	00057	326	00028	324 - 328			376	426		227			
340	00058	340	00029	338 - 342			390	440		234			



HALFEN FRAMING SYSTEMS

Pipe Clamps, Pipe Supports

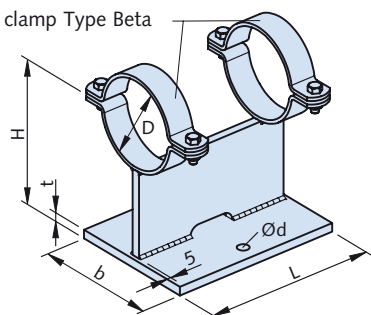
Pipe support HRG

HRG-1

for pipe diameters

D = 21.5 up to 185 mm

Pipe clamp Type Beta



Pipe support HRG-1

HRG-1 for pipe- Ø D	Type fv hot-dip galvanized Order no. 0291.-009-	Type A4 Stainless steel Order no. 0291.009-	Dimensions [mm]				
			H	L	b	Ø d	t
21,5 - 60	00004 ①	00001 ①	100	130	80	11	5
63 - 84			125	150	100	11	8
89 - 131			150	180	100	11	8
137 - 141			175	200	120	11	10
150 - 185			200	200	150	13	10

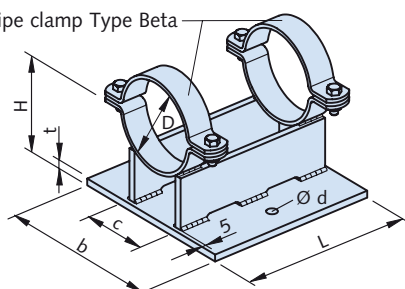
① When ordering please state the desired pipe clamp diameter-Ø [mm].
Available diameters of pipe clamps see HRS-B, page 34.
Note: Consider using a larger diameter clamp when using vibration absorber DGM.

HRG-2

for pipe diameter

D = 176 up to 532 mm

Pipe clamp Type Beta



Pipe support HRG-2

HRG-2 for pipe- Ø D	Type fv hot-dip galvanized Order no. 0291.-009-	Type A4 Stainless steel Order no. 0291.009-	Dimensions [mm]					
			H	L	b	c	Ø d	t
176 - 185	00005 ①	00002 ①	200	200	200	80	17	8
200 - 235			200	200	200	100	17	8
267 - 273			250	250	200	100	17	8
285			250	250	225	125	17	8
326			250	300	250	150	17	10
340 - 355			300	300	250	150	17	10
400 - 429			350	300	250	150	17	10
508 - 532			400	400	300	200	22	15

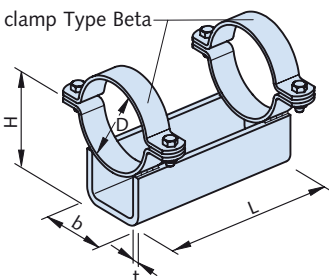
① When ordering please state the desired pipe clamp diameter-Ø [mm].
Available diameters of pipe clamps see HRS-B, page 34.
Note: Consider using a larger diameter clamp when using vibration absorber DGM.

HRG-3

for pipe diameter

D = 100 up to 532 mm

Pipe clamp Type Beta



Pipe support HRG-3

HRG-3 for pipe- Ø D	Type fv hot-dip galvanized Order no. 0291.-009-	Type A4 Stainless steel Order no. 0291.009-	Dimensions [mm]			
			H	L	b	t
100-131	00006 ①	00003 ①	150	180	80	5
137-141			175	200	100	5
150-168			200	200	100	5
176-185			200	200	100	8
200-235			200	200	120	8
267-285			250	250	150	8
326			250	300	150	8
340-355			300	300	200	10
400-429			350	300	200	10
508-532			400	400	250	10

① When ordering please state the desired pipe clamp diameter-Ø [mm].
Available diameters of pipe clamps see HRS-B, page 34.
Note: Consider using a larger diameter clamp when using vibration absorber DGM.

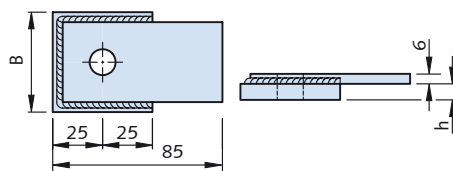
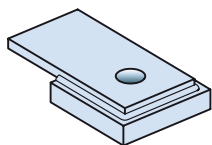
HALFEN FRAMING SYSTEMS

Pipe Clamps, Pipe Supports

Lift off safety device AHS

AHS

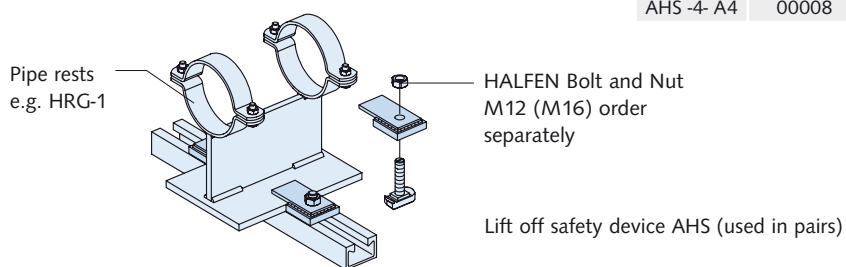
Lift off safety device for pipe T-supports



Other dimensions on request

Lift off safety device AHS				
Type	Order no. 0324.000-	W [mm]	h [mm]	Ø d [mm]
AHS -1- fv	00001	50	8.0	13
AHS -2- fv	00002	50	10.0	13
AHS -3- fv	00003	50	12.0	13
AHS -4- fv	00004	70	20.0	17
AHS -1- A4	00005	50	8.0	13
AHS -2- A4	00006	50	10.0	13
AHS -3- A4	00007	50	12.0	13
AHS -4- A4	00008	70	20.0	17

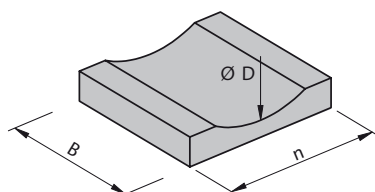
Assembly diagram:



Pipe Rest

Pipe Rest RUK

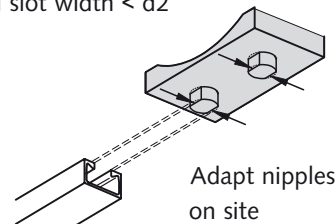
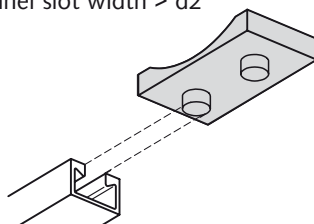
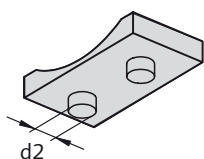
Material: Polypropylene,
Temperature resistant
from -30 to +90°C,
Color: Green



