

# MW WIRE SYSTEM

LII

BU Installation Installation Technical Manual Typical Applications Product Line Applications

Version 1.0

10.2020



# TERMS OF COMMON COOPERATION / LEGAL DISCLAIMERS

Hilti strives to achieve continuous development and innovation. This manual is thus subject to change without notice. Hilti strongly advises customers to verify the respective product application for the intended use by consulting a structural engineer and making the necessary calculations to ensure compliance with the applicable norms and standards. It is essential that the product is used strictly in accordance with the applicable Hilti instructions for use and within the application limits specified in the Hilti technical data sheets, technical specifications and supporting product literature. Due to the fact that construction materials and environmental conditions vary widely, information given in this manual is solely based on principles and safety factors believed to be correct at the time they were established. The customer is ultimately responsible for checking the present condition of supporting materials and the applicability of the selected product application. Hilti shall not be liable for direct, incidental or consequential damages, losses or expenses in connection with any information contained in this manual or in connection with, or by reason of, the use of, or inability to use the products for any intended purpose. This limitation of liability does not apply to personal damages culpably caused by Hilti. Implied warranties of merchantability or fitness of the products are herewith expressly excluded.



		Page
MW-Specific General Notes		10
Conditions for transport, storage and Usage		10
Kit & item selection table		11
Safety factors used to calculate load capacities		13
Lock and wire kits according to SMACNA 006-2006		14
Connectors according to Eurocode 3		16
Suspended ceilings according EN 13964		17
Prying Factor of MW-C and the force transferred to the Anchor		19
Picture Configuration	Туре	Page

Ventilation - Rounded Ducts



	Rounded Duct On Concrete Slab	1.01	21
P	Rounded Duct On Concrete Girder	1.02	22
	Rounded Duct On Metal Deck Hook and V-Hanger	1.03	23
	Rounded Duct On Metal Deck V-Hanger With Integrated Nut	1.04	24
	Rounded Duct On Structural Steel Beam Clamps	1.05	25
	Rounded Duct On Structural Steel MM Channels	1.06	26
	Rounded Duct On Structural Steel MQ Channels	1.07	27
	Rounded Duct On Structural Steel Looped Profile	1.08	28



Product	Configuration	Туре	Page
Ventilation	- Trapeze		
	Trapeze On Concrete MQ System	2.01	29
	Trapeze On Concrete MM System	2.02	30
P	Trapeze On Concrete Girder	2.03	31
	Trapeze On Metal Deck Hook and V-Hanger	2.04	32
	Trapeze On Metal Deck	2.05	33
	Trapeze On Structural Steel Beam Clamps	2.06	34
	Trapeze On Structural Steel MM System	2.07	35
	Trapeze On Structural Steel MQ System	2.08	36
	Trapeze On Structural Steel Looped Profile	2.09	37



Product	Configuration	Туре	Page
Ventilation	L,Z –Hangers		
500 (m) (m)	L,Z -Hangers On Concrete	3.01	38
P	L, Z-Hangers On Concrete Girder	3.02	39
	L, Z-Hanger On Metal Deck Hook and V-Hanger	3.03	40
	L, Z-Hanger On Metal Deck V-Hanger With Integrated Nut	3.04	41
	L, Z-Hanger On Structural Steel Beam Clamps	3.05	42
	L, Z-Hanger On Structural Steel MM System	3.06	43
	L, Z-Hanger On Structural Steel MQ System	3.07	44
	L, Z-Hanger On Structural Steel Looped Profile	3.08	45



Product	Configuration	Туре	Page
Ventilation	- Unit		
	Ventilation Unit On Concrete Slab	4.01	46
F	Ventilation Unit On Concrete Girder	4.02	47
	Ventilation Unit On Metal Deck Hook And V-Hanger	4.03	48
	Ventilation Unit On Metal Deck V-Hanger With Integrated Nut	4.04	49
	Ventilation Unit On Structural Steel Beam Clamps	4.05	50
	Ventilation Unit On Structural Steel MM System	4.06	51
	Ventilation Unit On Structural Steel MQ System	4.07	52
	Ventilation Unit On Structural Steel Looped Profile	4.08	53



Product	Configuration	Туре	Page
Electrical -	Cable Tray, Ceiling Panel And Busbar		
	Cable Tray, Ceiling Panel And Busbar On Concrete Slab	5.01	54
P	Cable Tray, Ceiling Panel And Busbar On Concrete Girder	5.02	55
	Cable Tray, Ceiling Panel And Busbar On Metal Deck Hook And V-Hanger	5.03	56
	Cable Tray, Ceiling Panel And Busbar On Metal Deck V-Hanger With Integrated Nut	5.04	57
	Cable Tray, Ceiling Panel And Busbar On Structural Steel Beam Clamps	5.05	58
	Cable Tray, Ceiling Panel And Busbar On Structural Steel MM System	5.06	59
	Cable Tray, Ceiling Panel And Busbar On Structural Steel MQ System	5.07	60
	Cable Tray, Ceiling Panel And Busbar On Structural Steel Looped Profile	5.08	61



Product	Configuration	Туре	Page
Overhead G	arid System		
	Overhead Grid System On Concrete Slab	<sup>e</sup> 6.01	62
	Overhead Grid System On Structural steel Looped	6.02	63
	Overhead Grid System On Structural Steel Beam Clamps	6.03	64
AL YOUR	Overhead Grid System Space Bracing On Concrete	6.04	65
	Overhead Grid System Space Bracing On Structural Steel Looped	6.05	66
	Overhead Grid System Space Bracing On Structural Steel Beam Clamps	6.06	67



Product	Configuration	Туре	Page
Piping - Bracin	g - Single Fastening Points		
	Fastening Points On Concrete Slab Single Connection	7.01	68
	Fastening Points On Concrete Slab Double Connection	7.02	69
Product	Configuration	Туре	Page
Bracing - Trape	eze On Rods and Frame		
	Bracing – Trapeze On Rods On Concrete Slab	8.01	70
Bracing – Trap	eze Frame		
	Bracing – Trapeze Frame On Concrete Slab	8.02	71



### **MW-SPECIFIC GENERAL NOTES**

- This application is for static loading only not including lifting or nor accessed by persons
- Hilti wire ropes are manufactured according ASTM-A1023 and are not pre-stretched. When installing, it must be considered that the wire ropes undergo a constructional stretch (extension). The constructional stretch according ASTM-A1023 (extension) is the amount of extension that is attributed to the initial bedding down of wires within the strands and the strands within the rope due to loading. Initial extension cannot be determined by calculation. Stretching over time also uncertain. The height of the suspended parts can be adjusted with the lock.
- Please always refer to the latest instruction manual of the supported media, for example: pipes or cable trays, structures and attachments. The media needs to withstand the local wire rope force, taking into account the angle of loading.
- The wire rope shall not be connected with a hardened steel (max. 170 HB) interface.
- The wire rope interface shall be free of sharp corners (min. 0.5mm x 45° or radius 0.5mm with a minimum thickness of 5mm) to avoid local damage of the wire rope.
- Check that all parts are not damaged before installing. For example, a bent wire will not fit properly in the lock or could disable the locking mechanism.
- Only one wire may be suspended from each connector and/or anchor.
- Before installing, the instructions for use must be consulted.
- Oil, grease, paint and dirt can reduce the load capacity of the wire system and must be avoided.
- The load capacity values are only valid when this system is used exclusively with Hilti locks, wires, connectors and anchors in the recommended combinations shown in the ITM (larger diameter anchors are permitted).
- Ensure the correct cutting tool is used to cut the wire, as shown in the instructions for use. The cut wire end must be protected from fraying. If the wrong cutting tool is used the wire may not fit into the lock or could unravel over time.
- The wire system locks, MW-L and MW-CL together with wire can be reused maximum 3 times during installation (loaded to maximum load), for the purpose of adjusting the position. Without loading the locks can be repositioned as many times as necessary. The MW-C clip is single-use only.
- For all MW-EB eye-bolt loop applications the load must be applied such that the eye-bolt and wire are aligned (±5°). Counter nuts must be used as shown in the ITM to ensure the eye-bolt does not loosen over time.
- For any applications requiring angles > 5° the MW-C clip in combination with MW-LP wire loop must be used.

## CONDITIONS FOR TRANSPORT, STORAGE AND USAGE

- Packaging of all wire system items must not be damaged during transport and storage.
- All wire system items must be transported, stored and used in a dry, indoor (non-condensing) atmosphere
- Corrosion protection class C1 C2 (medium), 15 years ((based on EN ISO 12944-6 and EN ISO 12944-1). For C2 please contact Hilti Engineering Services.
- Do not use in corrosive or chlorinated environments.
- Temperatures:
  - Transportation, storage and operation: -20°C to 50°C
  - Assembly -5°C to 50°C
- Can be used with various base materials. The customer must ensure that the base materials and anchors used have a sufficient load capacity.
- For further information please contact Hilti engineering services.



## **KIT & ITEM SELECTION TABLE**

#### **MW Wire & Lock Kits**

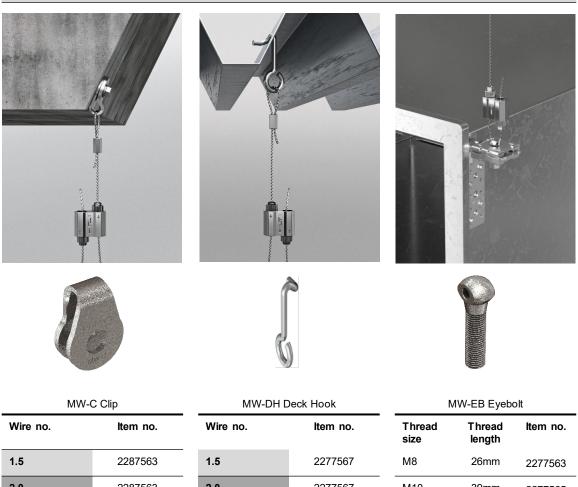
	Wire no.	1.5	2.0	3.0	5.0	6.0
	Working load limit	30 kg	56 kg	113kg	270kg	380kg
Kit wire & lock	Wire length					
	1m	2280019	2280044	2280049	2280054	
	2m	2280040	2280045	2280050	2280055	
	3m	2280041	2280046	2280051	2280056	2280059
	5m	2280042	2280047	2280052	2280057	2280060
MW-EB M8/10/12 L Kit	10m	2280043	2280048	2280053	2280058	2280061
<b>m</b>	1m	2280072	2280077	2280082	2287096	
	2m	2280073	2280078	2280083	2287097	
y y	3m	2280074	2280079	2280084	2287098	
	5m	2280075	2280080	2280085	2287099	
MW-LP L Kit	10m	2280076	2280081	2280086	2287580	
	Wire no.	1.5	2.0	3.0	5.0	6.0
	Working load limit		46kg	98kg		
Channel lock & wire	Wire length					
	1m					
			2280062	2280067		
a 🌡	2m		2280062 2280063	2280067 2280068		
40						
	2m		2280063	2280068		
MW-EB M8 CL Kit	2m 3m		2280063 2280064	2280068 2280069		
MW-EB M8 CL Kit	2m 3m 5m		2280063 2280064 2280065	2280068 2280069 2280070		
MW-EB M8 CL Kit	2m 3m 5m 10m		2280063 2280064 2280065 2280066	2280068 2280069 2280070 2280071		
MW-EB M8 CL Kit	2m 3m 5m 10m 1m		2280063 2280064 2280065 2280066 2280087	2280068 2280069 2280070 2280071 2280092		
MW-EB M8 CL Kit	2m 3m 5m 10m 1m 2m		2280063 2280064 2280065 2280066 2280087 2280088	2280068 2280069 2280070 2280071 2280092 2280093		



## **KIT & ITEM SELECTION TABLE**

#### **MW Accessories**

Application



1.5	2287563
2.0	2287563
3.0	2287563
5.0	2287563
6.0	х

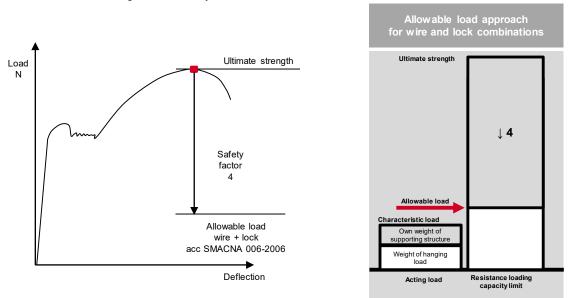
MW-DH Deck Hook		
Wire no.	ltem no.	
1.5	2277567	
2.0	2277567	
3.0	х	
5.0	x	
6.0	х	

MW-EB Eyebolt			
Thread size	Thread length	ltem no.	
M8	26mm	2277563	
M10	39mm	2277565	
M12	42mm	2277566	

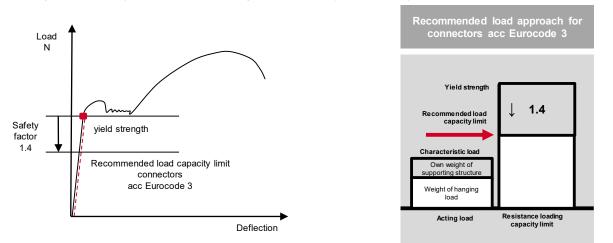


## SAFETY FACTORS USED TO CALCULATE LOAD CAPACITIES

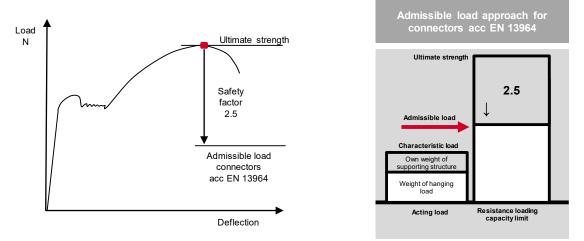
For all **lock and wire combinations**, the **allowable loads** are calculated from the normalized ultimate limit with a safety factor of 4 according to SMACNA 006-2006 (HVAC duct construction standards). SMACNA 006-2006 does not require normalization however this was done as an extra measure to account for the variation in ultimate limit possible with wire produced according to ASTM A1023. Unlike Eurocode 3, SMACNA 006-2006 does not differentiate between the recommended load and the design load but only states an allowable load which must not be exceeded.



For the **connecters** MW-C, MW-DH and MW-EB, the **recommended load** capacity limits are calculated from the normalized yield strength with a safety factor of 1.4 according to Eurocode 3 (DIN EN 1993).



Where the **CE certification according to EN 13964 for suspended ceilings** is required, the **admissible loads** of all wire system components are calculated from the normalized ultimate strength with a safety factor of at least 2.5. EN 13964 does not differentiate between recommended load and design load but only states an admissible load which must not be exceeded.





## LOCK AND WIRE KITS ACCORDING TO SMACNA 006-2006

#### Allowable loads for lock and wire kits according to SMACNA 006-2006

Order description	ltem number Kit	ltem number Component Wire	ltem number Component Lock	Wire rope size	Wire length	Allowat +		lllustra kit con
Kit MW-EB M8 L 1.5/1m	2280019	2278645			1m			
Kit MW-EB M8 L 1.5/2m	2280040	2278646			2m			
Kit MW-EB M8 L 1.5/3m	2280041	2278647	2277466	1.5	3m	0.29 kN	30 kg	-
Kit MW-EB M8 L 1.5/5m	2280042	2278648			5m			HJ. F
Kit MW-EB M8 L 1.5/10m	2280043	2278649			10m			+,
Kit MW-EB M8 L 2.0/1m	2280044	2278690			1m			↓ F <sub>a</sub>
Kit MW-EB M8 L 2.0/2m	2280045	2278691			2m	0.55 kN		<b>♦</b> •a
Kit MW-EB M8 L 2.0/3m	2280046	2278692	2277467	2.0	3m		56 kg	
Kit MW-EB M8 L 2.0/5m	2280047	2278693			5m			1.
Kit MW-EB M8 L 2.0/10m	2280048	2278694			10m			
Kit MW-EB M8 L 3.0/1m	2280049	2278703			1m			
Kit MW-EB M8 L 3.0/2m	2280050	2278704		3.0	2m			$\square$
Kit MW-EB M8 L 3.0/3m	2280051	2278695	2277468		3m	1.11 kN	113 kg	
Kit MW-EB M8 L 3.0/5m	2280052	2278696			5m			
Kit MW-EB M8 L 3.0/10m	2280053	2278705			10m			
Kit MW-EB M10 L 5.0/1m	2280054	2278642			1m			
					2m			
Kit MW-EB M10 L 5.0/2m	2280055	2278697						7
Kit MW-EB M10 L 5.0/3m	2280056	2278698	2277469	5.0	3m	2.65 kN	270 kg	$\alpha$
Kit MW-EB M10 L 5.0/5m	2280057	2278699			5m			
Kit MW-EB M10 L 5.0/10m	2280058	2278700			10m			
Kit MW-EB M12 L 6.0/3m	2280059	2278701			3m			
Kit MW-EB M12 L 6.0/5m	2280060	2278702	2277560	6.0	5m	3.73 kN	380 kg	
Kit MW-EB M12 L 6.0/300	2280060	2278643	2277560	0.0	500 10m	3.73 KN	380 Kg	

The shown load values of allowable loads are based on a safety factor to ultimate strength of 4 as per SMACNA 006-2006 HVAC duct construction guidelines, valid for an opening angle  $\alpha$  of up to 60°. Note: final load for a support depends on the set up of the used items! The load capacities of all connected parts must be considered.

Order description	ltem number Kit	ltem number Component Wire	ltem number Component Lock	Wire rope size	Wire length		ble load F <sub>a</sub>	Illustratio kit conte
Kit MW-LP L 1.5/1m	2280072	2277568			1m			
Kit MW-LP L 1.5/2m	2280073	2277569			2m			$(\mathcal{O})$
Kit MW-LP L 1.5/3m	2280074	2277570	2277466	1.5	3m	0.29 kN	30 kg	K s
Kit MW-LP L 1.5/5m	2280075	2277571			5m			+
Kit MW-LP L 1.5/10m	2280076	2277572			10m			- Can
Kit MW-LP L 2.0/1m	2280077	2277573			1m			<b>↓</b> F <sub>a</sub>
Kit MW-LP L 2.0/2m	2280078	2277574			2m	0.55 kN	56 kg	
Kit MW-LP L 2.0/3m	2280079	2277575	2277467	2.0	3m			$\cap$
Kit MW-LP L 2.0/5m	2280080	2277576			5m			$\square$
Kit MW-LP L 2.0/10m	2280081	2277577			10m			
Kit MW-LP L 3.0/1m	2280082	2277578			1m			
Kit MW-LP L 3.0/2m	2280083	2277579			2m			
Kit MW-LP L 3.0/3m	2280084	2277580	2277468	3.0	3m	1.11 kN	113 kg	
Kit MW-LP L 3.0/5m	2280085	2277581			5m			
Kit MW-LP L 3.0/10m	2280086	2277582			10m			
								$\alpha$
Kit MW-LP L 5.0/1m	2287096	2287558			1m			
Kit MW-LP L 5.0/2m	2287097	2287559	2277469		2m			
Kit MW-LP L 5.0/3m	2287098	2287560		5.0	3m	2.65 kN	270 kg	
Kit MW-LP L 5.0/5m	2287099	2287561			5m			
Kit MW-LP L 5.0/10m	2287580	2287562			10m			

The shown load values of allowable loads are based on a safety factor to ultimate strength of 4 as per SMACNA 006-2006 HVAC duct construction guidelines, valid for an opening angle α of up to 60°. Note: final load for a support depends on the set up of the used items! The load capacities of all connected parts must be considered.

#### 

## LOCK AND WIRE KITS ACCORDING TO SMACNA 006-2006

#### Allowable loads for channel lock and wire kits according to SMACNA 006-2006

Order description	ltem number Kit	ltem number Component Wire	ltem number Component Lock	Wire rope size	Wire length	Allowable load +F <sub>a</sub>		Illustration kit content
Kit MW-EB M8 CL 2.0/1m	2280062	2278690			1m			
Kit MW-EB M8 CL 2.0/2m	2280063	2278691		2.0	2m	0.45 kN	46 kg	
Kit MW-EB M8 CL 2.0/3m	2280064	2278692	2277562		3m			
Kit MW-EB M8 CL 2.0/5m	2280065	2278693			5m			A
Kit MW-EB M8 CL 2.0/10m	2280066	2278694			10m			
Kit MW-EB M8 CL 3.0/1m	2280067	2278703			1m			
Kit MW-EB M8 CL 3.0/2m	2280068	2278704			2m			
Kit MW-EB M8 CL 3.0/3m	2280069	2278695	2277562	3.0	3m	0.96 kN	98 kg	↓ F <sub>a</sub>
Kit MW-EB M8 CL 3.0/5m	2280070	2278696			5m			
Kit MW-EB M8 CL 3.0/10m	2280071	2278705			10m			

The shown load values of allowable loads are based on a safety factor to ultimate strength of 4 as per SMACNA 006-2006 HVAC duct construction guidelines. These values are only valid when the wire is aligned with the axis of the eye bolt (± 5°) and hanging vertically.

Note: final load for a support is depending on the set up of the used items! The load capacities of all connected parts must be considered.

Item number Item number ltem number Wire Allowable load Illustration Wire rope Order description **Component Wire** Component Lock Kit kit content size length +Fa Kit MW-LP CL 2.0/1m 2280087 2277573 1m Kit MW-LP CL 2.0/2m 2280088 2277574 2m Kit MW-LP CL 2.0/3m 2280089 2277575 2277562 2.0 3m 0.45 kN 46 kg Kit MW-LP CL 2.0/5m 2280090 2277576 5m Kit MW-LP CL 2.0/10m 2280091 2277577 10m Kit MW-LP CL 3.0/1m 2280092 2277578 1m Kit MW-LP CL 3.0/2m 2280093 2277579 2m Kit MW-LP CL 3.0/3m 2280094 2277580 2277562 3.0 0.96 kN 98 kg 3m Kit MW-LP CL 3.0/5m 2280095 2277581 5m Kit MW-LP CL 3.0/10m 2280096 2277582 10m

The shown load values of allowable loads are based on a safety factor to ultimate strength of 4 as per SMACNA 006-2006 HVAC duct construction guidelines. These values are only valid when the wire is aligned with the axis of the channel lock (± 5°) and hanging vertically.

Note: final load for a support is depending on the set up of the used items! The load capacities of all connected parts must be considered.



### **CONNECTORS ACCORDING TO EUROCODE 3**

#### **Recommended load capacity limits for connectors according to Eurocode 3**

Order description	ription Item number Wire rope size Recommended load +Fx				Illustration
MW-DH	2277567	≤ 2.0	0.55 kN	56 kg	↓ F <sub>x</sub>

Shown load values are the recommended loads capacity limits for vertical loads only The partial safety factor for the action is 1.4 relative to the yield strength according to Eurocode 3. Note: Load capacity of interface (profiled sheet metal) needs to be validated separately.

MW-EB M8x26	2277563	≤ 3.0	7.3 kN	745 kg	
MW-EB M10x39	2277565	≤ 5.0	10.8 kN	1101 kg	
MW-EB M12x42	2277566	≤ 6.0	16.2 kN	1650 kg	↓ F <sub>x</sub>

The shown load values are the recommended loads capacity limits. The partial safety factor for the action is 1.4 relative to the yield strength according to Eurocode 3. The load capacities of all connected parts must be considered.