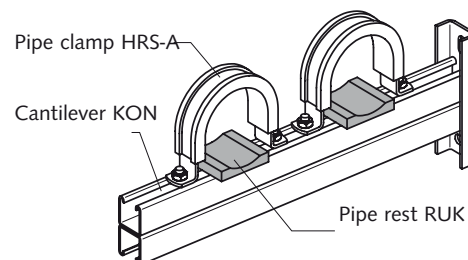
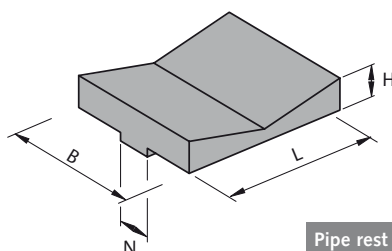
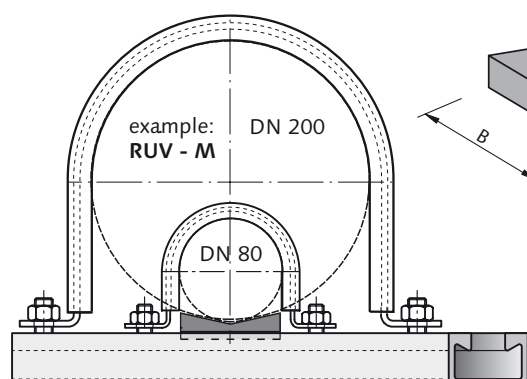
Channel slot width > d2

Channel slot width < d2

d2 = diameter of knobs
Ø 10 – 30 mm (see table)



Assembly example:



Pipe rest RUV						
Description	Order no. 0317.000-	for Ø D [mm]	L [mm]	B [mm]	N [mm]	H [mm]
RUV-K	0001	25 - 79	30	50	11	11
RUV-M	0002	80 - 269	80	70	17	15
RUV-G	0003	270 - 420	120	70	17	16

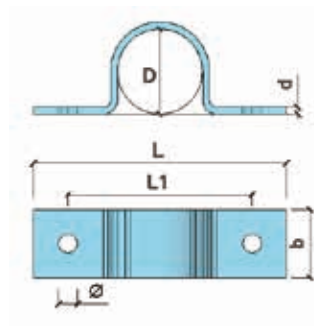
HALFEN FRAMING SYSTEMS

Pipe Clamps, Pipe Supports - Accessories

Pipe clamp Type Alpha

HRS-F

Pipe clamp



Pipe clamp HRS-F

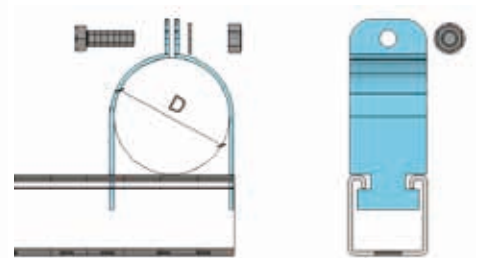
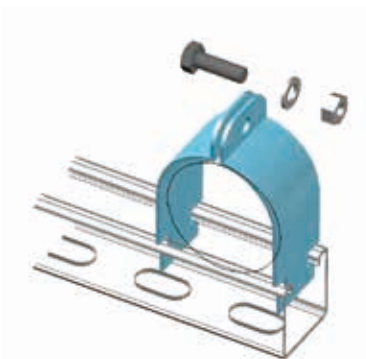
FV		Clamping range from - to [mm]	Dimensions			
Ø D [mm]	Ø D [inch]		hole Ø [mm]	b/d [mm]	L [mm]	L1 [mm]
15	1/2"	16 - 19	11 for M10	40x3	108	68
20	3/4"	20.5 - 23.5			113	73
25	1"	26 - 29			120	80
32	1 1/4"	32.5 - 35.5			128	88
40	1 1/2"	41.5 - 44.5			134	94
50	2"	47.5 - 50.5	14 for M12	40x4	148	108
65	2 1/2"	49 - 52			164	124
80	3"	55 - 58			177	137
100	4"	59 - 62			202	162
125	5"	63 - 66		40x6	231	191
150	6"	76 - 79			260	220
200	8"	79 - 82			301	261

Pipe clamp HRS-H

TYPE GV A2 A4	Clamping range from - to		hole Ø [mm]	screw
Ø D [mm]	[A min mm]	[A max mm]		
1/2"	20.3	22	7	M6x25
3/4"	25.7	27		
1"	32.4	34		
1 1/4"	41.2	43		
1 1/2"	47.4	49		
2"	59.5	61	9	M8x25
2 1/2"	72.2	76		
3"	87.9	89		
3 1/2"	100.5	102		
4"	113	115		
5"	139	142		