Note: These values are only valid when the applied load is aligned with the axis of the eye bolt  $(\pm 5^{\circ})$ 

MW-C 2287563	≤ 5.0	3.92 kN	400 kg	° ↓ F <sub>x</sub>
--------------	-------	---------	--------	--------------------

The shown load values are the recommended loads capacity limits. The partial safety factor for the action is 1.4 relative to the yield strength according to Eurocode 3. Load values are valid for  $\alpha = 0^{\circ} - 90^{\circ}$ . The load capacities of all connected parts must be considered. Note: Transferred load to anchor depends on prying factor of MW-C at angle  $\alpha$ . See table "Prying factor MW-C"

#### Design load capacity limits for connectors according to Eurocode 3

Order description	ltem number	Wire rope size	Design load +F <sub>x</sub>		Illustration
MW-DH	2277567	≤ 2.0	0.77 kN	78.4 kg	F <sub>x</sub>

The shown load values are design load capacity limits for vertical loads only. The partial safety factor for the action is 1.0. Note: Load capacity of interface (profiled sheet metal) needs to be validated separately

MW-EB M8x26	2277563	≤ 3.0	10.2 kN	1043 kg	
MW-EB M10x39	2277565	≤ 5.0	15.1 kN	1541 kg	
MW-EB M12x42	2277566	≤ 6.0	22.7 kN	2311 kg	↓ F <sub>x</sub>

The shown load values are design load capacity limits. The partial safety factor for the action is 1.0. The load capacities of all connected parts must be considered. Note: These values are only valid when the load is applied at an angle of  $0^{\circ} \pm 5^{\circ}$  relative to the axis of the eye bolt.

MW-C 2287563	≤ 5.0	5.49 kN	560 kg	α F <sub>x</sub>
--------------	-------	---------	--------	------------------

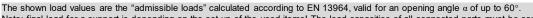
The shown load values are design load capacity limits. The partial safety factor for the action is 1.0. Load values are valid for  $\alpha = 0^{\circ} - 90^{\circ}$ . The load capacities of all connected parts must be considered.

Note: Transferred load to anchor depends on prying factor of MW-C at angle  $\alpha$ . See table "Prying factor MW-C"

#### SUSPENDED CEILINGS ACCORDING TO EN 13964

#### Admissible loads for lock and wire kits according to EN 13964

Order description	ltem number Kit	ltem number Component Wire	ltem number Component Lock	Wire rope size	Wire length		ble load F <sub>a</sub>	Illustration kit content
Kit MW-EB M8 L 1.5/1m	2280019	2278645			1m			
Kit MW-EB M8 L 1.5/2m	2280040	2278646			2m			
Kit MW-EB M8 L 1.5/3m	2280041	2278647	2277466	1.5	3m	0.29 kN	30 kg	A
Kit MW-EB M8 L 1.5/5m	2280042	2278648			5m			
Kit MW-EB M8 L 1.5/10m	2280043	2278649			10m			
Kit MW-EB M8 L 2.0/1m	2280044	2278690			1m			↓ F <sub>a</sub>
Kit MW-EB M8 L 2.0/2m	2280045	2278691			2m		56 kg	• a
Kit MW-EB M8 L 2.0/3m	2280046	2278692	2277467	2.0	3m	0.55 kN		
Kit MW-EB M8 L 2.0/5m	2280047	2278693			5m			1.1.1
Kit MW-EB M8 L 2.0/10m	2280048	2278694			10m			
Kit MW-EB M8 L 3.0/1m	2280049	2278703			1m			$\bigcirc$
Kit MW-EB M8 L 3.0/2m	2280050	2278704			2m			$\mathbf{V}$
Kit MW-EB M8 L 3.0/3m	2280051	2278695	2277468	3.0	3m	1.11 kN	113 kg	- T
Kit MW-EB M8 L 3.0/5m	2280052	2278696			5m			
Kit MW-EB M8 L 3.0/10m	2280053	2278705			10m			
Kit MW-EB M10 L 5.0/1m	2280054	2278642			1m			1.10
Kit MW-EB M10 L 5.0/2m	2280055	2278697			2m			7.1
Kit MW-EB M10 L 5.0/3m	2280056	2278698	2277469	5.0	3m	2.65 kN	270 kg	$\alpha$
Kit MW-EB M10 L 5.0/5m	2280057	2278699			5m			
Kit MW-EB M10 L 5.0/10m	2280058	2278700			10m			
Kit MW-EB M12 L 6.0/3m	2280059	2278701	2277560		3m			
Kit MW-EB M12 L 6.0/5m	2280060	2278702		6.0	5m	3.73 kN	380 kg	
Kit MW-EB M12 L 6.0/10m	2280061	2278643			10m			



Note: final load for a support is depending on the set up of the used items! The load capacities of all connected parts must be considered.

Order description	ltem number Kit	ltem number Component Wire	Item number Component Lock	Wire rope size	Wire length		issible load Illus +F <sub>a</sub> kit o	
Kit MW-LP L 1.5/1m	2280072	2277568			1m			
Kit MW-LP L 1.5/2m	2280073	2277569			2m			0
Kit MW-LP L 1.5/3m	2280074	2277570	2277466	1.5	3m	0.29 kN	30 kg	
Kit MW-LP L 1.5/5m	2280075	2277571			5m			
Kit MW-LP L 1.5/10m	2280076	2277572			10m			T t
Kit MW-LP L 2.0/1m	2280077	2277573			1m			
Kit MW-LP L 2.0/2m	2280078	2277574			2m			↓ F <sub>a</sub>
Kit MW-LP L 2.0/3m	2280079	2277575	2277467	2.0	3m	0.55 kN	56 kg	$\cap$
Kit MW-LP L 2.0/5m	2280080	2277576			5m			$\setminus$
Kit MW-LP L 2.0/10m	2280081	2277577			10m			
Kit MW-LP L 3.0/1m	2280082	2277578			1m			
Kit MW-LP L 3.0/2m	2280083	2277579		3.0	2m	1.11 kN	113 kg	
Kit MW-LP L 3.0/3m	2280084	2277580	2277468		2 3m			1.4
Kit MW-LP L 3.0/5m	2280085	2277581			5m			
Kit MW-LP L 3.0/10m	2280086	2277582			10m			7
Kit MW-LP L 5.0/1m	2287096	2287558			1m			α
Kit MW-LP L 5.0/111	2287090	2287559			2m			
Kit MW-LP L 5.0/2m	2287097	2287559	2277469	5.0	2m 3m	2.65 kN	270 kg	
Kit MW-LP L 5.0/5m	2287098	2287561	2277409	5.0	5m	2.03 KN	270 Kg	
Kit MW-LP L 5.0/10m	2287580	2287562			10m			

The shown load values are the "admissible loads" calculated according to EN 13964, valid for an opening angle α of up to 60°. Note: final load for a support is depending on the set up of the used items! The load capacities of all connected parts must be considered.



### SUSPENDED CEILINGS ACCORDING TO EN 13964

#### Admissible loads for channel lock and wire kits according to EN 13964

Order description	ltem number Kit	ltem number Component Wire	ltem number Component Lock	Wire rope size	Wire length	Admissible load +F <sub>a</sub>		Illustration kit content	
Kit MW-EB M8 CL 2.0/1m	2280062	2278690			1m				
Kit MW-EB M8 CL 2.0/2m	2280063	2278691	2277562	2.0	2m	0.45 kN	46 kg		
Kit MW-EB M8 CL 2.0/3m	2280064	2278692			3m				
Kit MW-EB M8 CL 2.0/5m	2280065	2278693			5m			RS	
Kit MW-EB M8 CL 2.0/10m	2280066	2278694			10m				
Kit MW-EB M8 CL 3.0/1m	2280067	2278703			1m			C Y	
Kit MW-EB M8 CL 3.0/2m	2280068	2278704			2m				
Kit MW-EB M8 CL 3.0/3m	2280069	2278695	2277562	3.0	3m	0.96 kN	98 kg	↓ F <sub>a</sub>	
Kit MW-EB M8 CL 3.0/5m	2280070	2278696			5m				
Kit MW-EB M8 CL 3.0/10m	2280071	2278705			10m				

The shown load values are the "admissible loads" calculated according to EN 13964.

These values are only valid when the wire is aligned with the axis of the eye bolt (± 5°) and hanging vertically.

Note: final load for a support is depending on the set-up of all used items! The load capacities of all connected parts must be considered.

Order description	ltem number Kit	ltem number Component Wire	ltem number Component Lock	Wire rope size	Wire length		ible load F <sub>a</sub>
Kit MW-LP CL 2.0/1m	2280087	2277573			1m		
Kit MW-LP CL 2.0/2m	2280088	2277574				2m	
Kit MW-LP CL 2.0/3m	2280089	2277575	2277562	2.0	3m	0.45 kN	46 kg
Kit MW-LP CL 2.0/5m	2280090	2277576			5m		
Kit MW-LP CL 2.0/10m	2280091	2277577			10m		
Kit MW-LP CL 3.0/1m	2280092	2277578			1m		
Kit MW-LP CL 3.0/2m	2280093	2277579			2m		
Kit MW-LP CL 3.0/3m	2280094	2277580	2277562	562 3.0		0.96 kN	5 kN 98 kg
Kit MW-LP CL 3.0/5m	2280095	2277581			5m		
Kit MW-LP CL 3.0/10m	2280096	2277582			10m		

The shown load values are the "admissible loads" calculated according to EN 13964.

These values are only valid when the wire is aligned with the axis of the eye bolt (± 5°) and hanging vertically.

Note: final load for a support is depending on the set-up of all used items! The load capacities of all connected parts must be considered.

#### Admissible loads for connectors according EN 13964

Order description	ltem number	Wire rope size Admissible load +Fa		Illustration	
MW-DH	2277567	≤ 2.0	0.48 kN	49 kg	↓ F <sub>a</sub>

The shown load values are the "admissible loads" calculated according to EN 13964. Note: Load capacity of interface (profiled sheet metal) needs to be validated separately

MW-EB M8x26	2277563	≤ 3.0	5.32 kN	542 kg	
MW-EB M10x39	2277565	≤ 5.0	9.22 kN	939 kg	
MW-EB M12x42	2277566	≤ 6.0	15.6 kN	1591 kg	↓ F <sub>a</sub>

The shown load values are the "admissible loads" calculated according to EN 13964.

Note: These values are only valid when the load is applied at an angle of 0° ± 5° relative to the axis of the eye bolt.

MW-C 2287563 $\leq 5.0$ 3.92 kN 400 kg	
--	--

The shown load values are the "admissible loads" calculated according to EN 13964.

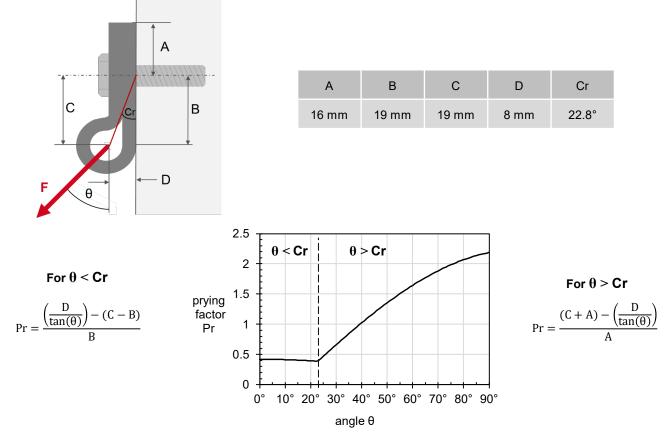
Load values are valid for  $\alpha = 0^{\circ} - 90^{\circ}$ .

Note: The load transferred to the anchor depends on the prying factor of MW-C at angle a. See table "Prying factor MW-C"



### PRYING FACTOR OF MW-C AND THE FORCE TRANSFERRED TO THE ANCHOR

The load capacities of all connected components must be considered in combination with all MW items. In particular, the effective force transferred to the anchor must be considered and compared with the load capacity of the anchor. When a load is suspended from a MW-C clip, the effective tensile force transferred to the anchor due to leverage effects can be calculated from the prying factor **Pr** using the formulas below (according to NFPA 13-2016). For example, where the angle **0** between base material and direction of loading is 90°, the prying factor **Pr** is 2.2. Accordingly, when 1 kN is hung from the clip, the tensile force transferred to the anchor is 2.2 kN.



For example, when the MW-C clip is used at the maximum load of 400 kg (F = 3.92 kN), the prying factor and effective tensile load transferred to the anchor for different angles is shown in the table below. The higher the angle, the higher the tensile load resulting at the anchor. For certain set-ups, the load capacity of the anchor within a certain base material may be the limiting factor. This must be calculated to ensure that the load capacity of the anchor is not exceeded.

Angle relative to the base material, ${f  heta}$	0°	15°	30°	45°	60°	75°	90°
Prying factor, <b>Pr</b>	0.42	0.41	0.66	1.19	1.65	1.99	2.19
Tensile load (kN) transferred to the anchor at the maximum load capacity of the clip (F = 3.92 kN)	1.66	1.60	2.60	4.68	6.46	7.79	8.60

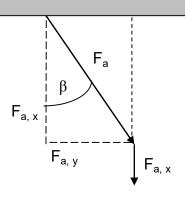
## HANGING AT NON-VERTICAL ANGLES

When a load is not hung vertically, the angle,  $\beta$ , is the angle of the load relative to the vertical axis. The tables of allowed loads  $F_a$  for the **wire kits** are based on the load being suspended vertically  $\beta = 0^\circ$ . For any other angle ( $\beta > 0^\circ$ ), the vertical component of the allowed load  $F_{a, x}$  is reduced according trigonometry using the to the formula below:

$$F_{a, x} = F_a \cos(\beta)$$

The horizontal load can also be calculated:

$$F_{a, y} = F_a \sin(\beta)$$







## Ventilation - Single Fastening Point Fixed On a Concrete Slab:

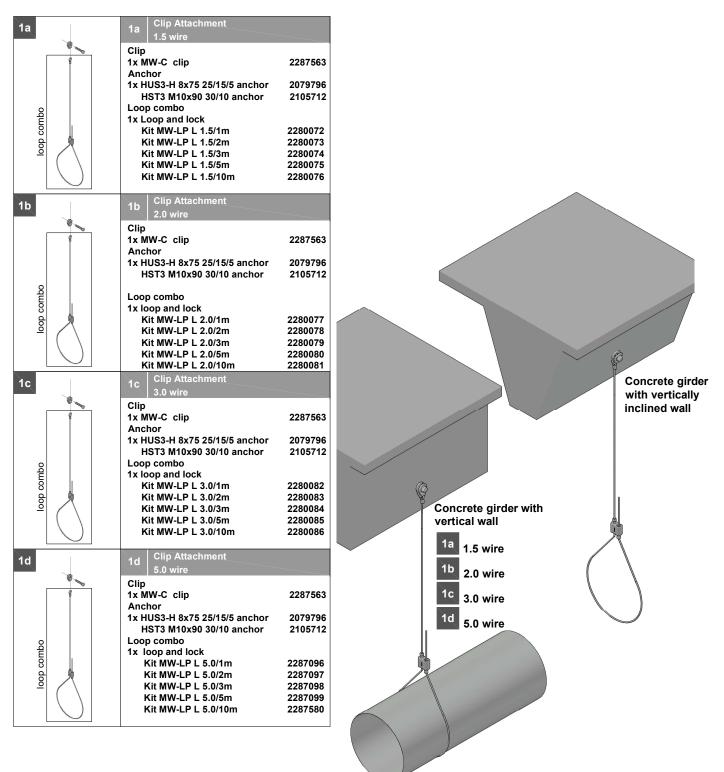
1a	1a Screw anchor, M8 support 1.5 wire	2a 2a-c Flush anchor, M8 support 1.5, 2.0, 3.0 wire
eyebolt combo	1x         screw anchor HUS-I 6x35 M8/M10 anchor HUS-I 6x55 M8/M10 anchor HUS-I 6x55 M8/M10 anchor 1x         416740 423180 2184504           1x         M8 nut         2184504           Eyebolt combo         1x         2184504           1x         eyebolt and lock         2184504           Kit MW-EB M8 L 1.5/1m         2280040           Kit MW-EB M8 L 1.5/2m         2280042           Kit MW-EB M8 L 1.5/5m         2280042           Kit MW-EB M8 L 1.5/5m         2280042           Kit MW-EB M8 L 1.5/10m         2280043	2b       Anchor         2c       0         b       1x         flush anchor         HKD M8x25 anchor         376957         HKD M8x30 anchor         376961         1x       M8 nut         2x       1x         4x       1x         4x <td< td=""></td<>
1b	1b Screw anchor, M8 support 2.0 wire	2d Flush anchor, M10 support 5.0 wire
eyebolt combo	1x         screw anchor HUS-I 6x35 M8/M10 anchor HUS-I 6x55 M8/M10 anchor HUS-I 6x55 M8/M10 anchor 1x         416740 423180           1x         M8 nut Eyebolt combo         2184504           1x         eyebolt and lock Kit MW-EB M8 L 2.0/1m         2280044           Kit MW-EB M8 L 2.0/2m         2280044           Kit MW-EB M8 L 2.0/3m         2280046           Kit MW-EB M8 L 2.0/5m         2280047           Kit MW-EB M8 L 2.0/5m         2280046           Kit MW-EB M8 L 2.0/10m         2280046	Anchor 1x flush anchor HKD M10x25 anchor 2037453 HKD M10x30 anchor 376965 HKD M10x40 anchor 376967 1x M10 nut 2184505 Eyebolt combo 1x the same combos as 2d - 1d
1c	1c Screw anchor, M8 support 3.0 wire	
eyebolt combo	1x         screw anchor HUS-I 6x35 M8/M10 anchor HUS-I 6x55 M8/M10 anchor         416740 423180           1x         M8 nut         2184504           Eyebolt combo         1x         eyebolt and lock Kit MW-EB M8 L 3.0/1m         2280049 2280050           Kit MW-EB M8 L 3.0/2m         2280050 Kit MW-EB M8 L 3.0/5m         2280050 2280050           Kit MW-EB M8 L 3.0/5m         2280050 2280050           Kit MW-EB M8 L 3.0/5m         2280050           Kit MW-EB M8 L 3.0/10m         2280050	Screw anchor2a1.5 wire1a1.5 wire2b2.0 wire1b2.0 wire2c3.0 wire1c3.0 wire2d5.0 wire
1d	1d Screw anchor, M10 support 5.0 wire	
eyebolt combo	1x         screw anchor           HUS-I 6x35 M8/M10 anchor         416740           HUS-I 6x55 M8/M10 anchor         423180           1x         M10 nut         2184505           Eyebolt combo         1x         eyebolt and lock           Kit MW-EB M10 L 5.0/1m         2280054           Kit MW-EB M10 L 5.0/2m         2280055           Kit MW-EB M10 L 5.0/3m         2280055	
	Kit MW-EB M10 L 5.0/5m 2280057 Kit MW-EB M10 L 5.0/10m 2280058	
e even out combo	2eFlush anchor, M12 support 6.0 wire1xflush anchor HKD M12x50 anchor1xM 12 nut2184554Eyebolt combo1xeyebolt and lock Kit MW-EB M12 L 6.0/3m Kit MW-EB M12 L 6.0/10m2280060Kit MW-EB M12 L 6.0/10m	

Ар	plication description	Application	Product lines	Base material
Wir	e system - Ventilation - Single Fastening Point On Concrete		Wire system	Concrete
Ger •	Loading must always be compared with the capacity of the anchor within		Anchors	
\.	the chosen base material			
	Only for vertically suspended loads. Eye-bolt not suitable for bracing.			
Hilti str	ongly advises customers to verify the respective product application for the intended use by consulting a struc	tural engineer and making	the necessary calculations	to ensure compliance with the

Hill strongly advises customers to verify the respective product application for the intended use by consulting a structural engineer and making the necessary calculations to neure compliance with the applicable applicable norms and standards. Failure to consult and head the advice of a structural engineer will free Hill from any liability. It is essential that the product is used strictly in accordance with the applicable Hill instructions for use, within the application limits specified in the Hilti technical data sheets, technical specifications and supporting product literature, and that the relevant application limits are not exceeded at any time. All rights reserved by Hilti Corporation. Duplication, utilization and/or publication of drawings contained in this manual are not permitted unless expressly agreed by Hilti Corporation.



## Ventilation - Single Fastening Point Fixed On Side Of a Concrete Girder:



Ap	plication description	Application	Product lines	Base material
Wire	e system - Ventilation - Single Fastening Point On Side of a Concrete Girder		Wire system	Concrete
Ger •	heral comments Loading must always be compared with the capacity with the capacity of the		Anchors	
\.	anchor within the chosen base material. This capacity is affected by the angle of loading from the vertical and the prying factor	0	\	
•	Only one wire may be suspended on each clip			
• Hilti stro	Only one wire may be suspended on each clip	ural engineer and making	the necessary calculations	to ensure compliance with t

Hill strongly advises customers to verify the respective product application for the intended use by consulting a structural engineer and making the necessary calculations to ensure compliance with the applicable norms and standards. Failure to consult and hed the advice of a structural engineer will free Hill inbility. It is essential that the product is used strictly in accordance with the applicable hill instructions for use, within the application limits specified in the Hill technical data sheets, technical specifications and supporting product literature, and that the relevant application limits are not exceeded at any time. All rights reserved by Hilti Corporation. Duplication, utilization and/or publication of drawings contained in this manual are not permitted unless expressly agreed by Hilti Corporation.



#### **Ventilation - Single Fastening Point Fixed On Metal Deck:**

10 1	Deck hook		20	Through bolted V-hanger
	1a 1.5 wire		2c	<sup>2C</sup> 3.0 wire
	Loop combo	277567		V-Hanger 1x MF-TSH M8 V-hanger 229006 1x M8 nut 2184504
loop combo		280072	0	Through-bolt version 1-t-rod1x AM8x1000 fixed t-rod339793
o do		280073 280074	eyebolt combo	4x M8 nut 2184504 Through-bolt ver. 2-long h-head screw
	Kit MW-LP L 1.5/5m 22	280075 280076	polt o	1x M8x120 4.8 hex. head sc. 2063165 2x M8 nut 2184504
	Deck book	200070	eyet	Eyebolt combo
1b 7	1b 2.0 wire			1x eyebolt and lock Kit MW-EB M8 L 3.0/1m 2280049
	Deck hook 1x MW-DH deck hook 22	277567		Kit MW-EB M8 L 3.0/2m 2280050 Kit MW-EB M8 L 3.0/3m 2280051
	Loop combo			Kit MW-EB M8 L 3.0/5m 2280052
loop combo	1x loop and lock Kit MW-LP L 2.0/1m 22	280077		Kit MW-EB M8 L 3.0/10m 2280053
d d		280078 280079		
	Kit MW-LP L 2.0/5m 22	280080		
	Through boltod V banger	280081		
2a	2a 1.5 wire			
	V-Hanger 1x MF-TSH M8 V-hanger 2	29006		
9	1x M8 nut 21	184504		Through bolted
	Through-bolt version 1 t-rod 1x AM8x1000 fixed t-rod 3	39793	$\sqrt{X}$	V-hanger
eyebolt combo	4x M8 nut 21	84504		2a 1 5 min
olt co	Through-bolt version 2 long h-head s 1x M8x120 4.8 h-head screw 20	63165		
, yebo	2x M8 nut 21 Eyebolt combo	84504	Deck hook	2b 2.0 wire
u u u	1x eyebolt and lock		1a	2c 3.0 wire
		80019 80040	1.5 wire	U
		80041	<sup>1b</sup> 2.0 wire	
		80043		
2b	2b Through bolted V-hanger 2.0 wire			
	V-Hanger 1x MF-TSH M8 V-hanger 22	29006		
3	1x M8 nut 21 Through-bolt version 1-t-rod	84504		
Q	1x AM8x1000 fixed t-rod 33	39793		
combo	4x M8 nut 218 Through-bolt ver. 2-long h-head screw	84504 w		
polt c	1x M8x120 4.8 hex. head sc. 206	63165 84504		
eyebolt	Eyebolt combo	64304		
	1x eyebolt and lock Kit MW-EB M8 L 2.0/1m 228	80044		
	Kit MW-EB M8 L 2.0/2m 228	80045		
		80046 80047		
	Kit MW-EB M8 L 2.0/10m 228	80048		

Application description	Application	Product lines	Base material
Wire system - Ventilation - Single Fastening Point On Metal Deck		Wire system	Metal deck
<ul> <li>General comments</li> <li>Loading must always be compared with the capacity of the metal deck and where relevant the V-hanger</li> <li>The deck hook must hang vertically from the deck and is for vertical loads only.</li> <li>Only one wire may be suspended on each deck hook.</li> </ul>		Anchors	

Hilti strongly advises customers to verify the respective product application for the intended use by consulting a structural engineer and making the necessary calculations to ensure compliance with the applicable norms and standards. Failure to consult and heed the advice of a structural engineer will free Hilti from any liability. It is essential that the product is used strictly in accordance with the application for use, within the application limits specified in the Hilti technical aspectifications and supporting product literature, and that the relevant application limits are not exceeded at any time. All rights reserved by Hilti Corporation. Duplication, utilization and/or publication of drawings contained in this manual are not permitted unless expressly agreed by Hilti Corporation.