HRS-H

Pipe clamp



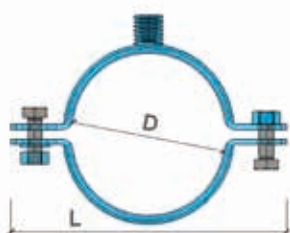
Pipe clamp on request

HRS-D LIGHT

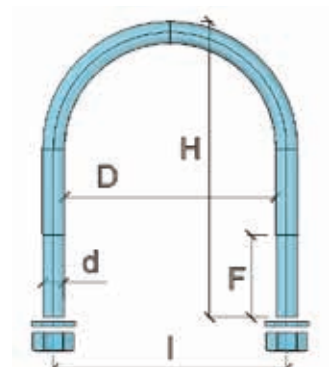
Connection with three thread

- one exterior

- two exterior



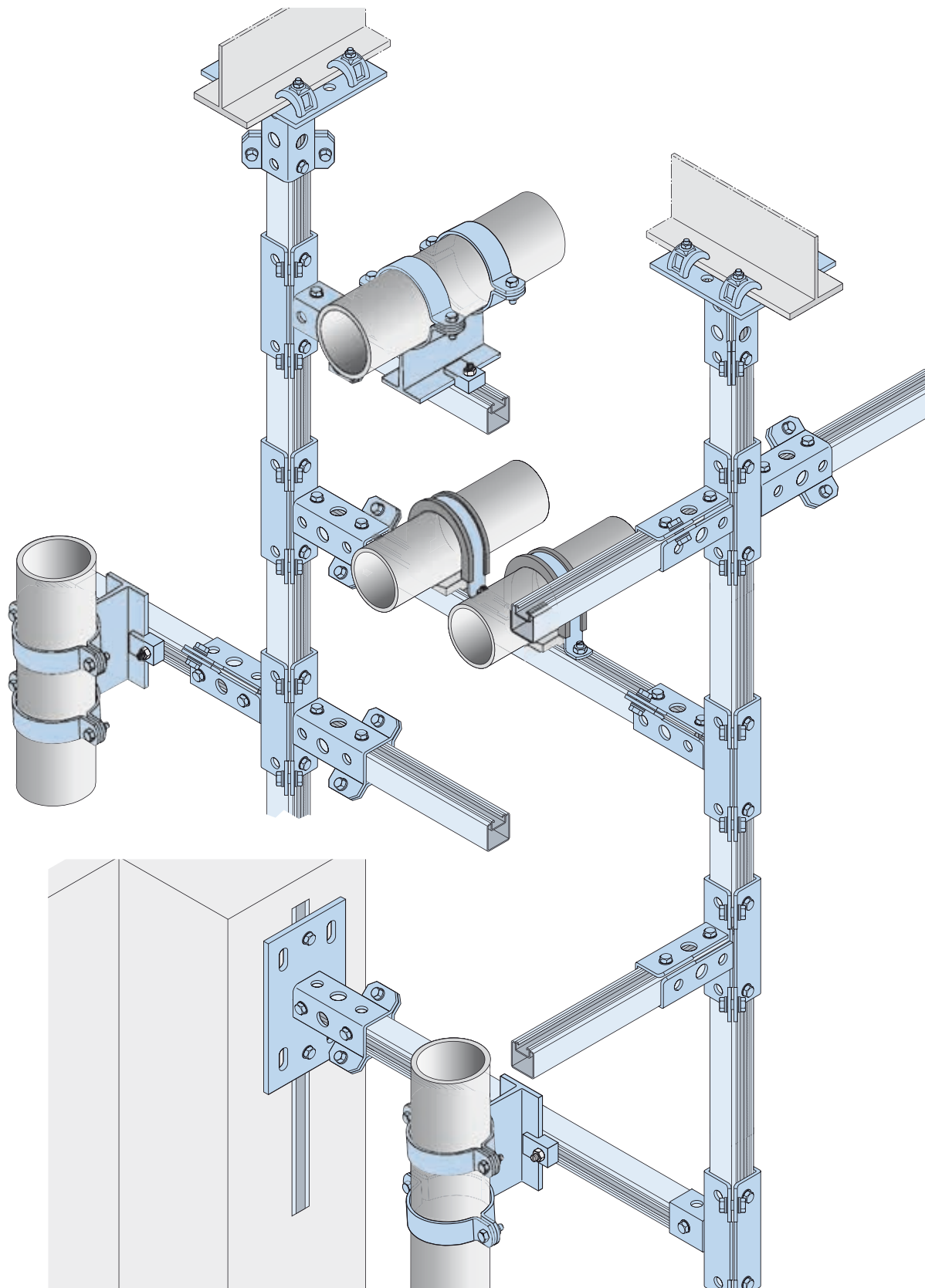
U-Bolts



HALFEN POWERCLICK

POWERCLICK System 63

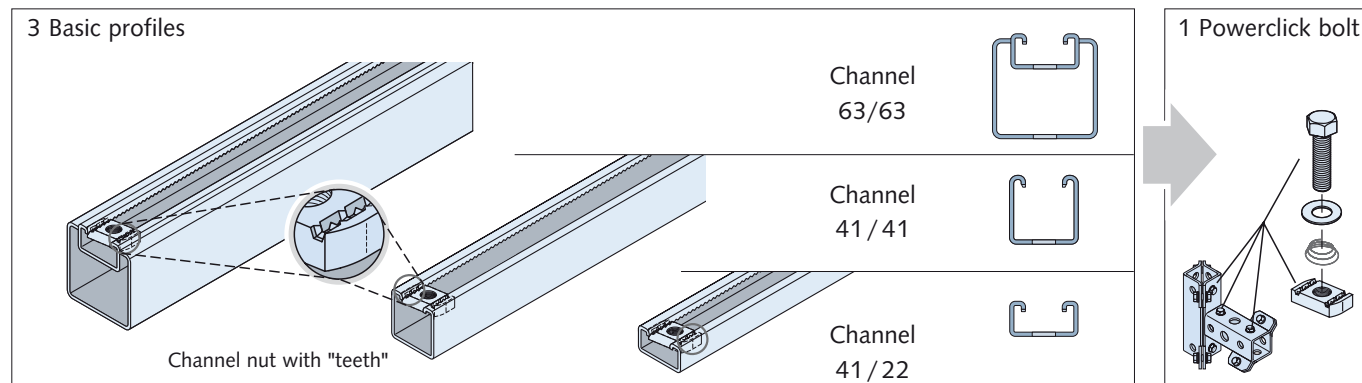
Structural Connections



HALFEN POWERCLICK SYSTEM 41 + 22

Fittings POWERCLICK System 41

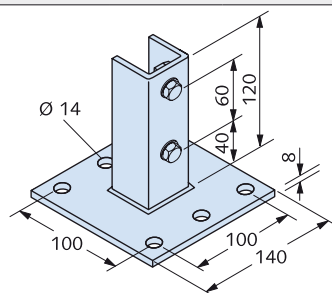
Fixing Plate: Connection to Concrete and Framing Channel



Fixing Plate: Connection to Concrete and Framing Channel

HCS - VT41 - 57/2

2 bolts pre-assembled

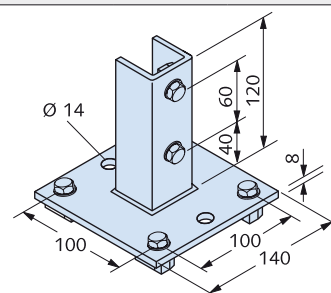


Designation	Stock No.		
HCS - VT41 - 57/2 - FV	0300.010-00023	10	●
HCS - VT41 - 57/2 - A4	0300.010-00022	10	●

FV = hot-dip galvanised
A4 = Stainless steel grade A4

HCS - VT41 - 57/6

6 bolts pre-assembled



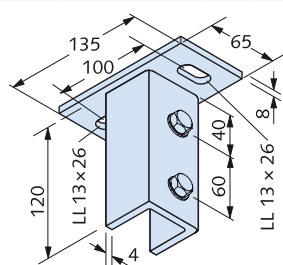
Designation	Stock No.		
HCS - VT41 - 57/6 - FV	0300.010-00026	10	●
HCS - VT41 - 57/6 - A4	0300.010-00025	10	●

FV = hot-dip galvanised
A4 = Stainless steel grade A4

Connection to Concrete

HCS - VT41 - 58/2

Support base
incl. 2 bolts,
pre-assembled



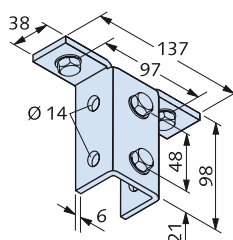
Designation	Stock No.		
HCS - VT41 - 58/2 - FV	0300.010-00029	10	●
HCS - VT41 - 58/2 - A4	0300.010-00028	10	●

FV = hot-dip galvanised
A4 = Stainless steel grade A4

Connections to Beam and Framing Channel

HCS - VT41 - 46/4v

T - Connector
incl. 4 bolts,
pre-assembled

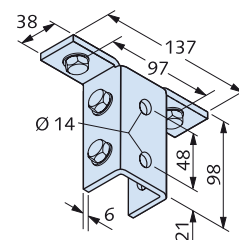


Designation	Stock No.		
HCS - VT41 - 46/4v - FV	0300.010-00041	10	●
HCS - VT41 - 46/4v - A4	0300.010-00040	10	●

FV = hot-dip galvanised
A4 = Stainless steel grade A4

HCS - VT41 - 46/4s

T - Connector
incl. 4 bolts
(2 bolts side
assembly),
pre-assembled



Designation	Stock No.		
HCS - VT41 - 46/4s - FV	0300.010-00038	10	●
HCS - VT41 - 46/4s - A4	0300.010-00037	10	●

FV = hot-dip galvanised
A4 = Stainless steel grade A4

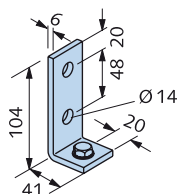
HALFEN POWERCLICK SYSTEM 41 + 22

Fittings POWERCLICK System 41

Connection to Framing Channel

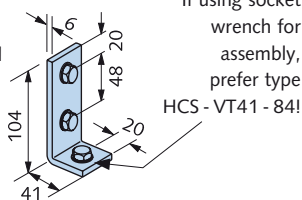
HCS - VT41 - 26/1

90° Angle
incl. 1 bolt,
pre-assembled



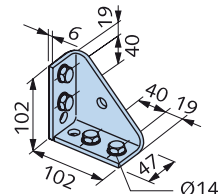
HCS - VT41 - 26/3

90° Angle
incl. 3 bolts,
pre-assembled



HCS - VT41 - 84/4

Angle
incl. 4 bolts,
pre-assembled



Designation	Stock No.		
HCS - VT41 - 26/1 - FV	0300.010-00005	10	●
HCS - VT41 - 26/1 - A4	0300.010-00004	10	●
fv = hot-dip galvanised A4 = Stainless steel grade A4			

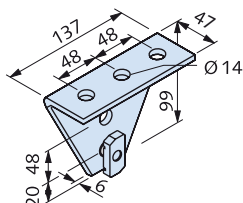
Designation	Stock No.		
HCS - VT41 - 26/3 - FV	0300.010-00008	10	●
HCS - VT41 - 26/3 - A4	0300.010-00007	10	●
fv = hot-dip galvanised A4 = Stainless steel grade A4			

Designation	Stock No.		
HCS - VT41 - 84/4 - FV	0300.010-00035	10	●
HCS - VT41 - 84/4 - A4	0300.010-00034	10	●
fv = hot-dip galvanised A4 = Stainless steel grade A4			

Connection to Concrete and Framing Channel

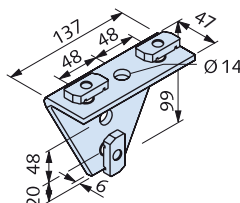
HCS - VT41 - 27/1

90° Angle
incl. 1 channel nut
and set screw,
pre-assembled



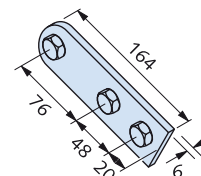
HCS - VT41 - 27/3

90° Angle
incl. 3 channel nuts
and set screws,
pre-assembled



HCS - VT41 - 22/3

Connection to
framing channel:
Flat plate incl.
3 channel nuts
and set screws,
pre-assembled



Designation	Stock No.		
HCS - VT41 - 27/1 - FV	0300.010-00029	10	●
HCS - VT41 - 27/1 - A4	0300.010-00028	10	●
FV = hot-dip galvanised A4 = Stainless steel grade A4			

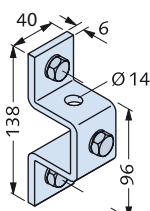
Designation	Stock No.		
HCS - VT41 - 27/3 - FV	0300.010-00041	10	●
HCS - VT41 - 27/3 - A4	0300.010-00040	10	●
FV = hot-dip galvanised A4 = Stainless steel grade A4			

Designation	Stock No.		
HCS - VT41 - 22/3 - FV	0300.010-00038	10	●
HCS - VT41 - 22/3 - A4	0300.010-00037	10	●
FV = hot-dip galvanised A4 = Stainless steel grade A4			

Connection to Framing Channel

HCS - VT41 - 47/3

U-shape fitting
incl. 3 channel nuts,
pre-assembled

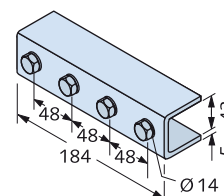


Designation	Stock No.		
HCS - VT41 - 47/3 - FV	0300.010-00020	10	●
HCS - VT41 - 47/3 - A4	0300.010-00019	10	●
FV = hot-dip galvanised A4 = Stainless steel grade A4			

Connection to Framing Channel

HCS - VT41 - 77/4

Splice
incl. 4 channel nuts,
pre-assembled



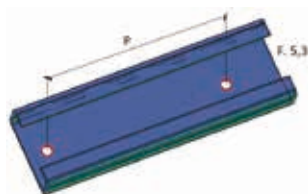
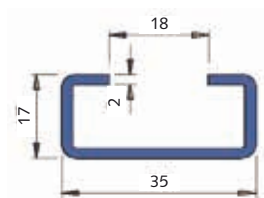
Designation	Stock No.		
HCS - VT41 - 77/4 - FV	0300.010-00032	10	●
HCS - VT41 - 77/4 - A4	0300.010-00031	10	●
FV = hot-dip galvanised A4 = Stainless steel grade A4			

HALFEN SOLAR SYSTEM CHANNELS

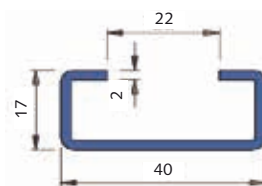
Channels

Raw, hot deep galvanized and stainless steel channels

Channels with holes



Channels to be fixed with rivets or screw



Channel finishing				
	Coating	● Standard ○ On request	Weight [kg/m]	Section [cm q]
HF 37/17 sp 2,0			1.24	1.56
FV	hot deep galvanized	●	1.24	1.56
A2 (aisi 304)	inox A2	○	1.34	1.56

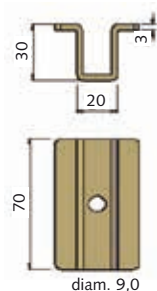
P=125 mm. better to fix every 250 mm.

Channel finishing				
	Coating	● Standard ○ On request	Weight [kg/m]	Section [cm q]
HF 40/17 sp 2,0			1.34	1.68
FV	hot deep galvanized	○	1.34	1.68
A2 (aisi 304)	inox A2	○	1.34	1.68

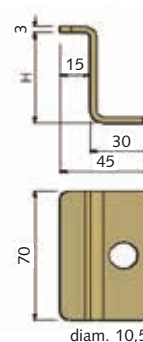
Aluminium channels and accessories

Aluminium plates for photovoltaic panels fixings

Intermediate plates



Initial / end plates

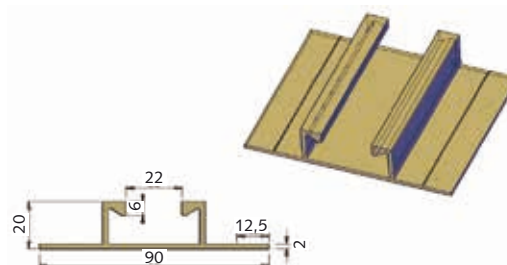
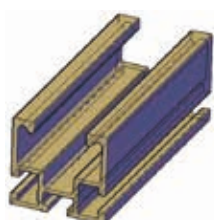
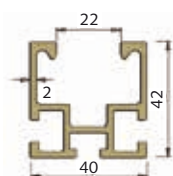


● Intermediate plates for panels fixings

- Standard
- On request

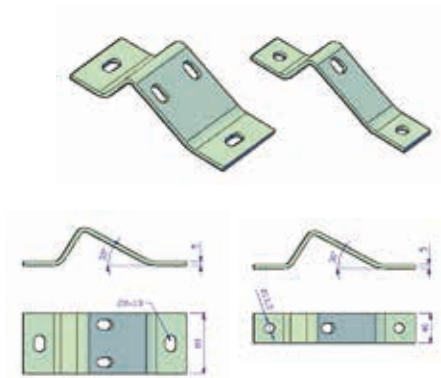
- Initial plates - H=34
- Initial plates - H= 35
- Initial plates - H= 36
- Initial plates - H= 38
- Initial plates - H= 40

- Initial plates - H= 42
- Initial plates - H= 43
- Initial plates - H= 44
- Initial plates - H= 46
- Initial plates - H= 48