#### Ventilation - Single Fastening Point Fixed On Metal Deck:

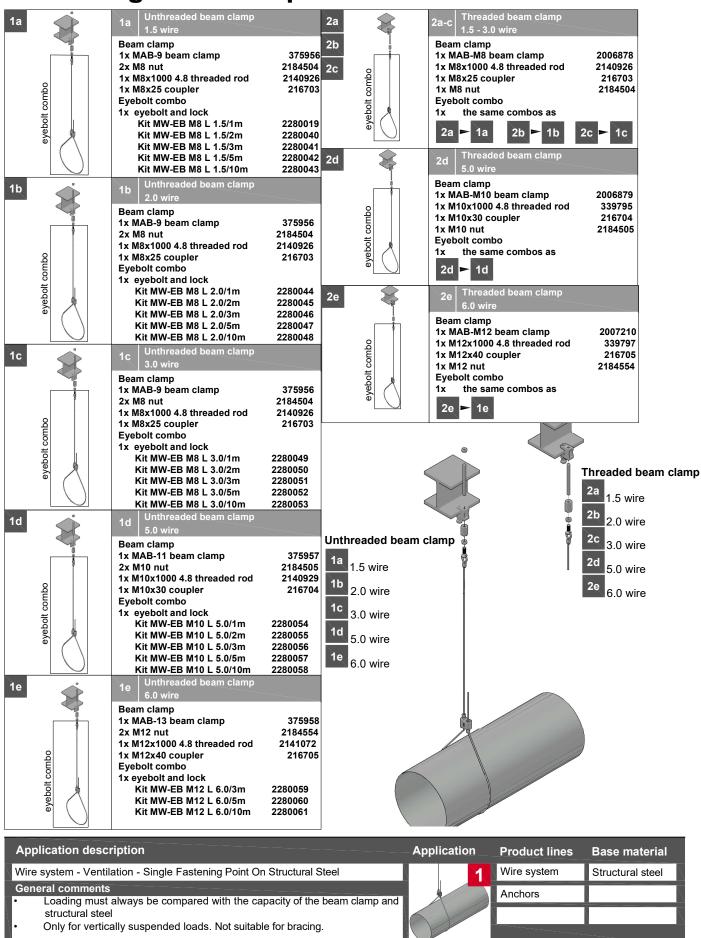
	The state of the s	Through bolted V hanger wi	th			Self-tapping scre	ws and V-Hangor	
1a	×.	integrated nut, 1.5 wire	un 	2b	V.	with integrated he		
	<b>B</b>	V-Hanger 1x MVA-MS M8 V-hanger 1x M8 nut Through-bolt version 1-t-rod	386558 2184504		8	V-Hanger 1x MVA-MS M8 V-hang 1x M8 nut Solf tapping scrows	er 386558 2184504	
	eyebolt combo	1x AM8x1000 fixed t-rod 4x M8 nut Eyebolt combo	339793 2184504		eyebolt combo	Self-tapping screws 6x S-MS 01Z 4.0x13 S- Eyebolt combo	screw 406471	
	polt o	1x eyebolt and lock			polt o	1x eyebolt and lock Kit MW-EB M8 L 2.0		
	eye	Kit MW-EB M8 L 1.5/1m Kit MW-EB M8 L 1.5/2m	2280019 2280040		eye	Kit MW-EB M8 L 2.0 Kit MW-EB M8 L 2.0		
		Kit MW-EB M8 L 1.5/3m	2280041			Kit MW-EB M8 L 2.0	/5m 2280047	
	$\bigcirc$	Kit MW-EB M8 L 1.5/5m Kit MW-EB M8 L 1.5/10m	2280042 2280043		$\square$	Kit MW-EB M8 L 2.0		
1b	and the second	1b Through bolted V hanger wi integrated nut, 2.0 wire V-Hanger		2c	V.	2c Self-tapping screwith integrated here v-Hanger		
	\$	1x MVA-MS M8 V-hanger	386558		4	1x MVA-MS M8 V-hang		
		1x M8 nut Through-bolt version 1-t-rod	2184504			1x M8 nut Self-tapping screws	2184504	
	eyebolt combo	1x AM8x1000 fixed t-rod 4x M8 nut	339793 2184504		eyebolt combo	6x S-MS 01Z 4.0x13 S- Eyebolt combo	screw 406471	
	spolt	Eyebolt combo 1x eyebolt and lock			off	1x eyebolt and lock Kit MW-EB M8 L 3.0	D/1m 2280049	
	eye	Kit MW-EB M8 L 2.0/1m	2280044		jyeb	Kit MW-EB M8 L 3.		
		Kit MW-EB M8 L 2.0/2m Kit MW-EB M8 L 2.0/3m	2280045 2280046		• ( \	Kit MW-EB M8 L 3.0 Kit MW-EB M8 L 3.0		
	$\bigcirc$	Kit MW-EB M8 L 2.0/5m Kit MW-EB M8 L 2.0/10m	2280047 2280048		$\bigcirc$	Kit MW-EB M8 L 3.		
1c	×.	1c Through bolted V hanger wi integrated nut, 3.0 wire	th 					
		V-Hanger 1x MVA-MS M8 V-hanger	386558					
		1x M8 nut	2184504		$\langle \rangle$		13	
	odr	Through-bolt version 1-t-rod 1x AM8x1000 fixed t-rod	339793				- Carl	
	eyebolt combo	4x M8 nut	2184504				<b>A</b>	
		Eyebolt combo 1x eyebolt and lock			*	120	Self tapp	ing screv
	eye	Kit MW-EB M8 L 3.0/1m	2280049		ough bolted		V-hanger	
		Kit MW-EB M8 L 3.0/2m Kit MW-EB M8 L 3.0/3m	2280050 2280051	V-h	anger	O OO	● 2a	
		Kit MW-EB M8 L 3.0/5m	2280052	1a	1.5mm wire	and the second s	1.5m	m wire
		Kit MW-EB M8 L 3.0/10m	2280053	1b			2b 2.0m	ım wire
2a	V.	2a Self-tapping screws and V-H with integrated hex nut, 1.5		10	2.0mm wire		20	ım wire
	\$	V-Hanger 1x MVA-MS M8 V-hanger 1x M8 nut	386558 2184504		■ 3.0mm wire	, <b>8</b>		
		Self-tapping screws						
	욛	6x S-MS 01Z 4.0x13 S-screw Eyebolt combo	406471					
	eyebolt combo	1x eyebolt and lock						
	polt	Kit MW-EB M8 L 1.5/1m	2280019					
	eye	Kit MW-EB M8 L 1.5/2m Kit MW-EB M8 L 1.5/3m	2280040 2280041				$\frown$	
		Kit MW-EB M8 L 1.5/5m	2280042					
		Kit MW-EB M8 L 1.5/10m	2280043					
L							1	

Wire system	
	Metal Deck
Anchors	

Hilti strongly advises customers to verify the respective product application for the intended use by consulting a structural engineer and making the necessary calculations to ensure compliance with the applicable norms and standards. Failure to consult and heed the advice of a structural engineer will free Hilti from any liability. It is essential that the product is used strictly in accordance with the applications for use, within the application limits specified in the Hilti technical absets, technical specifications and supporting product literature, and that the relevant application limits application initiats are not exceeded at any time. All rights reserved by Hilti Corporation. Duplication, utilization and/or publication of drawings contained in this manual are not permitted unless expressly agreed by Hilti Corporation.



## Ventilation - Single Fastening Point Fixed On Structural Steel Using Beam Clamp:

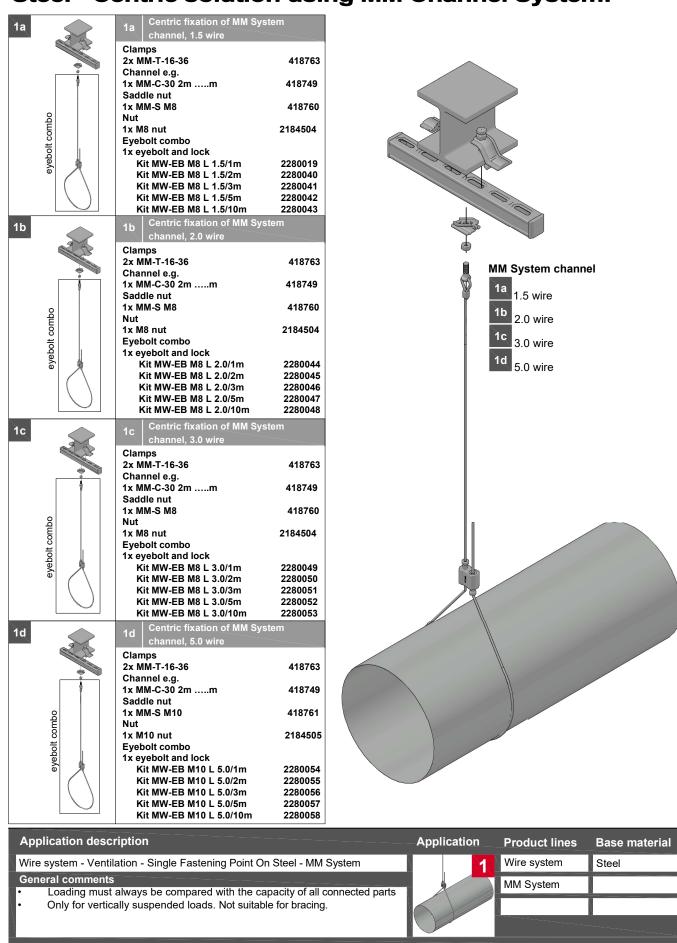


Hilli strongly advises customers to verify the respective product application for the intended use by consulting a structural engineer and making the necessary calculations to ensure compliance with the applicable norms and standards. Failure to consult and heed the advice of a structural engineer will free Hilti from any liability. It is essential that the product is used strictly in accordance with the applicable norms, within the application limits specified in the Hilti technical data sheets, technical specifications and supporting product literature, and that the relevant application limits are not exceeded at any time. All rights reserved by Hilti Corporation. Duplication, utilization and/or publication of drawings contained in this manual are not permitted unless expressly agreed by Hilti Corporation.

Version 1.0 from 10.2020, Page 25



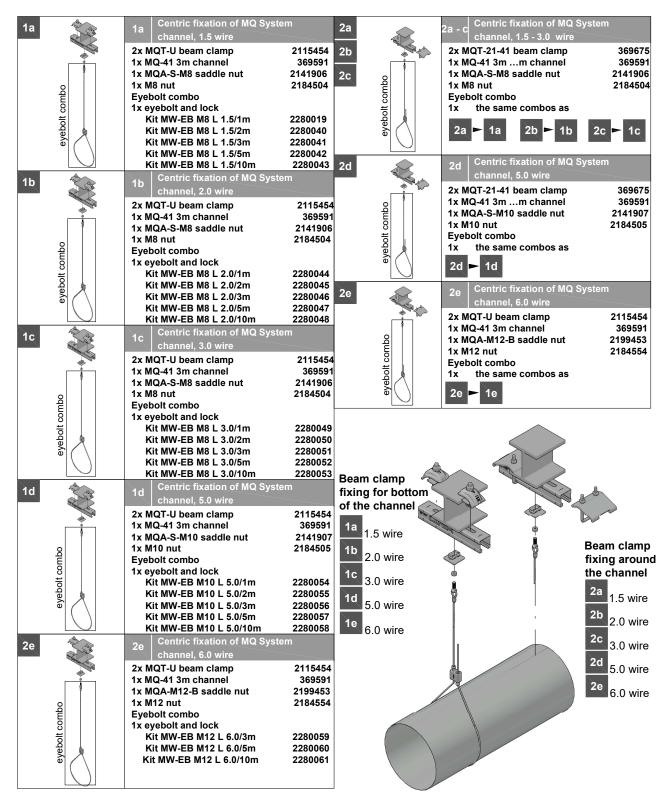
#### Ventilation - Single Fastening Point Fixed On Structural Steel - Centric solution using MM Channel System:



Hilti strongly advises customers to verify the respective product application for the intended use by consulting a structural engineer and making the necessary calculations to ensure compliance with the applicable norms and standards. Failure to consult and heed the advice of a structural engineer will free Hilti from any liability. It is essential that the product is used strictly in accordance with the application for use, within the application limits specified in the Hilti technical applications and standards. Failure to consult and heed the relevant application in technical application inclusions for use, within the application in the specified in the Hilti control application and you publication and you publication of drawings contained in this manual are not permitted unless expressly agreed by Hilti Corporation.



#### Ventilation - Single Fastening Point Fixed On Structural Steel - Centric solution using MQ Channel System:



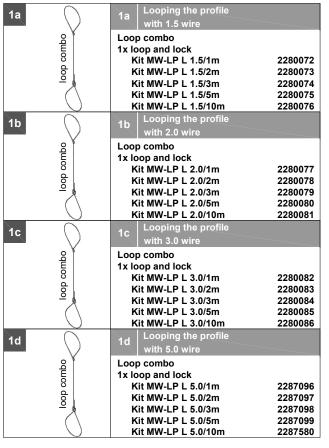
Application description	Application	Product lines	Base material
Wire system - Ventilation - Single Fastening Point On Steel - MQ System		Wire system	Steel
General comments <ul> <li>Loading must always be compared with the capacity of all connected parts</li> </ul>		MM System	
Only for vertically suspended loads. Not suitable for bracing.			
Hilli strangly advises sustamers to verify the respective product application for the intended use by consulting a struct			

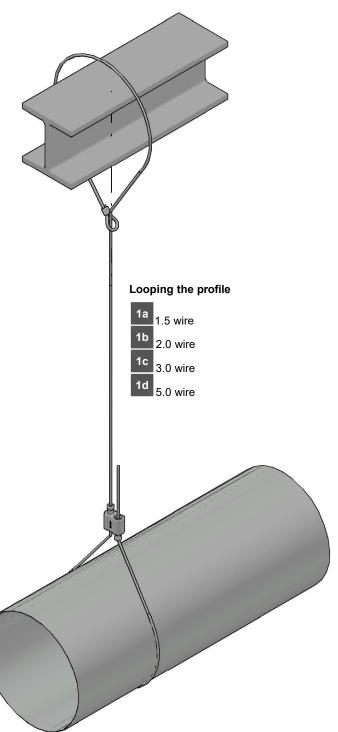
Hilli strongly advises customers to verify the respective product application for the intended use by consulting a structural engineer and making the necessary calculations to ensure compliance with the applicable norms and standards. Failure to consult and heed the advice of a structural engineer will free Hilti from any liability. It is essential that the product is used strictly in accordance with the applicable norms and standards, within the application limits specified in the Hilti technical advatisations and supporting product literature, and that the relevant application limits are not exceeded at any time. All rights reserved by Hilti Corporation. Duplication, utilization and/or publication of drawings contained in this manual are not permitted unless expressly agreed by Hilti Corporation.

#### Version 1.0 from 10.2020, Page 27



#### Ventilation - Single Fastening Point Fixed On Structural Steel - Looping The Profile:



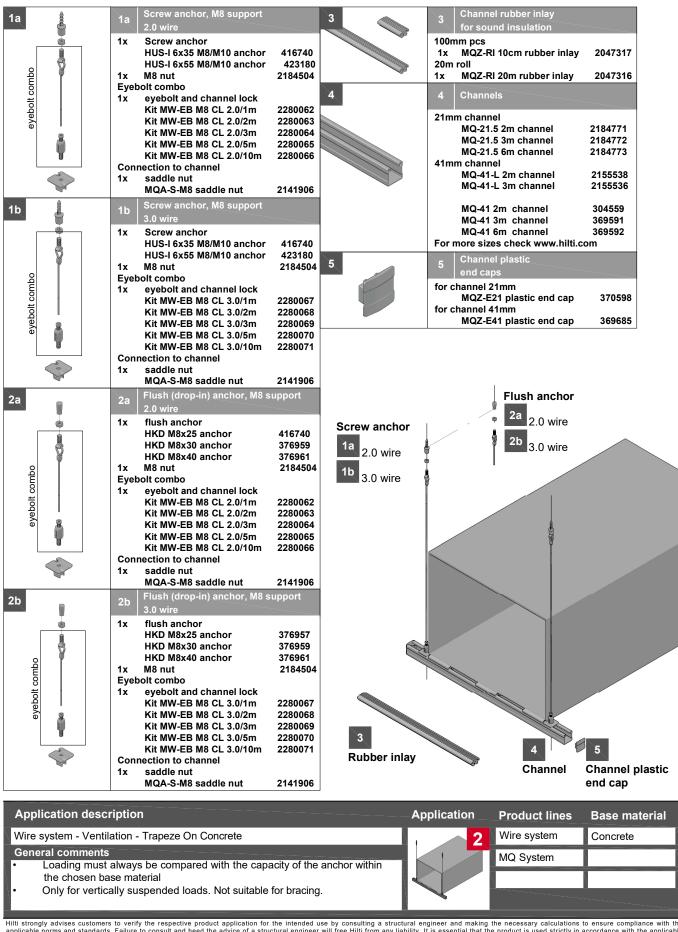


Application description	Application	Product lines	Base material
Wire system - Ventilation - Single Fastening Point On Steel - Looping the profile		Wire system	Steel
<ul> <li>General comments</li> <li>Loading must always be compared with the capacity of the structural steel</li> <li>Sharp edges must be avoided to prevent damage to the wire</li> </ul>			

Hilli strongly advises customers to verify the respective product application for the intended use by consulting a structural engineer and making the necessary calculations to ensure compliance with the applicable norms and standards. Failure to consult and heed the advice of a structural engineer will free Hilti from any liability. It is essential that the product is used strictly in accordance with the applications for use, within the application inits specified in the Hilti technical aspecifications and supporting product literature, and that the relevant application limits are not exceeded at any time. All rights reserved by Hilti Corporation. Duplication, utilization and/or publication of drawings contained in this manual are not permitted unless expressly agreed by Hilti Corporation.



#### Ventilation - Trapeze Fixed On Concrete Slab - MQ System:



Hilti strongly advises customers to verify the respective product application for the intended use by consulting a structural engineer and making the necessary calculations to ensure compliance with the applicable norms and standards. Failure to consult and heed the advice of a structural engineer will free Hilti from any liability. It is essential that the product is used strictly in accordance with the application for use, within the application limits specified in the Hilti technical applications and standards. Failure to consult and heed the relevant application in technical application inclusions for use, within the application in the specified in the Hilti control application sents used strictly in accordance with the application in the specified in the Hilti exchinal application and/or publication of drawings contained in this manual are not permitted unless expressly agreed by Hilti Corporation.



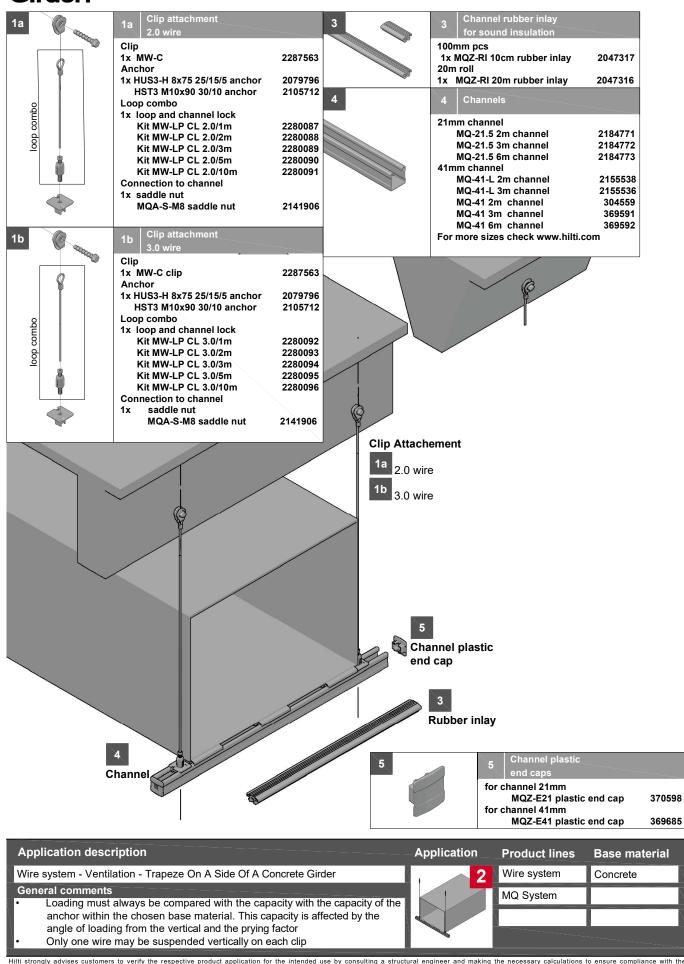
## Ventilation - Trapeze Fixed On Concrete Slab - MM System:

	1a Screw Anchor, M8 Support 2.0 wire		3	3 MM System Channel Ru For Sound Insulation	bber Inlay
	1x Screw anchor HUS-I 6x35 M8/M10 anchor HUS-I 6x55 M8/M10 anchor 1x M8 nut	416740 423180 2184504		100mm pcs 1x MM-RI 10cm rubber inla 20m roll 1x MM-RI 20m rubber inlay	-
eyebolt combo	Eyebolt combo 1x eyebolt and channel lock Kit MW-EB M8 CL 2.0/1m	2280062	4	4 MM System Channels	
eyet	Kit MW-EB M8 CL 2.0/2m Kit MW-EB M8 CL 2.0/3m Kit MW-EB M8 CL 2.0/5m	2280062 2280063 2280064 2280065		16mm channel MM-C-16 channel 30mm channel	418748
	Kit MW-EB M8 CL 2.0/10m Connection to channel 1x saddle nut	2280066		MM-C-30 36mm channel MM-C-36	418749 418750
e e	MM-S-M8 saddle nut	418760	5	For more sizes check www.hi 5 MM System Channel Pla	
	3.0 wire			End Caps for 16mm channel	
	HUS-I 6x35 M8/M10 anchor HUS-I 6x55 M8/M10 anchor	416740 423180		MM-E-16 plastic end ca for 30mm channel MM-E-30 plastic end ca	
oqui	1x       M8 nut         Eyebolt combo         1x       eyebolt and channel lock	2184504		for 36mm channel MM-E-36 plastic end ca	
eyebolt combo	Kit MW-EB M8 CL 3.0/1m Kit MW-EB M8 CL 3.0/2m Kit MW-EB M8 CL 3.0/3m Kit MW-EB M8 CL 3.0/5m Kit MW-EB M8 CL 3.0/10m Connection to channel	2280067 2280068 2280069 2280070 2280071			
	1x saddle nut MM-S-M8 saddle nut	418760		1	
	2a Flush Anchor, M8 Support 2.0 wire 1x flush anchor		Screw anchor	Flush ancho	
2	HKD M8x25 anchor HKD M8x30 anchor HKD M8x40 anchor 1x M8 nut	416740 376959 376961 2184504	1a 2.0 wire	2b 3.0 wire	~
eyebolt combo	Eyebolt combo 1x eyebolt and channel lock Kit MW-EB M8 CL 2.0/1m Kit MW-EB M8 CL 2.0/2m Kit MW-EB M8 CL 2.0/3m Kit MW-EB M8 CL 2.0/5m Kit MW-EB M8 CL 2.0/10m Connection to channel 1x saddle nut MM-S-M8 saddle nut	2280062 2280063 2280064 2280065 2280066 418760	<b>19</b> 3.0 wire		
	2b Flush Anchor, M8 Support 3.0 wire				
oquo	1x       flush anchor         HKD M8x25 anchor         HKD M8x30 anchor         HKD M8x40 anchor         1x       M8 nut         Eyebolt combo	376957 376959 376961 2184504			
eyebolt combo	1x eyebolt and channel lock Kit MW-EB M8 CL 3.0/1m Kit MW-EB M8 CL 3.0/2m Kit MW-EB M8 CL 3.0/3m Kit MW-EB M8 CL 3.0/5m Kit MW-EB M8 CL 3.0/10m	2280067 2280068 2280069 2280070 2280071	3		5
	Connection to channel 1x saddle nut MM-S-M8 saddle nut	418760	Rubber inlay	Channel	Channel plas end cap
Application desc	ription		Ap	plication Product lines	s Base mater
	ilation Trapeze On Concrete - MM S	System		2 Wire system	Concrete
eneral comments	5			MM System	
	t always be compared with the capa	acity of the	anchor within		

Hilti strongly advises customers to verify the respective product application for the intended use by consulting a structural engineer and making the necessary calculations to ensure compliance with the applicable norms and standards. Failure to consult and heed the advice of a structural engineer will free Hilti from any liability. It is essential that the product is used strictly in accordance with the applicable norms and standards. Failure to consult and heed the advice of a structural engineer will free Hilti from any liability. It is essential that the product is used strictly in accordance with the applicable norms and standards. Failure to consult and heed the advice of a structural engineer will free Hilti from any liability. It is essential that the product is used strictly in accordance with the application finits specified in the Hilti technical ada sheets, technical specifications and supporting product literature, and that the relevant application limits are not exceeded at any time. All rights reserved by Hilti Corporation. Duplication, utilization and/or publication of drawings contained in this manual are not permitted unless expressly agreed by Hilti Corporation.