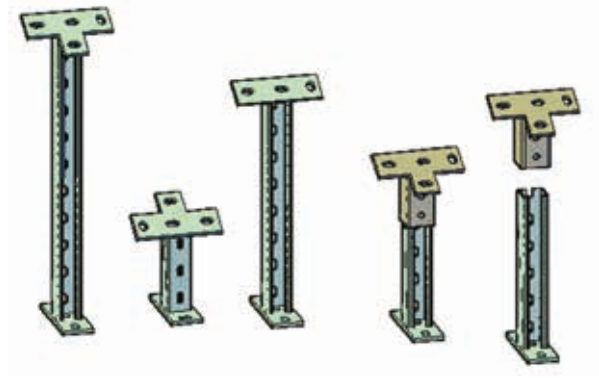


HALFEN SOLAR SYSTEM CHANNELS

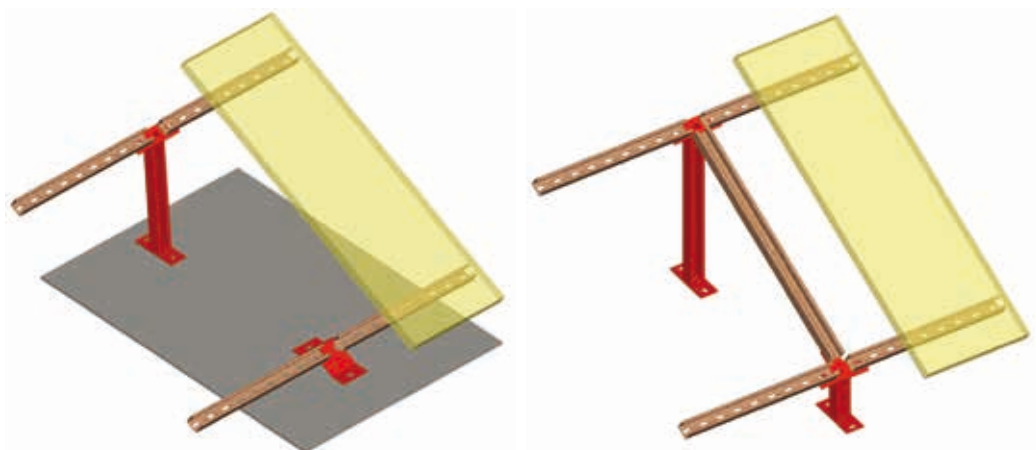
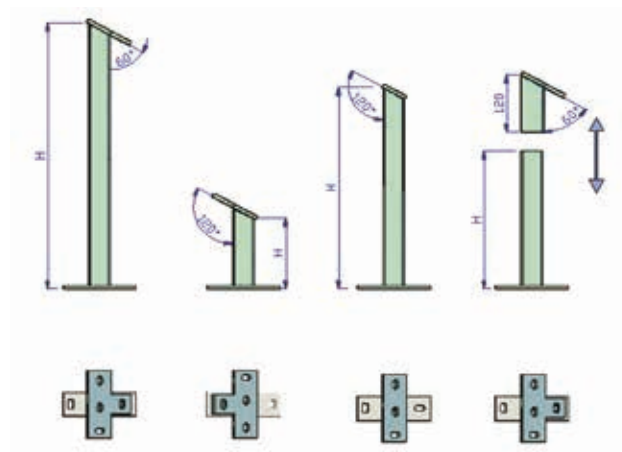
Supports elements substructures



Inclined plates for horizontal roofs



Walk compounds with fixed or adjustable heights



ANCORANTI CHIMICI

Ancorante chimico ad iniezione HB ER-SF-CE in resina epossidica pura



Disponibile programma di calcolo per il dimensionamento in accordo a ETAG-001 Annex C



Consolidamento e recupero



Prodotto per uso strutturale in accordo al D.M. 14/01/2008



Opzione 7

M8 ... M30

Opzione M12 ... M24



Ø 8 ... 32 mm



HB ER-SF-400-CE IT

Cartuccia coassiale da 400 ml
Resina epossidica pura
cod. 2430.110-00002

HB ER-SF-900-CE IT

Cartuccia coassiale da 900 ml
Resina epossidica pura
cod. 2430.110-00001

HB ER-SF-265-CE IT

Cartuccia sacchetto da 265 ml
Resina epossidica pura
cod. 2430.110-00003

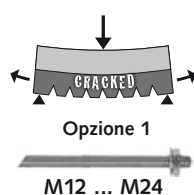
Descrizione

In base ai dati ed alle caratteristiche presenti sui Benestari Tecnici Europei (ETA) avete a disposizione uno dei migliori ancoranti chimici presenti sul mercato europeo con doppia certificazione. Le omologazioni sono valide per un'ampia gamma di barre filettate (da M8 a M30) e di barre ad aderenza migliorata (diametro da 8 mm a 32 mm). Potete utilizzare il prodotto con calcestruzzo umido o in foro allagato senza raddoppiare i tempi per la messa in carico. Opzione 7 da M8 a M30 per calcestruzzo non fessurato e Opzione 1 per installazione in calcestruzzo fessurato con

barre da M12 a M24. Il prodotto è omologato per fissaggi con profondità variabile di ancoraggio, per dare al progettista un'elevata flessibilità.

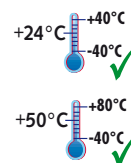
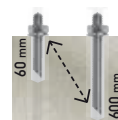
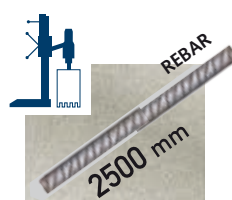
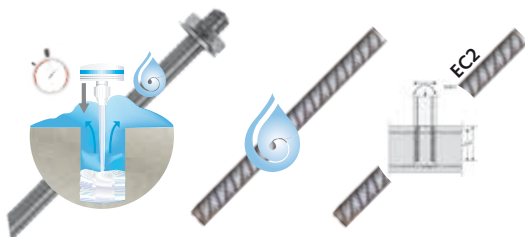
ETA per connessioni post-installate in accordo a Eurocodice 2 e TR023 con profondità massima consentita di 2500 mm, posa in opera certificata sia con trapano che con carotatrice (secco/umido).

Le temperature di esercizio certificate sono negli intervalli -40°C/+40°C (T° max lungo periodo = 24°C) e -40°C/+80°C (T° max lungo periodo = 50°C).



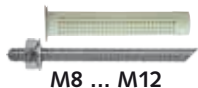
Opzione 1

M12 ... M24

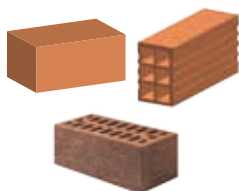


ANCORANTI CHIMICI

Ancorante chimico ad iniezione HB PR-SF-CE in resina poliestere senza stirene



Barre sia tipo HB BF45°
che HB V-A



HB PR-SF-400-CE IT

Cartuccia coassiale da 400 ml
Resina poliestere senza stirene
cod. 2430.080-00001



HB PR-SF-300-CE IT

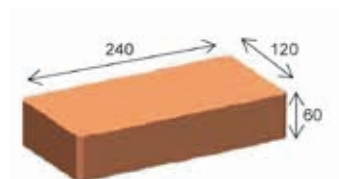
Cartuccia sacchetto da 300 ml
Resina poliestere senza stirene
cod. 2430.080-00002

Descrizione

In base ai dati ed alle caratteristiche presenti sul Benestare Tecnico Europeo ETA avete a disposizione uno dei migliori ancoranti chimici presenti sul mercato europeo con certificazione per muratura secondo ETAG 029 per ancoraggi in muratura piena, semipiena e forata. Potete installare il prodotto con muratura umida.

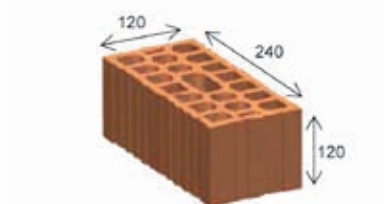
L'omologazione è valida per un'ampia gamma di barre filettate e di gabbiette. Le temperature di esercizio certificate sono negli intervalli -40°C/+40°C (T° max lungo periodo = 24°C) e -40°C/+50°C (T° max lungo periodo = 40°C).

n°1 - Mattone Pieno
secondo la EN 771-1 - HD (Alta Densità)



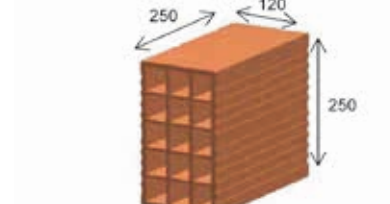
Dimensioni [mm]: 120 x 240 x 60
 f_b classe ≥ 73 N/mm²
densità pm ≥ 1700 kg/m³

n°2 - Mattone Doppio UNI
secondo la EN 771-1 - LD (Bassa Densità)



Dimensioni [mm]: 240 x 120 x 120
 f_b classe $\geq 18,3$ N/mm²
densità pm ≥ 810 kg/m³

n°3 - Forato
secondo la EN 771-1 - LD (Bassa Densità)



Dimensioni [mm]: 120 x 250 x 250
 f_b classe $\geq 5,3$ N/mm²
densità pm ≥ 550 kg/m³

ANCORANTI CHIMICI

Ancorante chimico ad iniezione HB VR-SF-CE in resina vinilestere senza stirene

Prodotto per uso strutturale
in accordo al D.M. 14/01/2008



M8 ... M24



Ø 8 ... 32 mm

Barre sia tipo HB BF45°
che HB V-A



HB VR-SF-400-CE IT
Cartuccia coassiale da 400 ml
Resina vinilestere senza stirene
cod. 2430.100-00001



HB VR-SF-300-CE IT
Cartuccia sacchetto da 300 ml
Resina vinilestere senza stirene
cod. 2430.100-00002



Disponibile programma
di calcolo per il dimensionamento in accordo
a ETAG-001 Annex C

Descrizione

In base ai dati di carico CE-ETA avete a disposizione uno dei migliori prodotti presenti sul mercato europeo con doppia certificazione.

Potete utilizzare il prodotto con calcestruzzo umido (barre ad aderenza migliorata) o in foro allagato (barre filettate) senza diminuzione del carico consigliato.

Le omologazioni sono valide per un'ampia gamma di barre

filettate (da M8 a M24) e di barre ad aderenza migliorata (diametro da 8 mm a 32 mm).

Il prodotto è omologato per fissaggi con tre differenti profondità di ancoraggio, per dare al progettista un'elevata flessibilità.

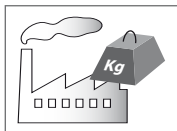
Le temperature di esercizio certificate sono negli intervalli -40°C/+80°C (T° max lungo periodo = 50°C)

e -40°C/+120°C (T° max lungo periodo = 72°C).

Applicazioni



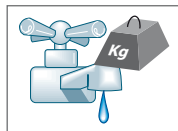
Edilizia Civile
Pesante



Edilizia Industriale
Pesante



Settore Elettrico
Pesante



Settore Idraulico
e Lattoneria pesante



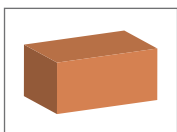
Calcestruzzo
C20/25



In presenza d'acqua,
riduzione del carico
consigliato del 20%



Pietra



Mattone pieno



Mattone semipieno



Mattone forato



Legno



Applicazioni con
diverse profondità
di ancoraggio

ANCORANTI CHIMICI

Ancorante chimico ad iniezione HB VR-SF-W-CE in resina vinilestere senza stirene



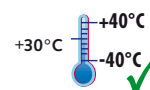
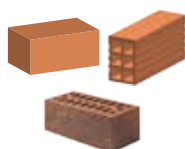
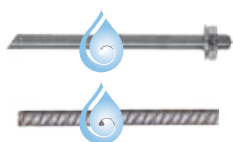
-18°



HB VR-SF-W-400-CE IT
Cartuccia coassiale da 400 ml
Resina vinilestere senza stirene
cod. 2430.090-00001

Descrizione

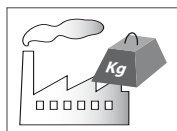
Resina vinilestere senza stirene bi-compo-nente per carichi pesanti per fissaggi in calcestruzzo, muratura piena, laterizi forati e legno. Formulazione speciale per applicazioni nel periodo invernale fino a -18°C di temperatura ambiente. Tempi di posa in opera ridotti anche a basse temperature. Classificata non nociva e non infiammabile. Grazie alla mancanza di stirene (assenza di odore pungente) l'utilizzo è possibile anche in ambienti chiusi. Questa resina può essere utilizzata anche in condizioni di calcestruzzo umido e foro allagato (riduzione del carico consigliato del 20%). Per applicazioni su materiale forato utilizzare l'apposita gabbietta. Distanze dal bordo e interasse ridotti. Facilità di impiego e velocità di fissaggio. Consistenza tixotropica.
Temperatura di esercizio: Tra -40°C/+40°C con T°max lungo periodo di 30°C.



Applicazioni



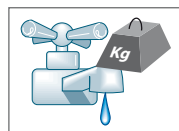
Edilizia Civile
Pesante



Edilizia Industriale
Pesante



Settore Elettrico
Pesante



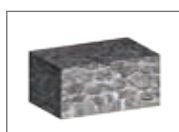
Settore Idraulico
e Lattoneria pesante



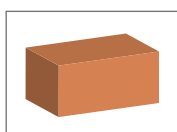
Calcestruzzo
C20/25



In presenza d'acqua,
riduzione del carico
consigliato del 20%



Pietra



Mattone pieno



Mattone semipieno



Mattone forato



Legno



Per installazioni
a basse temperature

ANCORANTI MECCANICI

Ancorante meccanico HB MA-CE GV



Materiale



TASSELLO/
DADO/
RONDELLA:
Acciaio zincato
bianco



FASCETTA:
Acciaio zincato
bianco



FASCETTA:
Inox A2 AISI 304



Disponibile programma di calcolo
per il dimensionamento



HB MA-CE GV

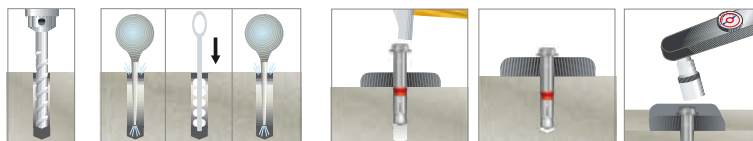
Ancorante passante
con filetto esterno
per carichi medio pesanti
cod. 2431.020

Descrizione

Ancorante passante con filetto esterno per carichi medio pesanti. Applicazione rapida per fissaggi passanti. Diametri da 6 a 20 mm. Espansione controllata mediante applicazione della coppia di serraggio. Fascetta di espansione con alette antirotazione. Applicazione veloce e con diametro di fori ridotti per fissaggi passanti. Il tipo di fissaggio più comune, ideale per il settore carpenteria metallica, impiantistica e serramenti. Barra di acciaio filettata in testa, fascetta di espansione, dado e rondella. Fissaggio passante: posizionare, forare e ancorare

senza spostare l'oggetto. Ricordarsi di lasciare sporgere il corpo filettato dal dado per almeno 2 o 3 mm. La fascetta evita la rotazione del tassello durante l'avvitamento. L'espansione avviene per avvitamento. Ideale per calcestruzzo e pietra naturale resistente alla compressione. Versione inox per estetica e per installazioni in ambienti industriali acidi o marini per salsedine o in qualsiasi contesto di elevata aggressione chimica all'acciaio. Su richiesta siamo in grado di fornire qualsiasi misura per applicazioni speciali.

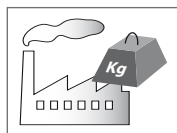
NOTA: Dati tecnici, di installazione e di carico possono essere oggetto di revisione.