## Ventilation - Trapeze Fixed On A Side Of A Concrete Girder:



Hilti strongly advises customers to verify the respective product application for the intended use by consulting a structural engineer and making the necessary calculations to ensure compliance with the applicable norms and standards. Failure to consult and heed the advice of a structural engineer will free Hilti from any liability. It is essential that the product is used strictly in accordance with the applications for use, within the application inits specified in the Hilti technical applications and standards. Failure to consult and heed the advice of a structural engineer will free Hilti from any liability. It is essential that the product is used strictly in accordance with the applications for use, within the application inits specified in the Hilti technical applications and supporting product literature, and that the relevant application limits are not exceeded at any time. All rights reserved by Hilti Corporation. Duplication, utilization and/or publication of gravings contained in this manual are not permitted unless expressly agreed by Hilti Corporation.



#### **Ventilation - Trapeze Fixed On Metal Deck:**

10	Deck hook			MQ System channel	
	1a 2.0 wire		4	4	
8	Deck hook 1x MW-DH deck hook Loop combo 1x loop and channel lock	2277567		21mm channel MQ-21.5 2m channel MQ-21.5 3m channel MQ-21.5 6m channel	2184771 2184772 2184773
loop combo	Kit MW-LP CL 2.0/1m Kit MW-LP CL 2.0/2m Kit MW-LP CL 2.0/3m Kit MW-LP CL 2.0/5m	2280087 2280088 2280089 2280090		41mm channel MQ-41-L 2m channel MQ-41-L 3m channel	2155538 2155536
	Kit MW-LP CL 2.0/10m Connection to channel 1x saddle nut	2280091		MQ-41 2m channel MQ-41 3m channel MQ-41 6m channel	304559 369591 369592
2a	MQA-S-M8 saddle nut           2a         Through bolted V-hanger	2141906	5	For more sizes check www.hilti.	.com
	2a 2.0 wire		3	5 end caps	
100°	V-Hanger 1x MF-TSH M8 V-hanger 1x M8 nut Through-bolt version 1-t-rod	229006 2184504		for channel 21mm MQZ-E21 plastic end cap for channel 41mm MQZ-E41 plastic end cap	370598 369685
	1x AM8x1000 fixed t-rod 4x M8 nut	339793 2184504			
oq mo	Through-bolt ver. 2-long h-head s 1x M8x120 4.8 hex. head sc. 2x M8 nut Eyebolt combo	crew 2063165 2184504			
eyebolt combo	1x eyebolt and channel lock Kit MW-EB M8 CL 2.0/1m Kit MW-EB M8 CL 2.0/2m Kit MW-EB M8 CL 2.0/3m	2280062 2280063 2280064		Throw	gh bolted V-hang
	Kit MW-EB M8 CL 2.0/5m Kit MW-EB M8 CL 2.0/10m Connection to channel 1x saddle nut	2280065 2280066		2a 2.	0 wire
2b	MQA-S-M8 saddle nut 2b Through bolted V-hanger	2141906		2b 3.	0 wire
00	V-Hanger 1x MF-TSH M8 V-hanger	229006			
- Augo	1x M8 nut Through-bolt version 1 t-rod	2184504	Deck hook		
	1x         AM8x1000 fixed t-rod           4x         M8 nut           Through-bolt version 2 long h-heat		1a 2.0 wire		
ebolt combo	1x M8x120 4.8 h-head screw 2x M8 nut Eyebolt combo	2063165 2184504		A	
eyebolt	1x eyebolt and channel lock Kit MW-EB M8 CL 3.0/1m Kit MW-EB M8 CL 3.0/2m Kit MW-EB M8 CL 3.0/3m	2280067 2280068 2280069			
	Kit MW-EB M8 CL 3.0/5m Kit MW-EB M8 CL 3.0/10m Connection to channel	2280070 2280071			
	1x MQA-S-M8 saddle nut	2141906			
3	3 Channel rubber inlay for sound insulation 100mm pcs				
	1x MQZ-RI 10cm rubber inlay 20m roll	2047317			
<b>`</b>	1x MQZ-RI 20m rubber inlay	2047316			~
			3 Rubber inlay	4	5
				Channel	Channel plastic

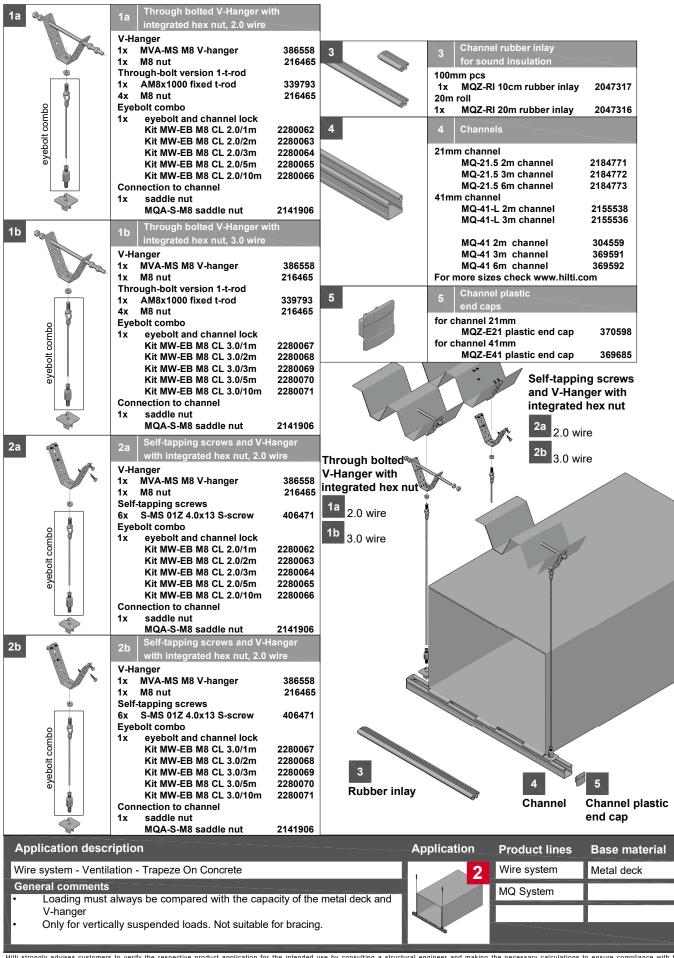
Channel plastic end cap

Application description	Application	Product lines	Base material
Wire system - Ventilation - Trapeze On Concrete	1 2	Wire system	Metal deck
General comments         Loading must always be compared with the capacity of the metal deck and where relevant the V-hanger.         The deck hook or eyebolt must hang vertically from the deck.         Only one wire may be suspended on each deck hook.		MQ System	

Hilti strongly advises customers to verify the respective product application for the intended use by consulting a structural engineer and making the necessary calculations to ensure compliance with the applicable norms and standards. Failure to consult and heed the advice of a structural engineer will free Hilti from any liability. It is essential that the product is used strictly in accordance with the applications for use, within the application limits specified in the Hilti technical advical specifications and supporting product literature, and that the relevant application limits are not exceeded at any time. All rights reserved by Hilti Corporation. Duplication, utilization and/or publication of drawings contained in this manual are not permitted unless expressly agreed by Hilti Corporation.



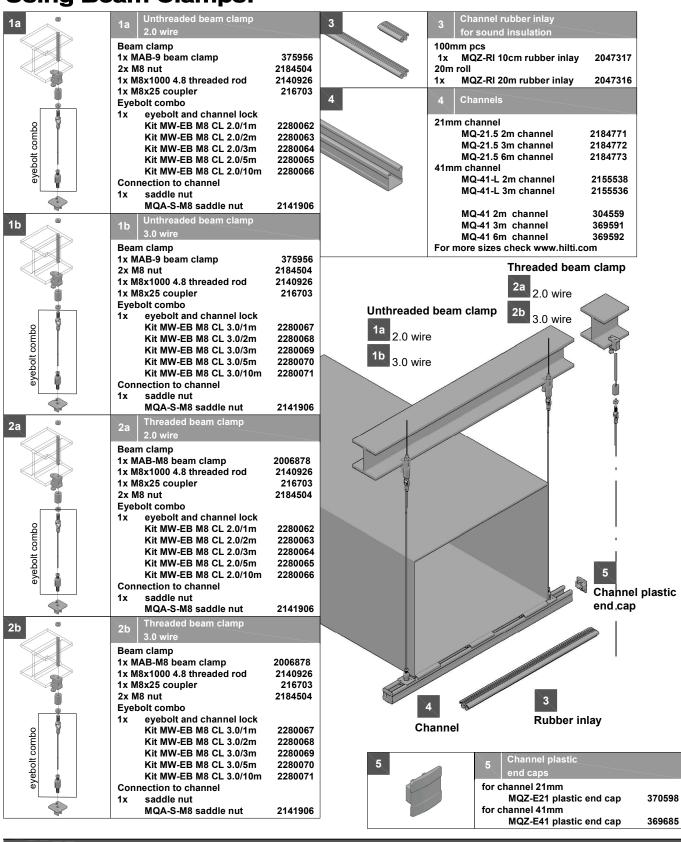
#### **Ventilation - Trapeze Fixed On Metal Deck:**



Hilli strongly advises customers to verify the respective product application for the intended use by consulting a structural engineer and making the necessary calculations to ensure compliance with the applicable norms and standards. Failure to consult and heed the advice of a structural engineer will free Hilti from any liability. It is essential that the product is used strictly in accordance with the application for use, within the application limits specified in the Hilti technical absects. Technical specifications and supporting product literature, and that the relevant application limits are not exceeded at any time. All rights reserved by Hilti Corporation. Duplication, utilization and/or publication of drawings contained in this manual are not permitted unless expressly agreed by Hilti Corporation.



#### Ventilation - Trapeze Fixed On A Structural Steel Profiles Using Beam Clamps:



Application description	Application	Product lines	Base material
Wire system - Ventilation - Trapeze On Structural Steel Profiles - Beam Clamps	, 2	Wire system	Steel
General comments <ul> <li>Loading must always be compared with the capacity of the beam clamp and</li> </ul>		MQ System	
<ul> <li>structural steel</li> <li>Only for vertically suspended loads. Not suitable for bracing.</li> </ul>		\	· · · · · · · · · · · · · · · · · · ·
With strangly advises sustamers to varify the respective product application for the intended use by consulting a struct			

Hilli strongly advises customers to verify the respective product application for the intended use by consulting a structural engineer and making the necessary calculations to ensure compliance with the applicable norms and standards. Failure to consult and heed the advice of a structural engineer will free Hilti from any liability. It is essential that the product is used strictly in accordance with the application for use, within the application limits specified in the Hilti technical applications and standards. Failure to consult and heed the advice of a structural engineer will free Hilti from any liability. It is essential that the product is used strictly in accordance with the application funds are not public ations for use, within the application initis specified in the Hilti technical application and/or publication and supporting product literature, and that the relevant application limits are not exceeded at any time. All rights reserved by Hilti Corporation. Duplication, utilization and/or publication of drawings contained in this manual are not permitted unless expressly agreed by Hilti Corporation.



#### Ventilation - Trapeze Fixed On A Structural Steel Profiles - Centric solution using MM Channel System:

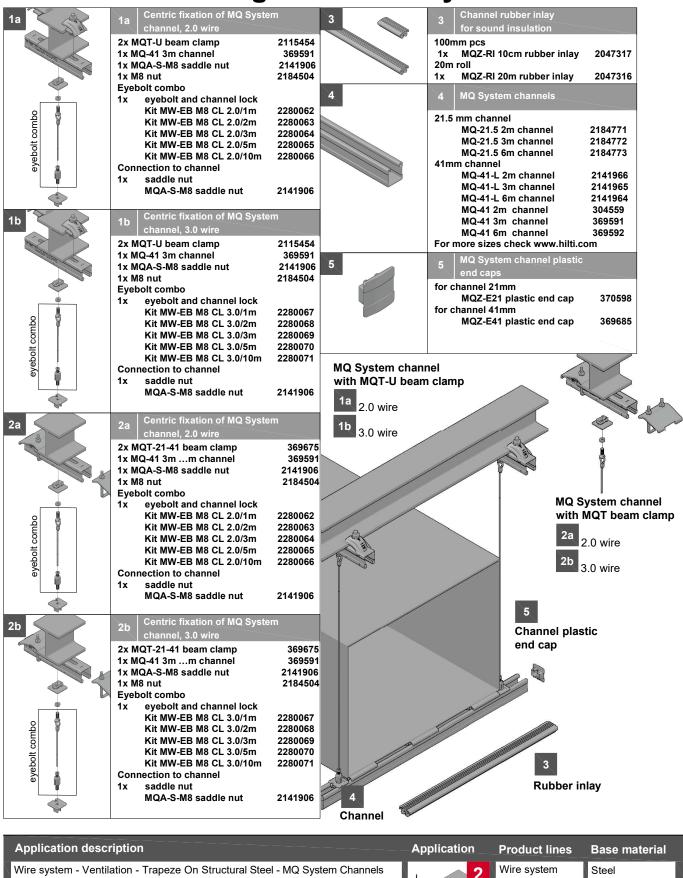
a			I Channe	
	1a         Centric fixation of MM Sy channel, 2.0 wire	vstem	3	3 Channel rubber inlay for sound insulation
	Clamps 2x MM-T-16-36 Channel e.g.	418763		100mm pcs 1x MM-RI 10cm rubber inlay 41876 20m roll
	1x MM-C-30 2mm Saddle nut	418749		1x MM-RI 20m rubber inlay 418767
	1x MM-S M8 Nut	418760	4	4 MM System channels
eyebolt combo	1x M8 nut Eyebolt combo	216465		16mm channel MM-C-16 2m channel 418748
ebolt e	1x eyebolt and channel lock Kit MW-EB M8 CL 2.0/1m	2280062		30mm channel MM-C-30 2m channel 418749
ey	Kit MW-EB M8 CL 2.0/2m Kit MW-EB M8 CL 2.0/3m	2280063 2280064		36mm channel MM-C-36 2m M10 channel 418750
	Kit MW-EB M8 CL 2.0/5m Kit MW-EB M8 CL 2.0/10m	2280065 2280066	~	MM-C-36 3m M10 channel 418751 For more sizes check www.hilti.com
	Connection to channel 1x saddle nut			
	MM-S M8	418760 vstem	_	
A ST A	channel, 3.0 wire		5	5 MM System channel plastic end caps
	2x MM-T-16-36 Channel e.g.	418763		for channel 16mm MM-E-16 plastic end cap 418773
	1x MM-C-30 2mm Saddle nut	418749		for channel 30mm MM-E-30 plastic end cap 418774
	1x MM-S M8 Nut	418760		for channel 36mm MM-E-36 plastic end cap 418775
eyebolt combo	1x M8 nut Eyebolt combo	216465		
ebolt c	1x eyebolt and channel lock Kit MW-EB M8 CL 3.0/1m	2280067		
e	Kit MW-EB M8 CL 3.0/2m Kit MW-EB M8 CL 3.0/3m	2280068 2280069	/	
	Kit MW-EB M8 CL 3.0/5m Kit MW-EB M8 CL 3.0/10m	2280070 2280071		MM System channel
	Connection to channel 1x saddle nut	440700		with beam clamp
	MM-S M8	418760		1a 2.0 wire 1b 3.0 wire
		5		
				t A hannel A t A t A t A t A t A t A t A t A t A
	ation Trapeze On Structural Ste	eel - MM System	Ap	end cap 3 Rubber inlay pplication Product lines Base m 2 Wire system Steel
Wire system - Ventil General comments Loading must	ation Trapeze On Structural Ste	apacity of all co	m Channels onnected parts	end cap 3 Rubber inlay pplication Product lines Base m

Hilti strongly advises customers to verify the respective product application for the intended use by consulting a structural engineer and making the necessary calculations to ensure compliance with the applicable norms and standards. Failure to consult and heed the advice of a structural engineer will free Hilti from any liability. It is essential that the product is used strictly in accordance with the applications for use, within the application limits specified in the Hilti technical advice applications are not supporting product literature, and that the relevant application limits application inits are not exceeded at any time. All rights reserved by Hilti Corporation. Duplication, utilization and/or publication of drawings contained in this manual are not permitted unless expressly agreed by Hilti Corporation.

erial



#### Ventilation Trapeze Fixed On A Structural Steel Profiles -Centric solution using MQ Channel System:



 General comments

 • Loading must always be compared with the capacity of all connected parts

 • Only for vertically suspended loads. Not suitable for bracing.

exceeded at any time. All rights reserved by Hilti Corporation. Duplication, utilization and/or publication of drawings contained in this manual are not permitted unless expressly agreed by Hilti Corporation Version 1.0 from 10.2020, Page 36



# Ventilation - Trapeze Fixed Looped Around Structural Steel Profiles

Loop combo 1a 2.0 wire 1b 3.0 wire 5	1a oquuos dool	1aLooping the profile with 2.0 wireLoop combo1x1xloop and channel lock1xloop and channel lockKit MW-LP CL 2.0/1m2280087Kit MW-LP CL 2.0/2m2280089Kit MW-LP CL 2.0/3m2280090Kit MW-LP CL 2.0/10m2280091Connection to channel1x1xsaddle nutMQA-S-M8 saddle nut21419061bLooping the profile with 3.0 wire1bLoop and channel lock1xloop and channel lock1xloop and channel lock1xloop and channel lock1xMW-LP CL 3.0/1m2280093Kit MW-LP CL 3.0/2mKit MW-LP CL 3.0/2m2280092Kit MW-LP CL 3.0/2m2280095Kit MW-LP CL 3.0/1m2280095Kit MW-LP CL 3.0/1m2280095Kit MW-LP CL 3.0/10m2280096Connection to channel1x1xsaddle nutMQA-S-M8 saddle nut2141906	3 4 5	3       Channel rubber inlay for sound insulation         100mm pcs       1x         1x       MQZ-RI 10cm rubber inlay         20m roll       1x         1x       MQZ-RI 20m rubber inlay         20m roll       1x         1x       MQZ-RI 20m rubber inlay         4       MQ-21.5 2m channel         MQ-21.5 2m channel       MQ-21.5 6m channel         MQ-21.5 6m channel       MQ-41-L 2m channel         MQ-41-L 3m channel       MQ-41-L 6m channel         MQ-41 2m channel       MQ-41 2m channel         MQ-41 3m channel       MQ-41 6m channel         For more sizes check www.hilti.cc       5         MQ System channel plastic       end caps         for channel 21mm       MQZ-E21 plastic end cap         for channel 41mm       MQZ-E41 plastic end cap	
Application description Application Product lines Base material				ire ire ire ire ire ire ire ire ire ire	Channel plastic end cap

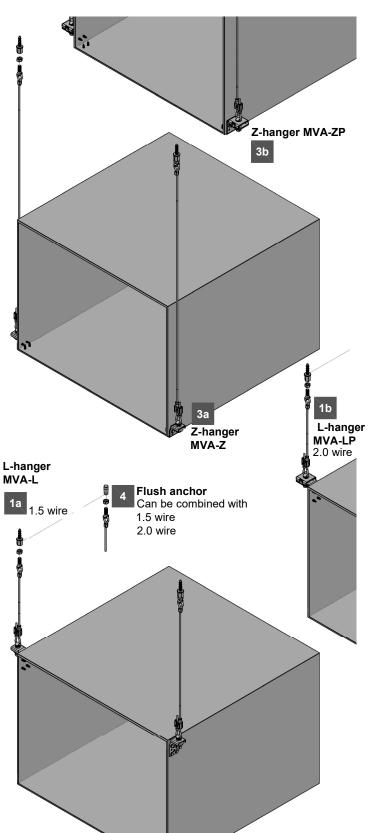
Application description	Application	Product lines	Base material
Wire system - Ventilation Trapeze Looped Around Structural Steel Profiles	2	Wire system	Steel
<ul> <li>General comments</li> <li>Loading must always be compared with the capacity of the structural steel.</li> <li>Sharp edges must be avoided to prevent damage to the wire.</li> <li>Only for vertical suspended loads.Not suitable for bracing.</li> </ul>		MQ System	
Hilli strongly advises customers to verify the respective product application for the intended use by consulting a struct	stural angineer and making	the persessivical calculations	to appure compliance with the

Hilti strongly advises customers to verify the respective product application for the intended use by consulting a structural engineer and making the necessary calculations to ensure compliance with the applicable norms and standards. Failure to consult and heed the advice of a structural engineer will free Hilti from any liability. It is essential that the product is used strictly in accordance with the applicable hilti instructions for use, within the application limits specified in the Hilti technical ada sheets, technical specifications and supporting product literature, and that the relevant application limits are not exceeded at any time. All rights reserved by Hilti Corporation. Duplication, utilization and/or publication of drawings contained in this manual are not permitted unless expressly agreed by Hilti Corporation.