Applicazioni



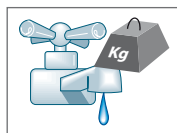
Edilizia Civile
Pesante



Edilizia Industriale
Pesante



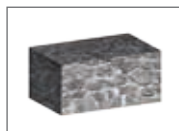
Settore Elettrico
Pesante



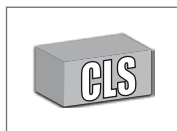
Settore Idraulico
e Lattoneria pesante



Ambiente Urbano
Medio Inquinamento



Pietra



Calcestruzzo



In presenza d'acqua

ANCORANTI MECCANICI

Ancorante meccanico HB B A4 CE e HB BZ GV CE



DIBt

B: ETA - 01/0013 Opzione 7
B-A4: ETA - 05/0018 Opzione 7
B-Z: ETA - 03/0017 Opzione 1

B: M6 - M10
B-A4: M6 - M10



B: M10 - M16
B-A4: M10 - M16
B-Z: M10 - M16

B: M8 - M10
B-A4: M8 - M10
B-Z: M8 - M24



Fire
Resistance

B, B-A4, B-Z:
Resistenza al fuoco



ZIVILSCHUTZ

B-Z: SWISS
SHOCK APPROVAL



HB-B A4 CE

Ancorante ad espansione
a controllo di coppia
e filetto esterno
Omologato CE opzione 7
cod. 0432.060



HB-BZ GV CE

Ancorante ad espansione
a controllo di coppia
e filetto esterno
Omologato CE opzione 1
cod. 0432.260

Materiale



TASSELLO: Acciaio
zincato bianco



FASCETTA: Inox
A2 AISI 304



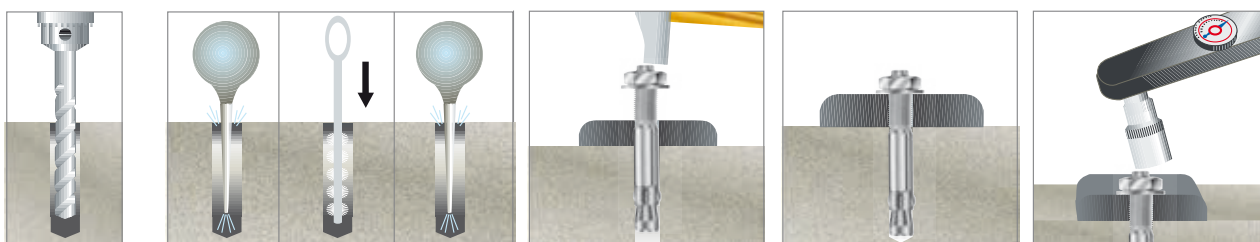
TASSELLO: Inox A4
AISI 316

Su richiesta

Descrizione

Ancorante ad espansione a controllo di coppia e filetto esterno per carichi pesanti. Applicazione veloce e con diametro di fori ridotti per fissaggi passanti. Il tipo di fissaggio più comune, ideale per il settore carpenteria metallica, impiantistica e serramenti. Barra di acciaio, filettata in testa, fascetta di espansione inox, dado e rondella. Fissaggio pesante: posizionare, forare e ancorare senza spostare l'oggetto.

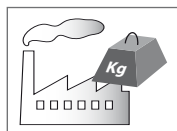
Ricordarsi di lasciare sporgere il corpo filettato dal dado per almeno 2 o 3 mm. La fascetta evita la rotazione del tassello durante l'avvitamento. L'espansione avviene per avvitamento. Ideale per calcestruzzo e pietra naturale resistente alla compressione. Versione inox per estetica e per installazioni in ambienti industriali acidi o marini per salsedine o in qualsiasi contesto di elevata aggressione chimica all'acciaio.



Applicazioni



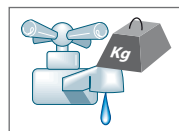
Edilizia Civile
Pesante



Edilizia Industriale
Pesante



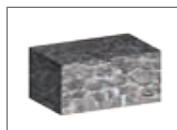
Settore Elettrico
Pesante



Settore Idraulico
e Lattoneria pesante



Ambiente Urbano
Medio Inquinamento



Pietra



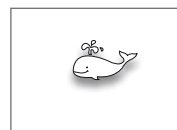
Calcestruzzo C20/25



In presenza d'acqua



Fuoco



B-X4: Ambiente marino

ANCORANTI MECCANICI

Ancorante meccanico HB SZ-S, HB SZ-B e HB SZ-SK



ETA - 02/0030
Opzione 1



SWISS SHOCK
APPROVAL



M8-M20



Resistenza al fuoco



Fixing in seismic



HB SZ-S
Con bullone
Classe 8.8
cod. 0432.320



HB SZ-B
Con dado
Classe 8.8
cod. 0432.330



HB SZ-SK
Testa svasata
cod. 0432.340

Materiale



TASSELLO:
Acciaio
zincato
bianco



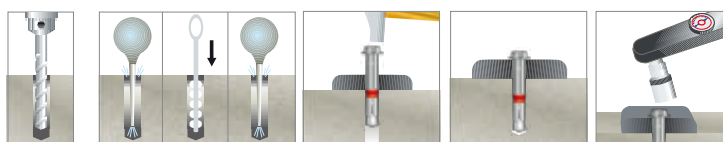
Inox A4 AISI 316
su richiesta



Disponibile programma di calcolo
per il dimensionamento

Descrizione

Ancorante ad espansione a controllo di coppia per carichi pesanti con vite a testa esagonale (SZ-S), barra e dado (SZ-B), testa svasata (SZ-SK). Applicazione veloce per fissaggi passanti. Anello di materiale plastico antirotazione per la compensazione dei vuoti di contatto fra l'oggetto da fissare e la muratura. Tassello omologato per fissaggi di grandi portate. Prefabbricati, capannoni, carri ponte, gru, impianti, macchinari, carpenteria meccanica, grossi soppalchi, tettoie a sbalzo, pensiline e tutto ciò che è a sbalzo.

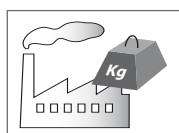


NOTA: Dati tecnici, di installazione e di carico possono essere oggetto di revisione.

Applicazioni



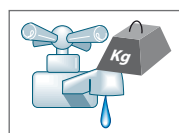
Edilizia Civile
Pesante



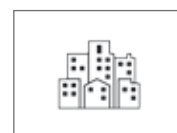
Edilizia Industriale
Pesante



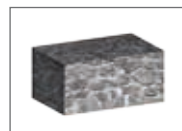
Settore Elettrico
Pesante



Settore Idraulico
e Lattoneria pesante



Ambiente Urbano
Medio Inquinamento



Pietra



Calcestruzzo C20/25



In presenza d'acqua



Fuoco

Application

Application: infrastructure channel



Customer needs:

- *construction type with the need to compensate for the necessary high tolerance construction*
- *requested high inclination of the support bracket*
- *substructure must have a high load capacity and be very slight*



Application

Application: production lines



Requirements:

- *products with short life cycles must be produced on durable production facilities*
- *substitute standard components from different manufacturers and new models with different hole*
- *pattern must be mountable*