#### Ventilation - L, Z-hangers Fixed On Concrete Slab:

1a	1aScrew anchor, basic L-Hange1.5 wire	er			
oquo	1x screw anchor HUS-I 6x35 M8/M10 anchor HUS-I 6x55 M8/M10 anchor 1x M8 nut Eyebolt combo	416740 423180 2184504			
eyebolt combo	1x eyebolt and lock Kit MW-EB M8 L 1.5/1m Kit MW-EB M8 L 1.5/2m Kit MW-EB M8 L 1.5/3m Kit MW-EB M8 L 1.5/5m Kit MW-EB M8 L 1.5/10m	2280019 2280040 2280041 2280042 2280043			
	Connection to L-hanger 1x MW-EB M8x26 eye bolt 2x M8 nut L-hanger	2277563 2184524			
	1x MVA-L L-hanger Self-tapping screws 4xS-MS 01Z 4.0x13 S-screw	386535 406471			
1b 👔	1b Screw anchor, premium L-Ha				
	2.0 wire				
oq	1x screw anchor HUS-I 6x35 M8/M10 anchor HUS-I 6x55 M8/M10 anchor 1x M8 nut	416740 423180 2184504			
eyebolt combo	Eyebolt combo 1x eyebolt and lock Kit MW-EB M8 L 2.0/1m Kit MW-EB M8 L 2.0/2m Kit MW-EB M8 L 2.0/3m Kit MW-EB M8 L 2.0/5m Kit MW-EB M8 L 2.0/10m	2280044 2280045 2280046 2280047 2280048			
	Connection to L-hanger 1x MW-EB M8x26 eye bolt 2277563				
and	2x M8 nut	2184504			
	1x A 8,4x16 washer L-hanger 1x MVA-LP 60 L-hanger Self-tapping screws	2184556 411500			
	4xS-MS 01Z 4.0x13 S-screw	406471			
2	2 Alternative L-hangers				
	MVA-L L-hanger Suitable for wire 1.5	386535			
	MVA-LP 60 L-hanger Suitable for wire 1.5 and 2.0 MVA-LP 100 L-hanger	411500 411501			
	Suitable for wire 1.5 and 2.0	411301			
3a	3 Alternative Z-hangers				
3a 3b	MVA-Z Z-hanger Suitable for wire 1.5	386532			
	MVA-ZP Z-hanger Suitable for wire 1.5 and 2.0	411499			
4	4 Alternative HKD flush ancho	r			
	Anchor 1x flush anchor HKD M8x25 anchor HKD M8x30 anchor	376957 376959			
	HKD M8x40 anchor	376961			

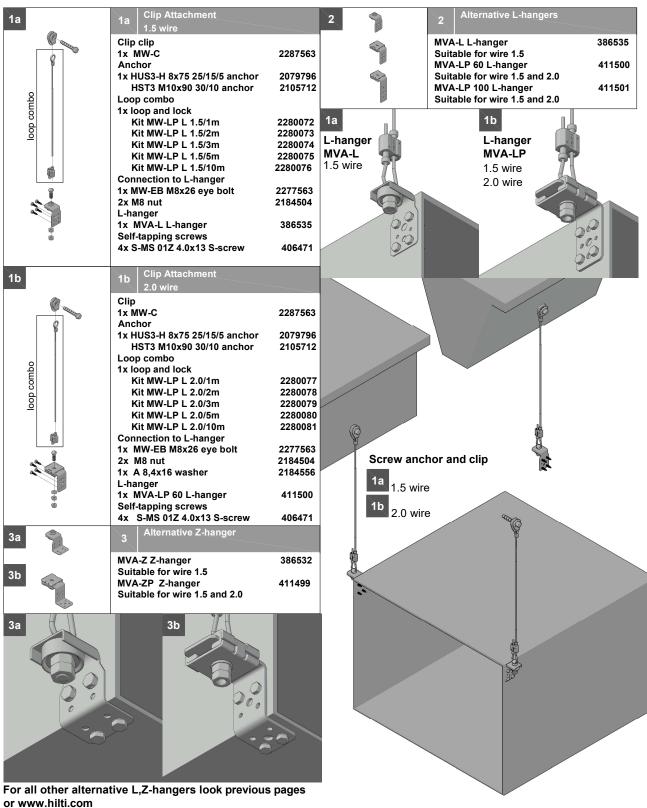


Application description	Application	Product lines	Base material
Wire system - Ventilation L, Z-hangers On Concrete	3	Wire system	Concrete
<ul> <li>General comments</li> <li>Loading must always be compared with the capacity of the anchor within the chosen base material and L/Z-hanger.</li> <li>Only for vertically suspended loads. Eye-bolt not suitable for bracing.</li> </ul>		L, Z angles	

Hilti strongly advises customers to verify the respective product application for the intended use by consulting a structural engineer and making the necessary calculations to ensure compliance with the applicable norms and standards. Failure to consult and heed the advice of a structural engineer will free Hilti from any liability. It is essential that the product is used strictly in accordance with the application for use, within the application limits specified in the Hilti technical aspectifications and supporting product literature, and that the relevant application limits are not exceeded at any time. All rights reserved by Hilti Corporation. Duplication, utilization and/or publication of drawings contained in this manual are not permitted unless expressly agreed by Hilti Corporation.



# Ventilation - L, Z-hangers Fixed On A Side Of A Concrete Girder:



Application description	Application	Product lines	Base material
Wire system - Ventilation - L, Z-hangers On A Side Of A Concrete Girder	3	Wire system	Concrete
<ul> <li>General comments</li> <li>Loading must always be compared with the capacity with the capacity of the anchor within the chosen base material and L/Z-hangers. This capacity is affected by the angle of loading from the vertical and the prying factor</li> <li>Only one wire may be suspended on each clip</li> </ul>		L, Z-hangers	
Only one wire may be suspended on each clip Hilti strongly advises customers to verify the respective product application for the intended use by consulting a struct	tural engineer and making	the necessary calcul	ations

Hill strongly advises customers to verify the respective product application for the intended use by consulting a structural engineer and making the necessary calculations to ensure compliance with the applicable norms and standards. Failure to consult and hed the advice of a structural engineer will free Hill instructions for use, within the application limits specified in the Hill technical data sheets, technical specifications and supporting product literature, and that the relevant application limits are not exceeded at any time. All rights reserved by Hilti Corporation. Duplication, utilization and/or publication of drawings contained in this manual are not permitted unless expressly agreed by Hilti Corporation.



### Ventilation - L, Z-hangers Fixed On Metal Deck:

	· · ·				
1a 7	1a Deck hook 1.5 wire		2c	2c Through bolted V-hanger, p L-hanger, 2.0 wire	premium
8	Deck hook 1x MW-DH deck hook Loop combo	2277567	N A	V-Hanger 1x MF-TSH M8 V-hanger 1x M8 nut	229006 2184504
combo	1x loop and lock Kit MW-LP L 1.5/1m Kit MW-LP L 1.5/2m	2280072 2280073	30 800	Through-bolt version 1-t-rod 1x AM8x1000 fixed t-rod 4x M8 nut	339793 2184504
	Kit MW-LP L 1.5/3m Kit MW-LP L 1.5/5m Kit MW-LP L 1.5/10m	2280074 2280075 2280076		Through-bolt ver. 2-long h-head s 1x M8x120 4.8 hex. head sc. 2x M8 nut	
	L-hanger and connection 1x MW-EB M8x26 eye bolt 2x M8 nut	2277563 2184504	oqu	Eyebolt combo 1x eyebolt and lock Kit MW-EB M8 L 2.0/1m	2280044
	1x A 8,4x16 washer 1x MVA-L L-hanger	2184556 386535	eyebolt combo	Kit MW-EB M8 L 2.0/2m Kit MW-EB M8 L 2.0/3m	2280045 2280046
	Self-tapping screws 4x S-MS 01Z 4.0x13 S-screw Deck hook, premium L-Han	406471	e de	Kit MW-EB M8 L 2.0/5m Kit MW-EB M8 L 2.0/10m L-hanger and connection	2280047 2280048
1b	1b 2.0 wire Deck hook			1x MW-EB M8x26 eye bolt 2x M8 nut	2277563 2184504 2484556
	1x MW-DH deck hook Loop combo	2277567		1x A 8,4x16 washer 1x MVA-LP 60 L-hanger Self-tapping screws	2184556 411500
loop combo	1x loop and lock Kit MW-LP L 2.0/1m Kit MW-LP L 2.0/2m	2280077 2280078		4x S-MS 01Z 4.0x13 S-screw	406471
doo	Kit MW-LP L 2.0/2m Kit MW-LP L 2.0/5m Kit MW-LP L 2.0/10m	2280079 2280080 2280081	<u>_</u>		A
<b>\$</b>	L-hanger and connection 1x MW-EB M8x26 eye bolt	2277563			
44	2xM8 nut1xA 8,4x16 washer1xMVA-LP 60 L-hanger	2184504 2184556 411500		200	
8	Self-tapping screws           4x         S-MS 01Z 4.0x13 S-screw           Description         Through bolted V-hanger	406471			1000
2a	2a 1.5 wire V-Hanger			1	2 V-hange 1.5 wire
No.	1x MF-TSH M8 V-hanger 1x M8 nut Through-bolt version 1-t-rod	229006 2184504			2.0 wire
	1x AM8x1000 fixed t-rod 4x M8 nut	339793 2184504	Deck Hook		
	Through-bolt ver. 2-long h-head s 1x M8x120 4.8 hex. head sc. 2x M8 nut	screw 2063165 2184504	1a 1.5 wire		3
It combo	Eyebolt combo 1x eyebolt and lock	0000040	<sup>1b</sup> 2.0 wire		
eyebolt	Kit MW-EB M8 L 1.5/1m Kit MW-EB M8 L 1.5/2m Kit MW-EB M8 L 1.5/3m	2280019 2280040 2280041			
<b>1</b>	Kit MW-EB M8 L 1.5/5m Kit MW-EB M8 L 1.5/10m	2280042 2280043			
1	Connection to L-hanger 1x MW-EB M8x26 eye bolt 2x M8 nut	2277563 2184504			$\lambda$
	L-hanger 1x MVA-L L-hanger	386535			
For all other alterna	Self-tapping screws 4x S-MS 01Z 4.0x13 S-screw ative L,Z-hangers look previou	406471 Is pages			
or www.hilti.com		<del>-</del>			
		A		•	
0000		000			
			1		

Application description	Application	Product lines	Base material
Wire system - Ventilation - L, Z-hangers On Metal Deck	3	Wire system	Metal Deck
<ul> <li>General comments</li> <li>Loading must always be compared with the capacity of the metal deck and where relevant the V-hanger</li> <li>The deck hook must hang vertically from the deck.</li> <li>Only one wire may be suspended on each deck hook.</li> </ul>		L, Z-hangers	

B

Hilti strongly advises customers to verify the respective product application for the intended use by consulting a structural engineer and making the necessary calculations to ensure compliance with the applicable norms and standards. Failure to consult and heed the advice of a structural engineer will free Hilti from any liability. It is essential that the product is used strictly in accordance with the application for use, within the application limits specified in the Hilti technical aspectifications and supporting product literature, and that the relevant application limits are not exceeded at any time. All rights reserved by Hilti Corporation. Duplication, utilization and/or publication of drawings contained in this manual are not permitted unless expressly agreed by Hilti Corporation.



#### Ventilation - L, Z-hangers Fixed On Metal Deck:

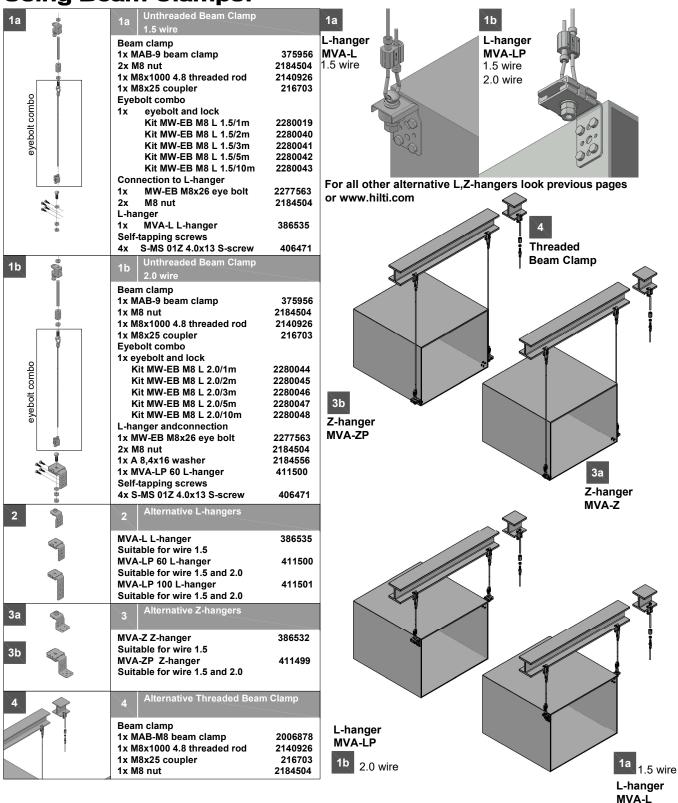
1a 🐂	1a         V-hanger With Self-tapping screws           1.5 wire         1.5	2b Contraction	2b Through bolted V-hanger 2.0 wire
eyebolt combo	V-Hanger 1x MVA-MS M8 V-hanger 386 1x M8 nut 2184 6x S-MS 01Z 4.0x13 S-screw 406 Eyebolt combo 1x eyebolt and lock Kit MW-EB M8 L 1.5/1m 2280 Kit MW-EB M8 L 1.5/2m 2280 Kit MW-EB M8 L 1.5/3m 2280 Kit MW-EB M8 L 1.5/10m 2280 Kit MW-EB M8 L 1.5/10m 2280 Connection to L-hanger 1x MW-EB M8x26 eye bolt 2277	504 171 1919 140 141 142 143 150 150 150 150 150 150 150 150	V-Hanger         386558           1x         MVA-MS M8 V-hanger         386558           1x         MVA-MS M8 V-hanger         386558           1x         MVA-MS M8 V-hanger         386558           1x         M8 nut         2184504           Through-bolt version 1 t-rod         339793         34x           4x         M8 nut         2184504           Through-bolt ver. 2 long h-head screw         2063165           2x         M8 nut         2184504           Eyebolt combo         1x         eyebolt and lock           Kit MW-EB M8 L 2.0/1m         2280044           Kit MW-EB M8 L 2.0/2m         2280045
1b	2x     M8 nut     2184       1x     MVA-L L-hanger     386       4x     S-MS 01Z 4.0x13 S-screw     406       1b     V-hanger with self-tapping screws       2.0 wire	004 135 171	Kit MW-EB M8 L 2.0/3m         2280046           Kit MW-EB M8 L 2.0/5m         2280047           Kit MW-EB M8 L 2.0/10m         2280048           L-hanger and connection         2277563           1x         MW-EB M8x26 eye bolt         2277563           2x         M8 nut         2184504           1x         A 8,4x16 washer         2184556
eyebolt combo	1x         MVA-MS M8 V-hanger         386           1x         M8 nut         2184           6x         S-MS 01Z 4.0x13 S-screw         406           Eyebolt combo         1x         eyebolt and lock           1x         eyebolt and lock         2280           Kit MW-EB M8 L 2.0/1m         2280           Kit MW-EB M8 L 2.0/2m         2280           Kit MW-EB M8 L 2.0/3m         2280	504 471 044 045	1x       MVA-LP 60 L-hanger       411500         Self-tapping screws       4         4x       S-MS 01Z 4.0x13 S-screw       406471
	Kit MW-EB M8 L 2.0/5m         2280           Kit MW-EB M8 L 2.0/10m         2280           Connection to L-hanger         2277           1x         MW-EB M8x26 eye bolt         2277           2x         M8 nut         2184           1x         A 8,4x16 washer         2184           1x         MVA-LP 60 L-hanger         4111           4x         S-MS 01Z 4.0x13 S-screw         4064	563 504 556 00	
2a	2aThrough bolted V-hanger 1.5 wireV-Hanger1.5 wire1xMVA-MS M8 V-hanger3861xM8 nut21844Through-bolt version 1 t-rod1x1xAM8x1000 fixed t-rod33914xM8 nut21844Through-bolt ver. 2 long h-head screw1x1xM8x120 4.8 hex. head screw20631	04with self-tapping screws931041.5 wire5510	V-hanger with through-bolt 2a 1.5 wire 2b 2.0 wire
eyebolt combo	2x         M8 nut         21845           Eyebolt combo         1x         eyebolt and lock           1x         eyebolt and lock         22800           Kit MW-EB         M8 L 1.5/1m         22800           Kit MW-EB         M8 L 1.5/2m         22800           Kit MW-EB         M8 L 1.5/3m         22800           Kit MW-EB         M8 L 1.5/5m         22800           Kit MW-EB         M8 L 1.5/10m         22800           Connection to L-hanger         1x         MW-EB         M8x26 eye bolt         2277	19 40 41 42 43 63	
For all other alterna or www.hilti.com	2xM8 nut218451xMVA-L L-hanger386Self-tapping screws4xS-MS 01Z 4.0x13 S-screw4xS-MS 01Z 4.0x13 S-screw406ative L,Z-hangers look previous page	471	
200 000 000			
Application desc	ription	A	oplication Product lines Base mat

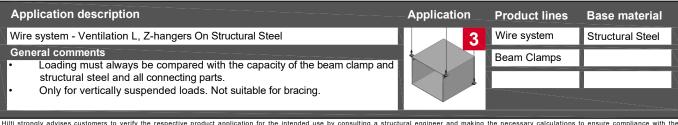
Application description	Application	Product lines	Base material
Wire system - Ventilation - L, Z-hangers On Metal Deck	3	Wire system	Metal deck
<ul> <li>General comments</li> <li>Loading must always be compared with the capacity of the metal deck and all connecting components</li> <li>Only for vertically suspended loads. Not suitable for bracing.</li> </ul>		L, Z-hangers	

Hilti strongly advises customers to verify the respective product application for the intended use by consulting a structural engineer and making the necessary calculations to ensure compliance with the applicable norms and standards. Failure to consult and heed the advice of a structural engineer will free Hilti from any liability. It is essential that the product is used strictly in accordance with the application for use, within the application limits specified in the Hilti technical aspectifications and supporting product literature, and that the relevant application limits are not exceeded at any time. All rights reserved by Hilti Corporation. Duplication, utilization and/or publication of drawings contained in this manual are not permitted unless expressly agreed by Hilti Corporation.



#### Ventilation - L, Z-hangers Fixed On Structural Steel Using Beam Clamps:





Hilti strongly advises customers to verify the respective product application for the intended use by consulting a structural engineer and making the necessary calculations to ensure compliance with the applicable norms and standards. Failure to consult and heed the advice of a structural engineer will free Hilti from any liability. It is essential that the product is used strictly in accordance with the application for use, within the application limits specified in the Hilti technical aspecifications and supporting product literature, and that the relevant application limits are not exceeded at any time. All rights reserved by Hilti Corporation. Duplication, utilization and/or publication of drawings contained in this manual are not permitted unless expressly agreed by Hilti Corporation.

Version 1.0 from 10.2020, Page 42



#### Ventilation - L, Z-hangers Fixed On Structural Steel -Centric solution using MM Channel System:

		-	Chamler Cystem.
1a	1a Centric fixation of MM System channel, 1.5 wire	tem	
	Clamps		
	2x MM-T-16-36	418763	
	Channel e.g.		8
199	1x MM-C-30 2mm	418749	
	Saddle nut	440700	
	1x MM-S M8 Nut	418760	
8	1x M8 nut	2184504	
	Eyebolt combo	2104004	
	1x eyebolt and lock		
eyebolt combo	Kit MW-EB M8 L 1.5/1m	2280019	
oolt	Kit MW-EB M8 L 1.5/2m	2280040	
Xet	Kit MW-EB M8 L 1.5/3m	2280041 2280042	
Φ	Kit MW-EB M8 L 1.5/5m Kit MW-EB M8 L 1.5/10m	2280042	
Ŵ	Connection to L-hanger	2200043	
Î	1x MW-EB M8x26 eye bolt	2277563	
ES .	2x M8 nut	2184504	
	L-hanger		
8	1x MVA-L L-hanger	386535	
	Self-tapping screws 4x S-MS 01Z 4.0x13 S-screw	406471	
	Contribution of MM Curr		
1b	1b channel, 2.0 wire		
	Clamps		Z-hanger
	2x MM-T-16-36	418763	
	Channel e.g.		MVA-ZP 3b
	1x MM-C-30 2mm	418749	No. 1
() ()	Saddle nut	440700	
8	1x MM-S M8 Nut	418760	
	1x M8 nut	2184504	
eyebolt combo	Eyebolt combo		3a
	1x eyebolt and lock		Z-hanger
olt o	Kit MW-EB M8 L 2.0/1m	2280044	MVA-Z
epo	Kit MW-EB M8 L 2.0/2m Kit MW-EB M8 L 2.0/3m	2280045 2280046	
é	Kit MW-EB M8 L 2.0/5m	2280040	
	Kit MW-EB M8 L 2.0/10m	2280048	
	L-hanger and connection to L-ha		2
	1x MW-EB M8x26 eye bolt	2277563	L-hanger
	2x M8 nut	2184524	MVA-LP
	1x A 8,4x16 washer 1x MVA-LP 60 L-hanger	2184556 411500	
6	Self-tapping screws	411000	
~	4x S-MS 01Z 4.0x13 S-screw	406471	L-hanger
2	2 Alternative L-hangers		MVA-L
	MVA-L L-hanger	386535	1a 1.5 wire
	Suitable for wire 1.5	000000	entry of the second sec
	MVA-LP 60 L-hanger	411500	1b 2.0 wire
and the second sec	Suitable for wire 1.5 and 2.0		2.0 wile
	MVA-LP 100 L-hanger	411501	
	Suitable for wire 1.5 and 2.0 Alternative Z-hangers		
3a	3 Alternative 2-hangers		
	MVA-Z Z-hanger	386532	
2h	Suitable for wire 1.5	300002	
3b	MVA-ZP Z-hanger	411499	
	Suitable for wire 1.5 and 2.0		
			1 and

Application description	Application	Product lines	Base material
Wire system - Ventilation L, Z-hangers On Structural Stee Using MM Channels	3	Wire system	Structural Steel
<ul> <li>General comments</li> <li>Loading must always be compared with the capacity of all connected parts</li> <li>Only for vertically suspended loads. Not suitable for bracing.</li> </ul>		MM System	

Hilti strongly advises customers to verify the respective product application for the intended use by consulting a structural engineer and making the necessary calculations to ensure compliance with the applicable norms and standards. Failure to consult and heed the advice of a structural engineer will free Hilti from any liability. It is essential that the product is used strictly in accordance with the applications for use, within the application limits specified in the Hilti technical advical specifications and supporting product literature, and that the relevant application limits are not exceeded at any time. All rights reserved by Hilti Corporation. Duplication, utilization and/or publication of drawings contained in this manual are not permitted unless expressly agreed by Hilti Corporation.