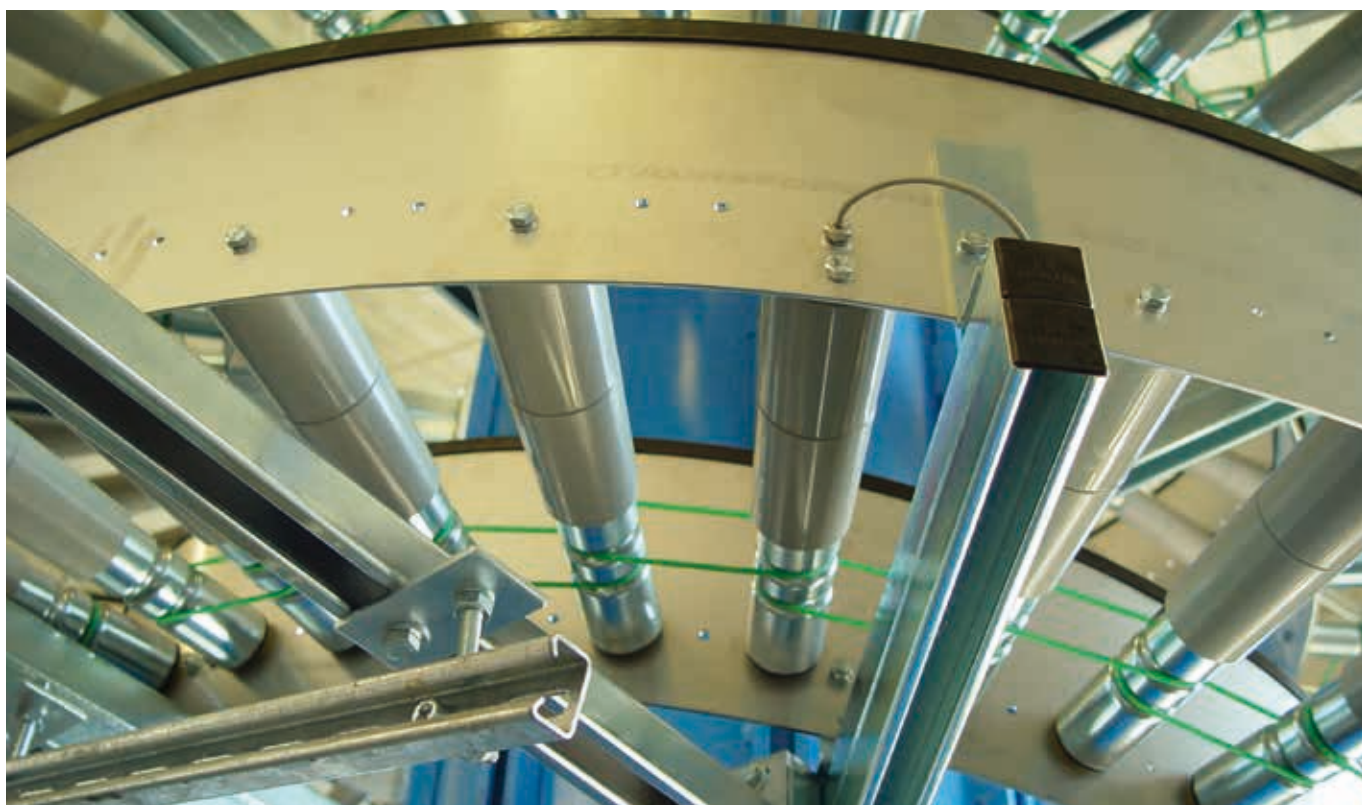
HALFEN FLEXIBLE SUPPORT BOLTED SUBSTRUCTURES

Application examples



HALFEN FLEXIBLE SUPPORT BOLTED SUBSTRUCTURES

Application examples



HALFEN FLEXIBLE SUPPORT BOLTED SUBSTRUCTURES

Application examples



HALFEN SOLAR SYSTEM CHANNELS

Application examples



SISTEMI DI TIRANTI DETAN

DETAN – un elemento architettonico



DETAN come elemento architettonico: leggero, elegante, integrato, completo, discreto.

DETAN in questo progetto è chiaramente visibile attraverso tutti i piani. Esteticamente perfetto, contribuisce positivamente all'aspetto generale dell'edificio.

DETAN e la sua funzione statica: nel piano orizzontale come controvento, nel piano verticale come tirante.



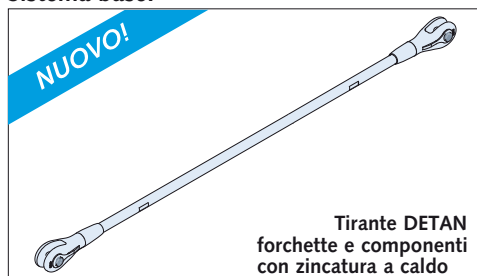
Progetto:
Palazzo di giustizia,
Manchester, Inghilterra.

SISTEMI DI TIRANTI DETAN

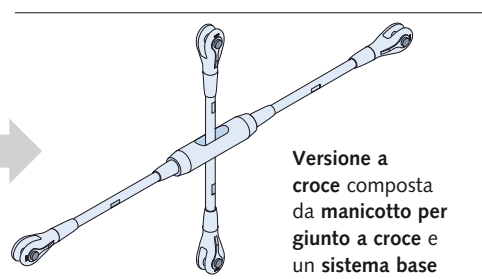
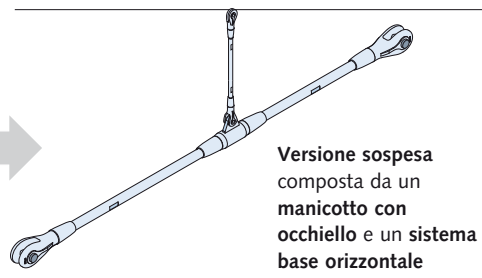
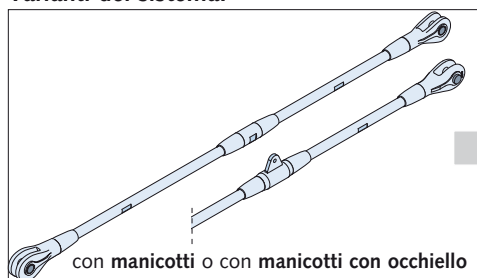
Elementi del sistema

Sistema di tiranti DETAN

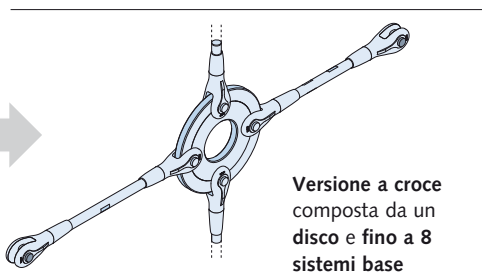
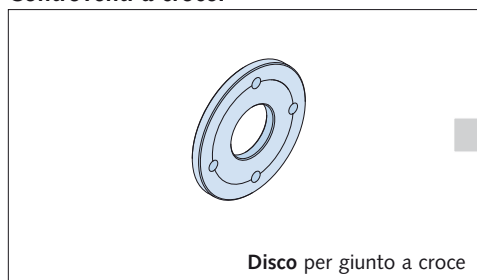
Sistema base:



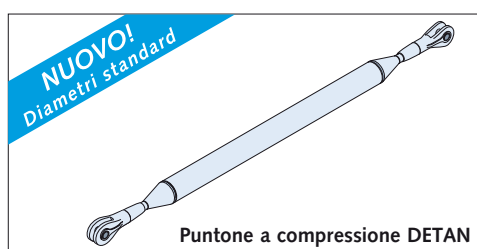
Varianti del sistema:



Controventi a croce:



Sistema di puntone a compressione DETAN



Apparecchiatura HALFEN per il tensionamento



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HALFEN S.r.l. Società Unipersonale

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