#### Ventilation - L, Z-hangers Fixed On Structural Steel -Centric solution using MQ Channel System:

11         Contrict Endotion of MG System 215 MG-41 beam clamp 11 MGA-5 Mb saddie nut 12 WGA-5 Mb saddie nut 13 WGA-5 Mb saddie nut 14 Mb saddi				1
Image: Second	1a 📣		tem	
1       WG_41 3m channel       2149504         1       WG_45 Mis addie nut       2149504         1       WG_45 Mis 1.52m       2280040         1       WM-25 Mis 1.52m       2280040         1       WM-25 Mis 1.52m       2280040         1       WM-25 Mis 1.57m       2280040         1       WM-25 Mis 1.201m       2280040         1       1 </th <th></th> <th></th> <th></th> <th></th>				
1       MCA-S-M8 saddle nut 214906 1x wybolt and lock fx WA-EB M0.1 5.51m 220001 fx WA-EB M0.1 5.51m 220001 fx WA-EB M0.1 5.51m 220001 fx WA-EB M0.1 5.51m 220002 fx WA-EB M0.1 5.51m 220002 fx WA-EB M0.2 20002 fx WA-EB M0.2 200	And R. Su	2x MQT-U beam clamp	2115454	
1       MOA-5-M8 saddle nut       214996         1       K MAX-5-M8 saddle nut       214996         1       K MWYEB M8 L 15/m       228004         1       K MWYEB M8 L 15/m       228004         Connection to L-hanger       214956         1       WWYEB M8 L 20/m       228004         1       X MWYEB M8 L 20/m       28004         1       X M8 0	Cateron Catero	1x MQ-41 3m channel	369591	Alternative Beam
1         1		1x MQA-S-M8 saddle nut	2141906	
000000000000000000000000000000000000		1x M8 nut	2184504	
000000000000000000000000000000000000		Evebolt combo		
0         0         1         Kit WW-EB MB 1.15/m         2200019 Kit WW-EB MB 1.55/m         220001 Kit WW-EB MB 1.20/m         2716654 Kit WW-EB MB 1.20/m         216564 Kit WW-EB MB 1.20/m         20001 Kit WW-EB MB 1.20/m         220001 Kit WW-EB MB 1.20/m         20001 Kit WW-EB MB 1.20/m         20001 WA-Z P         200001 WW-A.2P         200001 WW-A.2P	9	1x evebolt and lock		
90       With WH-EB MB L 1.5/2m       2280040 Kit MW-EB MB L 1.5/3m       2280040 Kit MW-EB MB L 1.5/3m         11       WW-EB MB L 1.5/3m       2280040 Kit MW-EB MB L 1.5/3m       2280040 Kit MW-EB MB L 1.5/3m         12       Connection to L-hanger 1x MW-EB MS L 2.60 with Changer 1x MW-EB MS L 2.00 with Changer       386535 Solf-boyner         10       Chieffe fraiding of MQ System       406471 Kit MW-EB MB L 2.00 with Changer       2115454 Xit SAS 012 downs         11       Chieffe fraiding of MQ System       2115456 Kit MW-EB MB L 2.00 with Changer       2115456 Xit MW-EB MB L 2.00 with Changer       2116450 Xit MW-EB MB L 2.00 with Changer         12       2       10       Chieffe fraiding of MQ System       2115456 Xit MW-EB MB L 2.00 with Changer and connection Xit MW-EB MB L 2.00 with Changer and connection Xit MW-EB MB L 2.01 with 2280046 Xit MW-EB MB L 2.01 with 2184504 Xit MW-EB MS L 2.01 with 2184			2280019	
1x         MW-EB M8228 oys bolt         2277653           2x         M8 nut         2184524           1x         MV-LL Changer         386535           5elf Apping screws         386535           4x         S-MS 012 4.0x13 Secrew         406471           10         Contric fraction of MQ System channel: 20 wire         2115454           1x         MV-AL Uban claimp         2115454           1x         MV-AS-M8 saddle nut         214906           1x         MV-BE M8.12 20/1m         2280044           1x         MV-BE M8.12 20/2m         2280044           1x         MV-BE M8.12 20/2m         2280046           1x         MV-BE M8.12 20/2m         2280046           1x         MV-BE M8.12 20/2m         2280046           1x         MV-BE M8.12 20/2m         218566           1x         MV-BE M8.12 20/2m         218566           1x         MV-BE M8.12 20/2m         218566           1x         MV-BE M8.22 80047         217553           1x         MV-BE M8.22 80047         217553           1x         MV-BE M8.22 80047         218556           1x         MV-BE M8.22 80047         217553           1x         MV-BE M8.22 80471	걸			
1x       MW-EB M8228 oys bolt       2277653         1x       MW-LL Changer       386535         1x       MW-LL Changer       386535         1x       MW-LL Changer       386535         1x       MW-LL Changer       2116464         1x       MW-LB M8228 oys bolt       22115454         1x       MW-LB M8228 oys bolt       22115454         1x       MW-LB M8228 oys bolt       22116454         1x       MW-LB M8228 oys bolt       22115454         1x       MW-LB M8228 oys bolt       22115454         1x       MW-LB M8228 oys bolt       22116454         1x       MW-LB M8228 oys bolt       22115454         1x       MW-LB M8228 oys bolt       22184504         1x       MW-LB M8228 oys bolt       2217853         1x       MW-LB M8228 oys bolt       22177853         1x       MW-LB M8228 oys bolt       2217854         1x       MW-LB M8228 oys bolt       22177853         1x <t< th=""><th></th><th></th><th></th><th></th></t<>				
1x       MW-EB M8228 oys bolt       2277653         1x       MW-LL Changer       386535         1x       MW-LL Changer       386535         1x       MW-LL Changer       386535         1x       MW-LL Changer       2116464         1x       MW-LE Mu-LE 20/Im       2280046         1x       MW-LE Mu-LE 20/Im       2280046         1x       MW-LE Mu-LE 20/Im       2280047         1x       MW-				
1x       MW-EB M8228 oys bolt       2277653         1x       MW-LL Changer       386535         1x       MW-LL Changer       386535         1x       MW-LL Changer       386535         1x       MW-LL Changer       2116454         1x       MW-LE M02.20 20046       MW-LZ 200046         1x       MW-LE M02.20 20046       2277583         1x       MW-LE M02.20 20070       2280046         1x       MW-LE M02.20 20070       2280047         1x       MW-LE M02.20 20070       2280047         1x       MW-LE M02.20 20070       218556         MW-L L-hanger       386535         MVA-L Ho L-hanger       386535         MVA-L Ho Do L-hanger       41	8			
1x       MW-EB M8228 oys bolt       2277653         1x       MW-LL Changer       386535         1x       MW-LL Changer       386535         1x       MW-LL Changer       386535         1x       MW-LL Changer       2116454         1x       MW-LE M02.20 20046       MW-LZ 200046         1x       MW-LE M02.20 20046       2277583         1x       MW-LE M02.20 20070       2280046         1x       MW-LE M02.20 20070       2280047         1x       MW-LE M02.20 20070       2280047         1x       MW-LE M02.20 20070       218556         MW-L L-hanger       386535         MVA-L Ho L-hanger       386535         MVA-L Ho Do L-hanger       41	j ye		2200043	
2x         M8 nut         2184524           1x         MVA-L L-hanger         386535           5elf-Lapping screws         406471           10         Control fixation of MC System channel 2.0 kystem         2115454           1x         MA-L-Manger         2184524           1x         MA-L-Manger         2184524           1x         MA-S-M8 saddle nut         2184504           1x         MA-L-S do Lahanger         2184504           1x         MA-L-S do Lahanger         2280046           1x         MW-EB M8.L 2.0/m         2280047           1x         MW-EB M8.L 2.0/m         2280047           1x         MW-EB M8.L 2.0/m         2280047           1x         MW-EB M8.L 2.0/m         280047           1x         MW-EB M8.L 2.0/m         280647           1x         A.8.418 washer         2144504           1x         MW-EB M8.L 2.0/m         286533           1x         MV-ED OL-hanger         411500           3d         3         Alternative Z-hanger	Ψ		0077500	
Lhanger I. WAL Lhanger Self-tapping screws 4: S-MS 0122.0.1013 S-screw 406471 10 Centrel: Dearn clamp Channel, 2.0 wire 2: MOT-U been clamp 1: W-EB MG L2.0/tin 2: MOT-U been clamp 1: W-EB MG L2.0/tin 2: Work W-EB MG L2.0/tin 3: Work W-EB MG	6	,		
11       MVA-L L-hanger       38633         Self-tapping screws       406471         10       Centric fixation of MO System         11       Channel, 2.0 wire         12       Centric fixation of MO System         13       Cannel, 2.0 wire         14       MQA-S MS saddle nut         15       MVA-L 2.0 wire         16       Centric fixation of MO System         17       MQA-S MS saddle nut         18       Mud-13 m channel         19       Tix MW-EB MB L 2.0/m         10       Centric fixation of MO System         11       Centric fixation of MO System         12       MAA-S MB saddle nut         14       MWA-B MB L 2.0/m         15       MWA-EB MB L 2.0/m         16       Mit MW-EB MB L 2.0/m         17       MW-EB MB L 2.0/m         18       MU W-LP 60 L-hanger         18       MVA-LP 60 L-hanger         18       MVA-LP 60 L-hanger         19       MVA-LP 60 L-hanger         10       MVA-Z         11       MVA-Z         12       1         13       MVA-Z         14       Alternative Langer         15			2184524	
Self-tapping screws K S SHS 012 4.0x13 S-screw 406471 10 Centric fixation of MQ System channel, 20 wire 11 Centric fixation of MQ System channel, 20 wire 12 MOT-U been clamp 13 Centric fixation of MQ System channel, 20 wire 14 Work SHB 012, 20/fm 2280044 Kit WW-EB MB 12, 20/fm 2280045 Kit WW-EB MB 12, 20/fm 24005 Sutable for wire 1.5 MVA-LP 60 L-hanger MVA-LP 10 L-hanger MVA-LP 10 L-hanger MVA-LP 20 L-h				
10       Centric fixation of MQ System channel 2.0 wire         10       Centric fixation of MQ System channel 2.0 wire         11       Centric fixation of MQ System channel 2.0 wire         12       WG-41 3m channel 30 wire         13       Centric fixation of MQ System channel 2.0 wire         14       Centric fixation of MQ System channel 2.0 wire         15       WG-41 3m channel 30 whot Kit MW-EB M8 L 2.0/1m         16       Centric fixation of MQ System channel 2.0 wire         17       WW-EB M8 L 2.0/1m         18       KW-EB M8 L 2.0/1m         18       WW-EB M8 L 2.0/1m         18       WA-L L-hanger         30       MVA-L L-hanger         31       MVA-L L-hanger         32       Alternative L-hanger         33       Alternative Z-hanger	25		386535	
10         Centric fixation of MQ System channel 2.0 wire         30           2x MG7-U beam clamp 1x eyebolt and lock Kit MW-EB M8 12.0/1m 1x eyebolt and lock Kit MW-EB M8 12.0/2m 2280046 Kit MW-EB M8 22.0/1m 2280046 Kit MW-EB M8 12.0/2m 2280046 Kit MW-EB M8 22.0/2m 2280046 Kit MW-EB M8 22.0/2m 214566 Xit MW-EB M8 22.0/2m 208046 Xit MW-EB M8 22.0/2m 214566 Xit MW-EB M8 22.0/2m 200 Xit MW-EB M8 22.0/2m 200 Xit MW-EB M8 22.0/2m 200 Xit MB Core Xit MW-EB M8 200 Xit MB Core Xit MB Core Xi				
10       channel, 2.0 wire         2x MQT-U beam clamp       2115454         1x MQA-3 MB saddle nut       2145604         1x MQA-3 MB saddle nut       214504         1x MW-EB MB L 2.07m       2280048         1x MW-EB MB L 2.01m       2280048         1x MW-EB MB L 2.01m       2280048         1x MW-LP 60 L-hanger       41500         Sitiable for wire 1.5       320         MVA-L P 60 L-hanger       326532         MVA-LP 10 L-hanger       386532         Sitiable for wire 1.5 and 2.0       411500         Sitiable for wire 1.5 and 2.0       411499         10       Alternative Z-hanger         30       Alternative Z-hanger         31 <td>ő</td> <td>4x S-MS 01Z 4.0x13 S-screw</td> <td>406471</td> <td></td>	ő	4x S-MS 01Z 4.0x13 S-screw	406471	
10       channel, 2.0 wire         2x MQT-U beam clamp       2115454         1x MQA-3 MB saddle nut       2145604         1x MQA-3 MB saddle nut       214504         1x MW-EB MB L 2.07m       2280048         1x MW-EB MB L 2.01m       2280048         1x MW-EB MB L 2.01m       2280048         1x MW-LP 60 L-hanger       41500         Sitiable for wire 1.5       320         MVA-L P 60 L-hanger       326532         MVA-LP 10 L-hanger       386532         Sitiable for wire 1.5 and 2.0       411500         Sitiable for wire 1.5 and 2.0       411499         10       Alternative Z-hanger         30       Alternative Z-hanger         31 <td>16</td> <td>Centric fixation of MQ Syst</td> <td>tem</td> <td></td>	16	Centric fixation of MQ Syst	tem	
2x       MOT-U beam clamp       2115454         1x       MUA-3x-MS added nut       211990         1x       MUA-3x-MS added nut       211990         1x       Wach-3x-MS added nut       211990         1x       Wach-3x-MS added nut       211900         1x       Wach-3x-MS added nut       211900         1x       wyeboit combo       1x         1x       wyeboit and lock       Xii NW-EB MB L 2.0/3m       2280046         Xii NW-EB MB L 2.0/3m       2280046       Xii NW-EB MB L 2.0/3m       2280047         Xii NW-EB MB L 2.0/3m       2280046       Xii NW-EB MB L 2.0/3m       2280047         1x       NW-EB MB L 2.0/3m       2280046       Xii NW-EB MB L 2.0/3m       220786         1x       NW-EB MB L 2.0/3m       2280047       MVA-L       2184564         1x       NW-LB MB L 2.0/3m       228047       Mixa-2P       Alternative Beam         1x       MV-L P 00 L-hanger       386532       MVA-L P 00 L-hanger       386532         Suitable for wire 1.5       310       MixA-2P       Alternative Beam Clamp       386532         MVA-Z P Z-hanger       386532       386532       MixA-2P       11499         30       Alternative Beam Clamp       386532 <t< td=""><td></td><td></td><td></td><td></td></t<>				
1x MOA+3 m channel       369591         1x MOA-5-M8 sadde nut       2184504         1x eyebolt combo       1x eyebolt and lock         1x eyebolt and lock       2280044         1x if WV-EB Mb 12.0/Im       2280046         1x MW-EB Mb 12.0/Im       2280048         1x MW-LP B Lohanger s       418456         1x MVA-L P 60 L-hanger s       406471         2       2       Alternative Langer s         MVA-L P 60 L-hanger s       411500         Suitable for wire 1.5       386532         MVA-Z 7 Z-hanger s       386532         Suitable for wire 1.5 and 2.0       411499         30       Alternative Beam Clamp MOA-2.9         31       Alternative Beam Clamp MOA-2.9         32       Alternative Beam Clamp				
1       M0A-S-M8 saddle nut       2141906         1       M8 nut       2184504         1       K1 WV-EB M8 L 2.0/1m       2280045         1       K1 WV-EB M8 L 2.0/2m       2280046         K1 WV-EB M8 L 2.0/2m       2280046         K1 WV-EB M8 L 2.0/2m       2280046         K1 WV-EB M8 L 2.0/2m       2280047         K1 WV-EB M8 L 2.0/2m       2280047         X1 WV-EB M8 L 2.0/2m       2184565         X2 M8 D12 AUX13 S.crew       406471         X1 WV-L P 60 L-hanger       386535         Suitable for wire 1.5 and 2.0       MVA-L P0         WA-L P 60 L-hanger       386535         Suitable for wire 1.5 and 2.0       MVA-L P0         WA-Z P 2-hanger       386535         WA-Z P 2-hanger       386535         WA-Z P 2-hanger       386535         WA-Z P 2-hanger       386535         WA-Z P 2-hanger <td>The second second</td> <td></td> <td></td> <td></td>	The second second			
1       X M8 nut       2184504         Eyebolt combo       Xx eyebolt and lock         Xt MW-EB M8 L 2.0/m       2280046         Kit MW-EB M8 L 2.0/m       2280046         Xit MW-EB M8 L 2.0/m       2184504         Xit MW-EB M8 L 2.0/m       2184504         Xit MW-EB M8 L 2.0/m       2184506         Xit MW-EB M8 L 2.0/m       2184506         Xit MW-L 2 hol L-hanger       4184504         MVA-L P 00 L-hanger       411501         Suitable for wire 1.5 and 2.0       MVA-Z         MVA-Z 2 Z-hanger       386535         MVA-Z 2 Z-hanger       386535         MVA-Z 2 Z-hanger       386535	Contraction of the second			
Pyobolt combo     1x eyebolt and lock       1x eyebolt and lock     220044       1x eyebolt and lock     220046       1x HW-EB MS L 2.0/2m     2280046       1x HW-EB MS L 2.0/2m     2280047       1x HW-EB MS L 2.0/2m     2184556       1x HW-EB MS L 2.0/2m     2184556       1x HW-LE DO L-hanger     411500       Suitable for wire 1.5     386535       Suitable for wire 1.5     386532       Suitable for wire 1.5 and 2.0     MVA-LP       1b Alernative Z-hanger     386532       Suitable for wire 1.5     386532       Suitable for wire 1.5 and 2.0     11499       2 Alernative Beam Clamp MQA-Z     2141996       2 Alernative Beam Clamp MQA-Z     2141996       2 MOT-21.41 beam clamp MQA     369575       1x MQA-S-MB saddle nut     2141996				
1 x eyebolt and lock         Kit MW-EB MB L 2.0/Im       2280046         Kit MW-EB MB L 2.0/Im       2280047         Xit MA-LP 60 L-hanger       4184566         X MA.LP 60 L-hanger       41850         Suitable for wire 1.5       386535         WVA-LP 60 L-hanger       411500         Suitable for wire 1.5       386535         WVA-LP 60 L-hanger       411500         Suitable for wire 1.5 and 2.0       386532         MVA-LP 100 L-hanger       411501         Suitable for wire 1.5 and 2.0       386532         MVA-Z Z-hanger       386532         Suitable for wire 1.5 and 2.0       112 2.0 wire         L-hanger       4         Alternative Beam Clamp       386532         Suitable for wire 1.5 and 2.0       11499         Suitable for wire 1.5 and 2.0       11499         Suitable for wire 1.5 and 2.0       11499         MVA-Z       Alternative Beam Clamp			2184504	
a       12 keyeboli and lock Kit MW-EB MB L 2.0/im       2280044 Kit MW-EB MB L 2.0/im       2280047 Kit MW-EB MB L 2.0/im       2184556 Kit Ave				3a
30       Alternative Box 1.2.0/m       2280046         Kit MW-EB MS 1.2.0/m       2280046         Kit MW-EB MS 1.2.0/m       2280046         Kit MW-EB MS 1.2.0/m       2280046         L-hanger and connection       2280048         1x MW-EB MS 2.2.0/10m       2280048         L-hanger and connection       2280048         1x MW-EB MS 2.2.0/10m       2184506         1x MV-L 2 Motor       4         1x MV-L 2 Motor       386532         1x MUA-E MS 2.0       4         1x Mutable for wire		1x eyebolt and lock		7 hongor
<ul> <li>Kit MW-EB MS L 2.0/2m 2280045 Kit MW-EB MS L 2.0/1m 2280046 Kit MW-EB MS L 2.0/1m 2280046 Kit MW-EB MS L 2.0/1m 2280047 Kit MW-EB MS L 2.0/1m 2280048 L-hanger and connection 1x MW-EB MS L 2.0/1m 2280048 L-hanger and connection 1x MW-EB MS L 2.0/1m 2280048 L-hanger Attribute Beam Champ MQT-21-41</li> <li>Alternative Beam 200 Suitable for wire 1.5 and 2.0 MVA-LP 60 L-hanger 411501 Suitable for wire 1.5 and 2.0 MVA-LP 100 L-hanger 411501 Suitable for wire 1.5 and 2.0 MVA-LP 2-hanger 386532 Suitable for wire 1.5 and 2.0 MVA-LP 2-hanger 386532 Suitable for wire 1.5 and 2.0 MVA-LP 2-hanger 386532 Suitable for wire 1.5 and 2.0</li> <li>Alternative Beam Clamp MQT-21-41</li> <li>Alternative Beam Clamp MQT 2: MQT-21-41 beam clamp 369675 1x MQ-41 3mm channel 369591 1x MQA-SUB scadle nut 2141906</li> </ul>	0	Kit MW-EB M8 L 2.0/1m	2280044	
1x       MV-EB       M8x28 eye bolt       2277663         2x       M8 nut       2184556         1x       A,8x16 washer       2184556         1x       MVA-LP 60 L-hanger       411500         3e       Alternative L-hanger       386535         Suitable for wire 1.5       MVA-LP 60 L-hanger       411500         MVA-LP 60 L-hanger       411500         Suitable for wire 1.5       MVA-LP 60 L-hanger         MVA-LP 100 L-hanger       411501         Suitable for wire 1.5 and 2.0       411501         Suitable for wire 1.5 and 2.0       11501         MVA-Z Z-hanger       386532         Suitable for wire 1.5 and 2.0       11499         MVA-Z Z-hanger       386532         Suitable for wire 1.5 and 2.0       11499         MVA-Z Z-hanger       386532         Suitable for wire 1.5 and 2.0       11499         MVA-Z Z-hanger       411499         MVA-Z Z-hanger       411499         MVA-Z Z-hanger       411499         MVA-Z Z-hanger       369591         X MQ-3-S-M8 saddle nut       2141906		Kit MW-EB M8 L 2.0/2m	2280045	
1x       MV-EB       M8x28 eye bolt       2277663         2x       M8 nut       2184556         1x       A,8x16 washer       2184556         1x       MVA-LP 60 L-hanger       411500         3e       Alternative L-hanger       386535         Suitable for wire 1.5       MVA-LP 60 L-hanger       411500         MVA-LP 60 L-hanger       411500         Suitable for wire 1.5       MVA-LP 60 L-hanger         MVA-LP 100 L-hanger       411501         Suitable for wire 1.5 and 2.0       411501         Suitable for wire 1.5 and 2.0       11501         MVA-Z Z-hanger       386532         Suitable for wire 1.5 and 2.0       11499         MVA-Z Z-hanger       386532         Suitable for wire 1.5 and 2.0       11499         MVA-Z Z-hanger       386532         Suitable for wire 1.5 and 2.0       11499         MVA-Z Z-hanger       411499         MVA-Z Z-hanger       411499         MVA-Z Z-hanger       411499         MVA-Z Z-hanger       369591         X MQ-3-S-M8 saddle nut       2141906		Kit MW-EB M8 L 2.0/3m	2280046	A MURE
1x       MV-EB       M8x28 eye bolt       2277663         2x       M8 nut       2184556         1x       A,8x16 washer       2184556         1x       MVA-LP 60 L-hanger       411500         3e       Alternative L-hanger       386535         Suitable for wire 1.5       MVA-LP 60 L-hanger       411500         MVA-LP 60 L-hanger       411500         Suitable for wire 1.5       MVA-LP 60 L-hanger         MVA-LP 100 L-hanger       411501         Suitable for wire 1.5 and 2.0       411501         Suitable for wire 1.5 and 2.0       11501         MVA-Z Z-hanger       386532         Suitable for wire 1.5 and 2.0       11499         MVA-Z Z-hanger       386532         Suitable for wire 1.5 and 2.0       11499         MVA-Z Z-hanger       386532         Suitable for wire 1.5 and 2.0       11499         MVA-Z Z-hanger       411499         MVA-Z Z-hanger       411499         MVA-Z Z-hanger       411499         MVA-Z Z-hanger       369591         X MQ-3-S-M8 saddle nut       2141906	분	Kit MW-EB M8 L 2.0/5m	2280047	
1x       MV-EB       M8x28 eye bolt       2277663         2x       M8 nut       2184556         1x       A,8x16 washer       2184556         1x       MVA-LP 60 L-hanger       411500         3e       Alternative L-hanger       386535         Suitable for wire 1.5       MVA-LP 60 L-hanger       411500         MVA-LP 60 L-hanger       411500         Suitable for wire 1.5       MVA-LP 60 L-hanger         MVA-LP 100 L-hanger       411501         Suitable for wire 1.5 and 2.0       411501         Suitable for wire 1.5 and 2.0       11501         MVA-Z Z-hanger       386532         Suitable for wire 1.5 and 2.0       11499         MVA-Z Z-hanger       386532         Suitable for wire 1.5 and 2.0       11499         MVA-Z Z-hanger       386532         Suitable for wire 1.5 and 2.0       11499         MVA-Z Z-hanger       411499         MVA-Z Z-hanger       411499         MVA-Z Z-hanger       411499         MVA-Z Z-hanger       369591         X MQ-3-S-M8 saddle nut       2141906		Kit MW-EB M8 L 2.0/10m	2280048	
1x       MV-EB       M8x28 eye bolt       2277663         2x       M8 nut       2184556         1x       A,8x16 washer       2184556         1x       MVA-LP 60 L-hanger       411500         3e       Alternative L-hanger       386535         Suitable for wire 1.5       MVA-LP 60 L-hanger       411500         MVA-LP 60 L-hanger       411500         Suitable for wire 1.5       MVA-LP 60 L-hanger         MVA-LP 100 L-hanger       411501         Suitable for wire 1.5 and 2.0       411501         Suitable for wire 1.5 and 2.0       11501         MVA-Z Z-hanger       386532         Suitable for wire 1.5 and 2.0       11499         MVA-Z Z-hanger       386532         Suitable for wire 1.5 and 2.0       11499         MVA-Z Z-hanger       386532         Suitable for wire 1.5 and 2.0       11499         MVA-Z Z-hanger       411499         MVA-Z Z-hanger       411499         MVA-Z Z-hanger       411499         MVA-Z Z-hanger       369591         X MQ-3-S-M8 saddle nut       2141906				
2x       M8 nut       2184504         1x       A 5,4x16 washer       2184556         1x       MVA-LP 60 L-hanger       411500         Self-tapping screws       406471         4x       S-MS 01Z 4.0x13 S-screw       406471         MVA-L       L-hanger       386535         Suitable for wire 1.5       MVA-LP 100 L-hanger       411500         Suitable for wire 1.5 and 2.0       MVA-LP       11501         Suitable for wire 1.5 and 2.0       MVA-LP       11501         Suitable for wire 1.5 and 2.0       MVA-LP       11501         Suitable for wire 1.5 and 2.0       MVA-LP       114199         Suitable for wire 1.5 and 2.0       411499       11499         Suitable for wire 1.5 and 2.0       411499       114199         Suitable for wire 1.5 and 2.0       411499       12.0 wire         4       Atternative Beam Clamp MQT       369675       12.5 wire         4       Atternative Beam Clamp MQT       3696775       13696775         1x       MQ-4.3-M8 saddle nut       2141906       1369591			2277563	
1x A 8,4x16 washer       2184556         1x M A,4x16 washer       2184556         1x MVA-LP 60 L-hanger       411500         Suitable for wire 1.5       MVA-L P 60 L-hanger         MVA-LP 60 L-hanger       411500         Suitable for wire 1.5       MVA-LP 60 L-hanger         MVA-LP 60 L-hanger       411501         Suitable for wire 1.5       MVA-LP 60 L-hanger         MVA-LP 60 L-hanger       411501         Suitable for wire 1.5       MVA-LP 60 L-hanger         MVA-LP 70 L-hanger       411501         Suitable for wire 1.5 and 2.0       111501         MVA-Z Z-hanger       386532         Suitable for wire 1.5       386532         MVA-Z Z-hanger       386532         Suitable for wire 1.5       MVA-Z Z-hanger         MVA-Z Z-hanger       386532         Suitable for wire 1.5       MVA-Z Z-hanger         MVA-Z Z-hanger       386532         Suitable for wire 1.5 and 2.0       11499         MVA-L       12         Alternative Beam Clamp       369575         1x MQ-41 3mm channel       369575         1x MQ-43 M8 saddle nut       2141906	9	-		
1x MVA-LP 60 L-hanger 411500   Self-tapping screws 4x   4x S-MS 01Z 4.0x13 S-screw   4x Alternative Beam Clamp MOT   3a 3   3b Alternative Beam Clamp MOT   4x Alternative Beam Clamp MOT   2x MQT-21-41 beam clamp   3a Alternative Beam Clamp MOT   3b Alternative Beam Clamp MOT   3c Alternative Beam Clamp MOT   3c X   4x Alternative Beam Clamp MOT   3b X   4x Alternative Beam Clamp MOT   3c X   3c X   4x Alternative Beam Clamp MOT   3c X   3c X   4x Alternative Beam Clamp MOT   3c X   3c Alternative Beam Clamp 				
Self-tapping screws 4x S-MS 01Z 4.0x13 S-screw       406471         2       2       Alternative L-hanger         MVA-L L-hanger       386535         Suitable for wire 1.5       411500         Suitable for wire 1.5 and 2.0       MVA-LP         MVA-LP 100 L-hanger       411501         Suitable for wire 1.5 and 2.0       MVA-LP         3a       3         Alternative Z-hanger       386532         Suitable for wire 1.5       411499         Suitable for wire 1.5       411499         Suitable for wire 1.5 and 2.0       L-hanger         MVA-ZZ Z-hanger       386532         Suitable for wire 1.5 and 2.0       L-hanger         MVA-ZZ Z-hanger       386532         Suitable for wire 1.5 and 2.0       L-hanger         MVA-ZZ Z-hanger       386532         Suitable for wire 1.5 and 2.0       L-hanger         MVA-ZZ Z-hanger       3895951         X MQA-S-M8 saddle nut       2141906				Clamp
4x S-MS 01Z 4.0x13 S-screw       406471         2       2         2       Alternative L-hanger         30       MVA-L P 60 L-hanger         31       MVA-LP 60 L-hanger         32       Alternative Z-hanger         33       Alternative Z-hangers         MVA-LP 100 L-hanger       411501         Suitable for wire 1.5 and 2.0       MVA-LP         MVA-LP 2-banger       386532         Suitable for wire 1.5 and 2.0       MVA-LP         MVA-Z Z-hanger       386532         Suitable for wire 1.5 and 2.0       L-hanger         MVA-ZP Z-hanger       386532         Suitable for wire 1.5 and 2.0       L-hanger         MVA-ZP Z-hanger       386532         Suitable for wire 1.5 and 2.0       L-hanger         MVA-ZP Z-hanger       411499         Alternative Beam Clamp       369675         X MQT-21-41 beam clamp       369591         X MQA-S-M8 saddle nut       2141906	e contraction of the second se		411000	MQT-21-41
2       2       Alternative L-hangers         MVA-L L-hanger       386535         Suitable for wire 1.5       411500         Suitable for wire 1.5 and 2.0       MVA-LP         MVA-LP 100 L-hanger       411501         Suitable for wire 1.5 and 2.0       MVA-LP         MVA-LP 100 L-hanger       411501         Suitable for wire 1.5 and 2.0       MVA-LP         MVA-Z Z-hanger       386532         Suitable for wire 1.5       MVA-Z         Suitable for wire 1.5       MVA-Z         MVA-Z Z-hanger       386532         Suitable for wire 1.5 and 2.0       L-hanger         MVA-Z Z-hanger       411499         Suitable for wire 1.5 and 2.0       MVA-L         4       Alternative Beam Clamp         MOT       2x MQT-21-41 beam clamp         XMQA-S-M8 saddle nut       2141906			406471	
Image: Second state of the second s			400471	
MVA-L L-hanger       386535         Suitable for wire 1.5       MVA-LP 60 L-hanger         MVA-LP 100 L-hanger       411500         Suitable for wire 1.5 and 2.0       MVA-LP         MVA-LP 100 L-hanger       411501         Suitable for wire 1.5 and 2.0       MVA-LP         MVA-LP 100 L-hanger       411501         Suitable for wire 1.5 and 2.0       MVA-Z         MVA-Z Z-hanger       386532         Suitable for wire 1.5       MVA-ZP Z-hanger         Suitable for wire 1.5 and 2.0       HVA-ZP Z-hanger         MVA-ZP Z-hanger       411499         Suitable for wire 1.5 and 2.0       MVA-L         1a       1.5 wire         MVA-ZP Z-hanger       386532         Suitable for wire 1.5 and 2.0       MVA-L         1a       1.5 wire	2 9	2 Alternative L-hangers		
Suitable for wire 1.5 MVA-LP 60 L-hanger 411500 Suitable for wire 1.5 and 2.0 MVA-LP 100 L-hanger 411501 Suitable for wire 1.5 and 2.0 Alternative Z-hanger 386532 Suitable for wire 1.5 MVA-Z Z-hanger 411499 Suitable for wire 1.5 and 2.0 4 Alternative Beam Clamp MQT 2x MQT-21-41 beam clamp 369675 1x MQA-S-M8 saddle nut 2141906				
Suitable for wire 1.5 MVA-LP 60 L-hanger 411500 Suitable for wire 1.5 and 2.0 MVA-LP 100 L-hanger 411501 Suitable for wire 1.5 and 2.0 Alternative Z-hanger 386532 Suitable for wire 1.5 MVA-Z Z-hanger 411499 Suitable for wire 1.5 and 2.0 4 Alternative Beam Clamp MQT 2x MQT-21-41 beam clamp 369675 1x MQA-S-M8 saddle nut 2141906		MVA-L L-hanger	386535	
MVA-LP 60 L-hanger 411500   Suitable for wire 1.5 and 2.0 MVA-LP 100 L-hanger   MVA-LP 100 L-hanger 411501   Suitable for wire 1.5 and 2.0 10   3a 3   MVA-Z Z-hanger 386532   Suitable for wire 1.5 386532   Suitable for wire 1.5 and 2.0   MVA-ZP Z-hanger   Suitable for wire 1.5 and 2.0   4   Alternative Beam Clamp   MQT   2x MQT-21-41 beam clamp   369575   1x MQA-S-M8 saddle nut   2141906				L-hanger
Suitable for wire 1.5 and 2.0 MVA-LP 100 L-hanger       411501         Suitable for wire 1.5 and 2.0       Alternative Z-hangers         MVA-Z Z-hanger       386532         Suitable for wire 1.5 MVA-ZP Z-hanger       411499         Suitable for wire 1.5 and 2.0       L-hanger         MVA-Z Z-hanger       411499         Suitable for wire 1.5 and 2.0       L-hanger         MVA-ZP Z-hanger       411499         Suitable for wire 1.5 and 2.0       L-hanger         MVA-L       1a         1.5 wire       1.5 wire         X MQT-21-41 beam clamp       369591         1x MQA-S-M8 saddle nut       2141906	1		411500	
MVA-LP 100 L-hanger 411501   Suitable for wire 1.5 and 2.0   Alternative Z-hangers   MVA-Z Z-hanger   Suitable for wire 1.5   MVA-ZP Z-hanger   Suitable for wire 1.5 and 2.0     Alternative Beam Clamp   MOT     Alternative Beam Clamp   MOT     2x MQT-21-41 beam clamp   1x MQA-S-M8 saddle nut     2141906     1b     2.0 wire     1b     2.0 wire     1b     2.0 wire     1a     1.5 wire				
3a       3       Alternative Z-hangers         3b       3       Alternative Z-hanger         3b       WVA-Z Z-hanger       386532         Suitable for wire 1.5       MVA-ZP Z-hanger         MVA-ZP Z-hanger       411499         Suitable for wire 1.5 and 2.0       MVA-L         4       Alternative Beam Clamp         MOT       2x MQT-21-41 beam clamp         1x MQA+3-M8 saddle nut       2141906			411501	
3a       3       Alternative Z-hangers         3b       MVA-ZZ Z-hanger       386532         Suitable for wire 1.5       MVA-ZP Z-hanger       411499         Suitable for wire 1.5 and 2.0       MVA-L         4       Alternative Beam Clamp         MQT       2x MQT-21-41 beam clamp       369575         1x MQA-S-M8 saddle nut       2141906	<b>B</b>	0		2.0 wire
3b 3b MVA-Z Z-hanger Suitable for wire 1.5 MVA-ZP Z-hanger Suitable for wire 1.5 and 2.0 4 Alternative Beam Clamp MQT 2x MQT-21-41 beam clamp MQT 2x MQT-21-41 beam clamp MQT 1.5 wire		Alternative 7-hangers		
3b Suitable for wire 1.5 MVA-ZP Z-hanger 411499 Suitable for wire 1.5 and 2.0 A Alternative Beam Clamp MQT 2x MQT-21-41 beam clamp 369675 1x MQ-41 3mm channel 369591 1x MQA-S-M8 saddle nut 2141906	3a 🌑	3 Alternative Z-hangers		
3b Suitable for wire 1.5 MVA-ZP Z-hanger 411499 Suitable for wire 1.5 and 2.0 A Alternative Beam Clamp MQT 2x MQT-21-41 beam clamp 369675 1x MQ-41 3mm channel 369591 1x MQA-S-M8 saddle nut 2141906				
MVA-ZP Z-hanger 411499 Suitable for wire 1.5 and 2.0 4 Alternative Beam Clamp MQT 2x MQT-21-41 beam clamp 369675 1x MQ-41 3mm channel 369591 1x MQA-S-M8 saddle nut 2141906			386532	
MVA-ZP Z-hanger 411499 Suitable for wire 1.5 and 2.0 4 Alternative Beam Clamp MQT 2x MQT-21-41 beam clamp 369675 1x MQ-41 3mm channel 369591 1x MQA-S-M8 saddle nut 2141906	3b	Suitable for wire 1.5		l -hanger
A Alternative Beam Clamp MQT 2x MQT-21-41 beam clamp 369675 1x MQ-41 3mm channel 369591 1x MQA-S-M8 saddle nut 2141906		MVA-ZP Z-hanger	411499	
4         MQT           2x         MQT-21-41 beam clamp         369675           1x         MQ-41 3mm channel         369591           1x         MQA-S-M8 saddle nut         2141906		Suitable for wire 1.5 and 2.0		
4         MQT           2x         MQT-21-41 beam clamp         369675           1x         MQ-41 3mm channel         369591           1x         MQA-S-M8 saddle nut         2141906				
4         MQT           2x         MQT-21-41 beam clamp         369675           1x         MQ-41 3mm channel         369591           1x         MQA-S-M8 saddle nut         2141906		Alternative Beam Clamp		1.5 wire
2x MQT-21-41 beam clamp         369675           1x MQ-41 3mm channel         369591           1x MQA-S-M8 saddle nut         2141906	4	4		A
1x MQ-41 3mm channel         369591           1x MQA-S-M8 saddle nut         2141906				
1x MQA-S-M8 saddle nut 2141906		· · · · · ·		
		1x MQ-41 3mm channel		
		1x MQA-S-M8 saddle nut		
		1x M8 nut	2184504	
	цт.	1		

Application description	Application	Product lines	Base material
Wire system - Ventilation - L, Z-hangers On Structural Steel - MQ System	3	Wire system	Structural Steel
General comments <ul> <li>Loading must always be compared with the capacity of all connected parts</li> </ul>		MQ System	
Only for vertically suspended loads. Not suitable for bracing.	d d	L,Z Hangers	
Hilti strongly advises customers to verify the respective product application for the intended use by consulting a struct	tural engineer and making	the necessary calculations	to ensure compliance with the

Hill istrongly advises customers to verify the respective product application for the intended use by consulting a structural engineer and making the necessary calculations to ensure compliance with the applicable norms and standards. Failure to consult and hed the advice of a structural engineer will free Hill institutions and standards. Failure to consult in the davice of a structural engineer will free Hill institutions and supporting product literature, and that the relevant application limits apecified in the Hill technical data sheets, technical specifications and supporting product literature, and that the relevant application limits are not exceeded at any time. All rights reserved by Hilti Corporation. Duplication, utilization and/or publication of drawings contained in this manual are not permitted unless expressly agreed by Hilti Corporation.

#### Version 1.0 from 10.2020, Page 44



#### Ventilation - L, Z-hangers Fixed On Structural Steel -Looping The Profile:

1a oqueo dool	Kit MW-LP L 1.5/2m         2           Kit MW-LP L 1.5/3m         2           Kit MW-LP L 1.5/5m         2           Kit MW-LP L 1.5/10m         2           Connection to L-hanger         1           1x MW-EB M8x26 eye bolt         2	2280072 2280073 2280074 2280075 2280076 2277563 2184504 386535 406471			
1b oquoo dooj	Kit MW-LP L 2.0/2m2:Kit MW-LP L 2.0/3m2:Kit MW-LP L 2.0/5m2:Kit MW-LP L 2.0/10m2:Connection to L-hanger2:1x MW-EB M8x26 eye bolt2:2x M8 nut21x A 8,4x16 washer2L-hanger1x MVA-LP 60 L-hanger4x Self-tapping screws4	2280077 2280078 2280079 2280080 2280081 2277563 2184504 2184556 411500 406471	3b Z-hanger MVA-ZP		ren 3a Z-hanger MVA-Z
2 9 3a 3b	Suitable for wire 1.5 MVA-LP 60 L-hanger Suitable for wire 1.5 and 2.0 MVA-LP 100 L-hanger Suitable for wire 1.5 and 2.0 Alternative Z-hangers MVA-Z Z-hanger Suitable for wire 1.5	386535 411500 411501 386532 411499		L-hanger MVA-LP 1b 2.0 wire	L-hanger MVA-L 1.5 wire

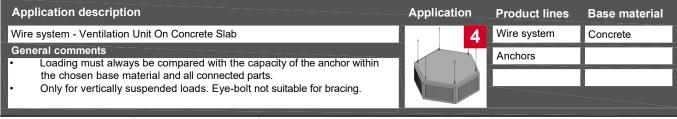
Application description	Application	Product lines	Base material
Wire system - Ventilation - L, Z-hangers On Structural Steel - Looped	3	Wire system	Structural Steel
General comments <ul> <li>Loading must always be compared with the capacity of the structural steel</li> </ul>		MQ System	
and all connected parts.	et de	L,Z Hangers	
Sharp edges must be avoided to prevent damage to the wire.			
Hilti strandy advises customers to varify the respective product application for the intended use by consulting a struct	ural angineer and making	the necessary coloulations	to oncure compliance with the

Hill istrongly advises customers to verify the respective product application for the intended use by consulting a structural engineer and making the necessary calculations to ensure compliance with the applicable norms and standards. Failure to consult and hed the advice of a structural engineer will free Hilti from any liability. It is essential that the product is used strictly in accordance with the applicable hilti instructions for use, within the application limits specified in the Hilti technical ada sheets, technical specifications and supporting product literature, and that the relevant application limits are not exceeded at any time. All rights reserved by Hilti Corporation. Duplication, utilization and/or publication of drawings contained in this manual are not permitted unless expressly agreed by Hilti Corporation.



### Ventilation Unit On a Concrete Slab:

la 🛔	1a Screw anchor, M8 support 1.5 wire		2a	2a-c Flush anchor, M8 support 1.5, 2.0, 3.0 wire
eyebolt combo	1x screw anchor HUS-I 6x35 M8/M10 anchor HUS-I 6x55 M8/M10 anchor 1x M8 nut Eyebolt combo 1x eyebolt and lock Kit MW-EB M8 L 1.5/1m Kit MW-EB M8 L 1.5/2m Kit MW-EB M8 L 1.5/5m Kit MW-EB M8 L 1.5/5m	416740 423180 2184504 2280019 2280040 2280041 2280042 2280043	eyebolt combo	Anchor 1x flush anchor HKD M8x25 anchor HKD M8x25 anchor HKD M8x30 anchor HKD M8x40 anchor 1x M8 nut Eyebolt combo 1x the same combos as 2a ► 1a 2b ► 1b 2c ► 1c
b	1b Screw anchor, M8 support 2.0 wire		2d	2d Flush anchor, M10 support 5.0 wire
eyebolt combo	1x screw anchor HUS-I 6x35 M8/M10 anchor HUS-I 6x55 M8/M10 anchor 1x M8 nut Eyebolt combo 1x eyebolt and lock Kit MW-EB M8 L 2.0/1m Kit MW-EB M8 L 2.0/2m Kit MW-EB M8 L 2.0/5m Kit MW-EB M8 L 2.0/10m	416740 423180 2184504 2280044 2280045 2280046 2280047 2280048	eyebolt combo	Anchor 1x flush anchor HKD M10x25 anchor 2037453 HKD M10x25 anchor 376965 HKD M10x30 anchor 376967 1x M10 nut 2184505 Eyebolt combo 1x the same combos as 2d - 1d
IC 🛔	1c Screw anchor, M8 support 3.0 wire		Screw anch	or
eyebolt combo	1xscrew anchorHUS-I 6x35 M8/M10 anchorHUS-I 6x55 M8/M10 anchor1xM8 nutEyebolt combo1xeyebolt and lockKit MW-EB M8 L 3.0/1mKit MW-EB M8 L 3.0/2mKit MW-EB M8 L 3.0/3mKit MW-EB M8 L 3.0/5mKit MW-EB M8 L 3.0/5mKit MW-EB M8 L 3.0/10m	416740 423180 2184504 2280049 2280050 2280051 2280052 2280053	1a 1.5 wire 1b 2.0 wire 1c 3.0 wire 1d 5.0 wire	2a       1.5 wire         2b       2.0 wire         2c       3.0 wire         2d       5.0 wire
ld	1d Screw anchor, M10 support 5.0 wire			<sup>2e</sup> 6.0 wire
eyebolt combo	1xscrew anchor HUS-I 6x35 M8/M10 anchor HUS-I 6x55 M8/M10 anchor1xM10 nutEyebolt combo1x1xeyebolt and lock Kit MW-EB M10 L 5.0/1m	416740 423180 2184505 2280054		
	Kit MW-EB M10 L 5.0/2m Kit MW-EB M10 L 5.0/3m Kit MW-EB M10 L 5.0/5m Kit MW-EB M10 L 5.0/5m	2280055 2280056 2280057 2280057		
2e	Kit MW-EB M10 L 5.0/10m           2e         Flush anchor, M12 support           6.0 wire	2280058		
combo	6.0 wire 1x flush anchor HKD M12x50 anchor 1x M 12 nut Eyebolt combo 1x eyebolt and lock Kit MW EB M12 L 6 0/2m	378544 2184554		
eyebolt combo	Kit MW-EB M12 L 6.0/3m Kit MW-EB M12 L 6.0/5m Kit MW-EB M12 L 6.0/10m	2280059 2280060 2280061		

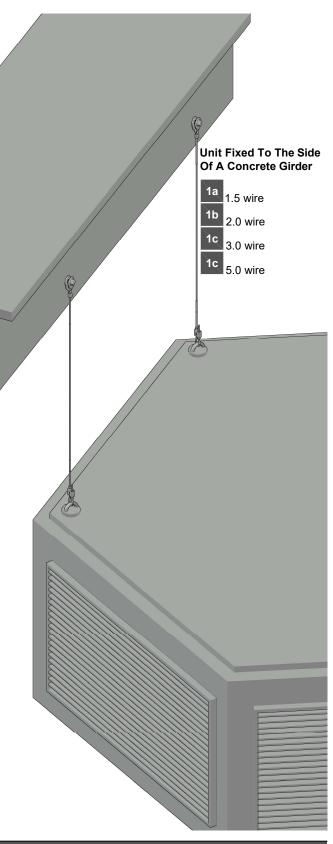


Hilti strongly advises customers to verify the respective product application for the intended use by consulting a structural engineer and making the necessary calculations to ensure compliance with the applicable norms and standards. Failure to consult and heed the advice of a structural engineer will free Hilti from any liability. It is essential that the product is used strictly in accordance with the applicable norms, within the application limits specified in the Hilti technical abate structural supporting product literature, and that the relevant application limits are not exceeded at any time. All rights reserved by Hilti Corporation. Duplication, utilization and/or publication of drawings contained in this manual are not permitted unless expressly agreed by Hilti Corporation.



### Ventilation Unit, On Concrete Girder:

1a 👔	1a Clip attachement 1.5 wire	
	Anchor	
	1x HUS3-H 8x75 25/15/5 anchor	2079796
o	HST3 M10x90 30/10 anchor Clip	2105712
loop combo	1x MW-C clip	2287563
d	Loop combo	
	1x Kit MW-LP L 1.5/1m	2280072
	Kit MW-LP L 1.5/2m	2280073
	Kit MW-LP L 1.5/3m	2280074
•	Kit MW-LP L 1.5/5m	2280075
1b %	Kit MW-LP L 1.5/10m           1b         Clip attachement	2280076
	2.0 wire	
	Anchor	
	1x HUS3-H 8x75 25/15/5 anchor	2079796
	HST3 M10x90 30/10 anchor	2105712
de	Clip	
oop combo	1x MW-C clip	2287563
0 d	Loop combo	
8	1x Kit MW-LP L 2.0/1m	2280077
	Kit MW-LP L 2.0/2m	2280078
	Kit MW-LP L 2.0/3m	2280079
<u> </u>	Kit MW-LP L 2.0/5m	2280080
	Kit MW-LP L 2.0/10m	2280081
1c	1c Clip attachement 3.0 wire	
	Anchor	
	1x HUS3-H 8x75 25/15/5 anchor	2079796
	HST3 M10x90 30/10 anchor	2105712
loop combo	Clip	
	1x MW-C clip	2287563
<u>a</u>	Loop combo	
	1x Kit MW-LP L 3.0/1m	2280082
	Kit MW-LP L 3.0/2m	2280083
	Kit MW-LP L 3.0/3m	2280084
	Kit MW-LP L 3.0/5m	2280085
	Kit MW-LP L 3.0/5m Kit MW-LP L 3.0/10m	
1d	Kit MW-LP L 3.0/5m	2280085
1d 🍡	Kit MW-LP L 3.0/5m Kit MW-LP L 3.0/10m	2280085
1d •	Kit MW-LP L 3.0/5m Kit MW-LP L 3.0/10m 1d Clip attachement 5.0 wire	2280085
	Kit MW-LP L 3.0/5m         Kit MW-LP L 3.0/10m         1d       Clip attachement         5.0 wire         Anchor	2280085 2280086
	Kit MW-LP L 3.0/5m Kit MW-LP L 3.0/10m 1d Clip attachement 5.0 wire Anchor 1x HUS3-H 8x75 25/15/5 anchor	2280085 2280086 2079796
	Kit MW-LP L 3.0/5m Kit MW-LP L 3.0/10m Clip attachement 5.0 wire Anchor 1x HUS3-H 8x75 25/15/5 anchor HST3 M10x90 30/10 anchor Clip 1x MW-C clip	2280085 2280086 2079796
	Kit MW-LP L 3.0/5m Kit MW-LP L 3.0/10m 1 Clip attachement 5.0 wire Anchor 1x HUS3-H 8x75 25/15/5 anchor HST3 M10x90 30/10 anchor Clip 1x MW-C clip Loop combo	2280085 2280086 2079796 2105712 2287563
1d oquuo dool	Kit MW-LP L 3.0/5m Kit MW-LP L 3.0/10m 1 Clip attachement 5.0 wire Anchor 1x HUS3-H 8x75 25/15/5 anchor HST3 M10x90 30/10 anchor Clip 1x MW-C clip Loop combo 1x Kit MW-LP L 5.0/1m	2280085 2280086 2079796 2105712 2287563 2287096
	Kit MW-LP L 3.0/5m Kit MW-LP L 3.0/10m 1 Clip attachement 5.0 wire Anchor 1x HUS3-H 8x75 25/15/5 anchor HST3 M10x90 30/10 anchor Clip 1x MW-C clip Loop combo 1x Kit MW-LP L 5.0/1m Kit MW-LP L 5.0/2m	2280085 2280086 2079796 2105712 2287563 2287096 2287097
	Kit MW-LP L 3.0/5m Kit MW-LP L 3.0/10m Clip attachement 5.0 wire Anchor 1x HUS3-H 8x75 25/15/5 anchor HST3 M10x90 30/10 anchor Clip 1x MW-C clip Loop combo 1x Kit MW-LP L 5.0/1m Kit MW-LP L 5.0/2m Kit MW-LP L 5.0/3m	2280085 2280086 2079796 2105712 2287563 2287096 2287097 2287098
	Kit MW-LP L 3.0/5m Kit MW-LP L 3.0/10m 1 Clip attachement 5.0 wire Anchor 1x HUS3-H 8x75 25/15/5 anchor HST3 M10x90 30/10 anchor Clip 1x MW-C clip Loop combo 1x Kit MW-LP L 5.0/1m Kit MW-LP L 5.0/2m	2280085 2280086 2079796 2105712 2287563 2287096 2287097



Application description	Application	Product lines	Base material
Wire system - Ventilation Unit On Concrete Girder	. 4	Wire system	Concrete
<ul> <li>General comments</li> <li>Loading must always be compared with the capacity with the capacity of all connected parts and the anchor within the chosen base material. This capacity is affected by the angle of loading from the vertical and the prying factor</li> <li>Only one wire may be suspended on each clip</li> </ul>		Anchors	

Hilti strongly advises customers to verify the respective product application for the intended use by consulting a structural engineer and making the necessary calculations to ensure compliance with the applicable norms and standards. Failure to consult and heed the advice of a structural engineer will free Hilti from any liability. It is essential that the product is used strictly in accordance with the application for use, within the application limits specified in the Hilti technical aspectifications and supporting product literature, and that the relevant application limits are not exceeded at any time. All rights reserved by Hilti Corporation. Duplication, utilization and/or publication of drawings contained in this manual are not permitted unless expressly agreed by Hilti Corporation.



# Ventilation Unit Fixed On Metal Deck - Hook and V-hanger:

v-nange				
1a	1a Deck hook 1.5 wire		2c	2c Through bolted V-hanger 3.0 wire
	Loop combo 1x loop and lock	2277567	· · · · · · · · · · · · · · · · · · ·	V-Hanger 1x MF-TSH M8 V-hanger 229006 1x M8 nut 216465 Through-bolt version 1-t-rod
loop combo	Kit MW-LP L 1.5/2m Kit MW-LP L 1.5/3m Kit MW-LP L 1.5/5m	2280072 2280073 2280074 2280075 2280076	eyebolt combo	1x         AM8x1000 fixed t-rod         339793           4x         M8 nut         216465           Through-bolt ver. 2-long h-head screw         1x         M8x120 4.8 hex. head sc.         2063165           2x         M8 nut         216465         5000000000000000000000000000000000000
1b 7	1b Deck hook 2.0 wire Deck hook		eyebo	Eyebolt combo 1x eyebolt and lock Kit MW-EB M8 L 3.0/1m 2280049 Kit MW-EB M8 L 3.0/2m 2280050 Kit MW-EB M8 L 3.0/3m 2280051
oqu		2277567	1	Kit MW-EB M8 L 3.0/5m         2280052           Kit MW-EB M8 L 3.0/10m         2280053           Through bolted V-hanger         2280053
loop combo	Kit MW-LP L 2.0/1m Kit MW-LP L 2.0/2m	2280077 2280078 2280079	2d	20 5.0 wire V-Hanger
•	Kit MW-LP L 2.0/5m	2280079 2280080 2280081		1x         MF-TSH M10 V-hanger         229007           1x         M10 nut         2184505           Through-bolt version 1-t-rod         1x         AM8x1000 fixed t-rod           1x         AM8x1000 fixed t-rod         339793           4x         M8 nut         216465
2a	2a Through bolted V-hanger 1.5 wire AV-Hanger		eyebolt combo	Through-bolt ver. 2-long h-head screw           1x         M8x120 4.8 hex. head sc.         2063165           2x         M8 nut         216465
· · · · ·	1x MF-TSH M8 V-hanger 1x M8 nut Through-bolt version 1 t-rod 1x AM8x1000 fixed t-rod	229006 216465 339793	eyebol	Eyebolt combo 1x eyebolt and lock Kit MW-EB M10 L 5.0/1m 2280054 Kit MW-EB M10 L 5.0/2m 2280055 Kit MW-EB M10 L 5.0/2m 2280055
eyebolt combo	2x M8 nut	216465 w 2063165 216465	- -	Kit MW-EB M10 L 5.0/3m         2280056           Kit MW-EB M10 L 5.0/5m         2280057           Kit MW-EB M10 L 5.0/10m         2280058
eyebol	Kit MW-EB M8 L 1.5/2m Kit MW-EB M8 L 1.5/3m Kit MW-EB M8 L 1.5/5m	2280019 2280040 2280041 2280042 2280043		
2b	2b Through bolted V-hanger 2.0 wire V-Hanger		Deck Hook	
	1x         MF-TSH M8 V-hanger           1x         M8 nut           Through-bolt version 1-t-rod           1x         AM8x1000 fixed t-rod	229006 216465 339793	1b 2.0 wire	
eyebolt combo	4x M8 nut Through-bolt ver. 2-long h-head scr 1x M8x120 4.8 hex. head sc. 2x M8 nut Eyebolt combo	216465 ew 2063165 216465		V-Hanger 2a 1.5 wire
eyeb	1x eyebolt and lock Kit MW-EB M8 L 2.0/1m Kit MW-EB M8 L 2.0/2m Kit MW-EB M8 L 2.0/3m Kit MW-EB M8 L 2.0/5m	2280044 2280045 2280046 2280047		2b 2.0 wire 2c 3.0 wire 2d 5.0 wire
	Kit MW-EB M8 L 2.0/10m	2280048		

Application description	Application	Product lines	Base material
Wire system - Ventilation Unit Fixed On Metal Deck	4	Wire system	Metal Deck
General comments <ul> <li>Loading must always be compared with the capacity of the metal deck and</li> </ul>		V-Hangers	
all connected parts.		$\backslash$	
<ul> <li>The deck hook must hang vertically from the deck.</li> <li>Only one wire may be suspended on each deck hook.</li> </ul>			
Hilti strongly advises customers to verify the respective product application for the intended use by consulting a stru-	ctural engineer and making	the necessary calculations	to ensure compliance with the

Hill strongly advises customers to verify the respective product application for the intended use by consulting a structural engineer and making the necessary calculations to ensure compliance with the applicable norms and standards. Failure to consult and heed the advice of a structural engineer will free Hill individual to the applicable norms and standards. Failure to consult and heed the advice of a structural engineer will free Hill individual specifications and supporting product literature, and that the relevant applicable hill individual sheets, technical specifications and supporting product literature, and that the relevant application limits are not exceeded at any time. All rights reserved by Hilti Corporation. Duplication, utilization and/or publication of drawings contained in this manual are not permitted unless expressly agreed by Hilti Corporation.



# Ventilation Unit Fixed On Metal Deck - V-hanger with Integrated Nut:

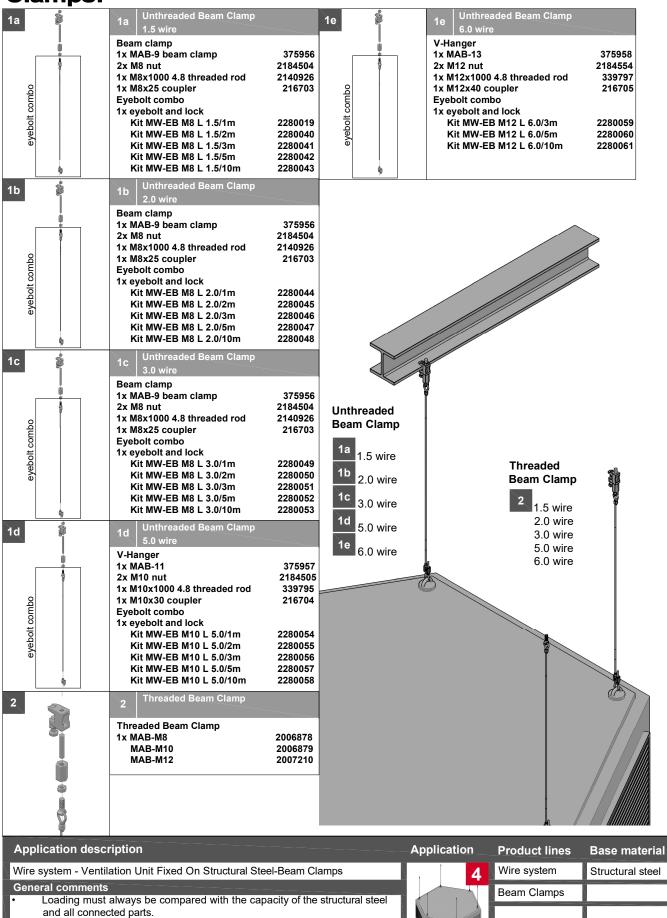
	egrate				
1a		1a Through bolted V-Hanger 1.5 wire		1d	1d Through bolted V-Hanger 5.0 wire
eyebolt combo		Through-bolt version 1 t-rod 1x AM8x1000 fixed t-rod 4x M8 nut Through-bolt ver. 2 long h-head screw 2x M8 nut Eyebolt combo 1x eyebolt and lock Kit MW-EB M8 L 1.5/1m Kit MW-EB M8 L 1.5/3m Kit MW-EB M8 L 1.5/5m Kit MW-EB M8 L 1.5/10m 22 Kit MW-EB M8 L 1.5/10m 23 Kit MW-EB M8 L 1.5/10m 24 Kit MW-EB M8 L 1.5/10m 24 Kit MW-EB M8 L 1.5/10m 25 Kit MB KIT 25 Kit MB KI	386558 2184504 339793 2184504 ew 2063165 2184504 2280019 2280040 2280041 2280042 2280043	eyebolt combo	V-Hanger 1x MVA-MS M10 V-hanger 386559 1x M10 nut 2184505 Through-bolt version 1-t-rod 1x AM8x1000 fixed t-rod 339793 4x M8 nut 2184504 Through-bolt ver. 2-long h-head screw 1x M8x120 4.8 hex. head sc. 2063165 2x M8 nut 2184504 Eyebolt combo 1x eyebolt and lock Kit MW-EB M10 L 5.0/1m 2280054 Kit MW-EB M10 L 5.0/3m 2280056 Kit MW-EB M10 L 5.0/5m 2280057 Kit MW-EB M10 L 5.0/10m 2280058
eyebolt combo		Through-bolt version 1-t-rod 1x AM8x1000 fixed t-rod 4x M8 nut Through-bolt ver. 2-long h-head screw 2x M8 nut Eyebolt combo 1x eyebolt and lock Kit MW-EB M8 L 2.0/1m Kit MW-EB M8 L 2.0/2m Kit MW-EB M8 L 2.0/3m Kit MW-EB M8 L 2.0/3m	386558 2184504 339793 2184504 ew 2063165 2184504 2280044 2280045 2280046 2280047 2280048	Through bolted V-Hanger	
eyebolt combo		Through-bolt version 1-t-rod1xAM8x1000 fixed t-rod4xM8 nutThrough-bolt ver. 2-long h-head scr1xM8x120 4.8 hex. head sc.	386558 2184504 339793 2184504 ew 2063165 2184504 2280049 2280050 2280050 2280051 2280052 2280053	1a       1.5 wire         1b       2.0 wire         1c       3.0 wire         1d       5.0 wire	V-Hanger with self-tapping screws 1.5 wire 2.0 wire 3.0 wire 5.0 wire
2			crews 386558 386559 406471 2184504 2184505		

Application description	Application	Product lines	Base material
Wire system - Ventilation Unit On Metal Deck	4	Wire system	Metal Deck
<ul> <li>General comments</li> <li>Loading must always be compared with the capacity of the metal deck and all connected parts.</li> <li>Only for vertically suspended loads. Not suitable for bracing.</li> </ul>		V-Hangers	NN
Hilli atranely advises avatamers to varify the respective product application for the intended use by consulting a struct	- <u> </u>		

Hilti strongly advises customers to verify the respective product application for the intended use by consulting a structural engineer and making the necessary calculations to ensure compliance with the applicable norms and standards. Failure to consult and heed the advice of a structural engineer will free Hilti from any liability. It is essential that the product is used strictly in accordance with the applicable norms, within the application limits specified in the Hilti technical abate structural supporting product literature, and that the relevant application limits specified in the Hilti component of drawings contained in this manual are not permitted unless expressly agreed by Hilti Corporation.



#### Ventilation Unit Fixed On Structural Steel Profiles - Beam Clamps:



Hilli strongly advises customers to verify the respective product application for the intended use by consulting a structural engineer and making the necessary calculations to ensure compliance with the applicable norms and standards. Failure to consult and heed the advice of a structural engineer will free Hilti from any liability. It is essential that the product is used strictly in accordance with the applications for use, within the application limits specified in the Hilti technical absects. Technical specifications and supporting product literature, and that the relevant application limits are not exceeded at any time. All rights reserved by Hilti Corporation. Duplication, utilization and/or publication of drawings contained in this manual are not permitted unless expressly agreed by Hilti Corporation.

Only for vertically suspended loads. Not suitable for bracing.



# Ventilation UnitFixed On Structural Steel Profiles - MM Channel:

Unamiei.				
1a	1a Centric Fixation Of MM Cha 1.5 wire	nnel		
eyebolt combo	2x MM-T-16-36 beam clamps 1x MM-C-30 2mm channel 1x MM-S M8 saddle nut 1x M8 nut Eyebolt combo 1x eyebolt and lock Kit MW-EB M8 L 1.5/1m Kit MW-EB M8 L 1.5/2m Kit MW-EB M8 L 1.5/3m Kit MW-EB M8 L 1.5/5m Kit MW-EB M8 L 1.5/10m	418763 418749 418760 2184504 2280049 2280040 2280041 2280042 2280043		
1b	1b Centric Fixation Of MM Cha 2.0 wire	nnel		
eyebolt combo	2x MM-T-16-36 beam clamps 1x MM-C-30 2mm channel 1x MM-S M8 saddle nut 1x M8 nut Eyebolt combo 1x eyebolt and lock Kit MW-EB M8 L 2.0/1m Kit MW-EB M8 L 2.0/2m Kit MW-EB M8 L 2.0/5m Kit MW-EB M8 L 2.0/10m	418763 418749 418760 2184504 2280044 2280045 2280046 2280047 2280048		
eyebolt combo	1cCentric Fixation Of MM Cha 3.0 wire2x MM-T-16-36 beam clamps 1x MM-C-30 2mm channel 1x MM-S M8 saddle nut 1x M8 nut Eyebolt combo 1x eyebolt combo 1x eyebolt and lock Kit MW-EB M8 L 3.0/1m Kit MW-EB M8 L 3.0/2m Kit MW-EB M8 L 3.0/3m Kit MW-EB M8 L 3.0/3m Kit MW-EB M8 L 3.0/10m	nnel 418763 418749 418760 216465 2280049 2280050 2280051 2280052 2280053	Centric Fixation Of MM Channel 1a 1.5 wire 1b 2.0 wire 3.0 wire	ŝ
10 exepolt combo	1dCentric Fixation Of MM Cha5.0 wire2x MM-T-16-36 beam clamps1x MM-C-30 2mm channel1x MM-S M10 saddle nut1x M10 nutEyebolt combo1x eyebolt and lockKit MW-EB M10 L 5.0/1mKit MW-EB M10 L 5.0/2mKit MW-EB M10 L 5.0/3mKit MW-EB M10 L 5.0/10m	nnel 418763 418749 418761 2184505 2280054 2280055 2280056 2280057 2280058	1d 5.0 wire	

Application description	Application	Product lines	Base material
Wire system - Ventilation Unit Fixed On Structural Steel - MM Cahnnel	4	Wire system	Structural steel
General comments <ul> <li>Loading must always be compared with the capacity of the steel beam and</li> </ul>		Beam Clamps	
all connected parts.		MM System	
Only for vertically suspended loads. Not suitable for bracing.			

Hilti strongly advises customers to verify the respective product application for the intended use by consulting a structural engineer and making the necessary calculations to ensure compliance with the applicable norms and standards. Failure to consult and heed the advice of a structural engineer will free Hilti from any liability. It is essential that the product is used strictly in accordance with the application for use, within the application limits specified in the Hilti technical aspectifications and supporting product literature, and that the relevant application limits are not exceeded at any time. All rights reserved by Hilti Corporation. Duplication, utilization and/or publication of drawings contained in this manual are not permitted unless expressly agreed by Hilti Corporation.



### Ventilation Unit Fixed On Structural Steel Profiles - MQ Channel:

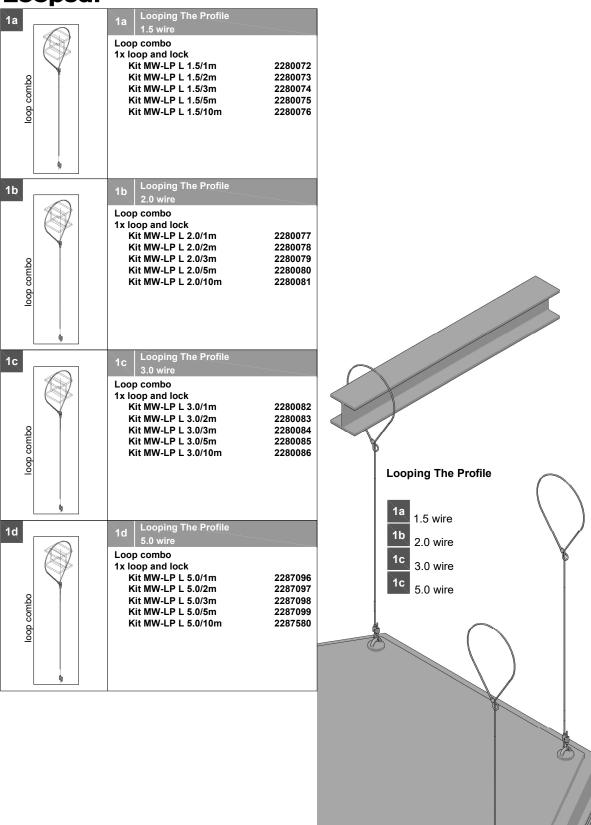
Channel:					
evebolt combo	1aCentric Fixation Of MQ Char1.5 wire2x MQT-U beam clamp1x MQ-41 3m channel1x MQA-S-M8 saddle nut1x MQA-S-M8 saddle nut1x M8 nutEyebolt combo1x eyebolt and lockKit MW-EB M8 L 1.5/1mKit MW-EB M8 L 1.5/2mKit MW-EB M8 L 1.5/2mKit MW-EB M8 L 1.5/5mKit MW-EB M8 L 1.5/10m	2115454 369591 2141906 2184504 2280019 2280040 2280041 2280042 2280043	evenue evenue	1eCentric Fixation Of 6.0 wire22x MQT-U beam clamp 1x MQ-41 3m channel 1x MQA-M12-B saddle nu 1x M12 nut Eyebolt combo 1x eyebolt and lock Kit MW-EB M12 L 6 Kit MW-EB M12 L 6 Kit MW-EB M12 L 6	2115454 369591 t 2199453 2184554 .0/3m 2280059 .0/5m 2280060
dt order	1b       Centric Fixation Of MQ Char 2.0 wire         2x MQT-U beam clamp 1x MQA-3 3m channel 1x MQA-S-M8 saddle nut 1x M8 nut Eyebolt combo         1x       eyebolt and lock Kit MW-EB M8 L 2.0/1m Kit MW-EB M8 L 2.0/2m Kit MW-EB M8 L 2.0/2m Kit MW-EB M8 L 2.0/2m Kit MW-EB M8 L 2.0/10m         1c       Centric Fixation Of MQ Char 3.0 wire         2x MQT-U beam clamp 1x MQA-S-M8 saddle nut 1x MQA-S-M8 saddle nut 1x MQA-S-M8 saddle nut 1x MW-EB M8 L 3.0/1m Kit MW-EB M8 L 3.0/1m Kit MW-EB M8 L 3.0/2m Kit MW-EB M8 L 3.0/2m Kit MW-EB M8 L 3.0/10m         1d       Centric Fixation Of MQ Char 5.0 wire         2x MQT-U beam clamp 1x MQA-S-M10 saddle nut 1x MQA-S-M10 saddle nut 1x MQA-S-M10 saddle nut 1x MQA-S-M10 saddle nut 1x M0 nut Eyebolt combo 1x         2x MQT-U beam clamp 1x MQA-S-M10 saddle nut 1x M0 nut Eyebolt combo 1x         1d       Centric Fixation Of MQ Char 5.0 wire         2x MQT-U beam clamp 1x MQ-41 3m channel 1x MQA-S-M10 saddle nut 1x M10 nut Eyebolt combo 1x         1d       Centric Fixation Of MQ Char 5.0 wire         2x MQT-U beam clamp 1x MQA-S-M10 saddle nut 1x M0 nut Eyebolt combo 1x         1x       Alternative Beam Clamp MQT         2x MQT-21-41 beam clamp 1x MQ-41 3mm channel	2115454 369591 2141906 2184504 2280044 2280045 2280046 2280047 2280048 2280049 2115454 369591 2141906 2184504 2280049 2280050 2280051 2280052 2280053	Centri Of MC 1a 1 1b 2 1c 3 1d 5 1e 6	ic Fixation Channel .5 wire 2.0 wire 3.0 wire 3.0 wire	2 Alternative Beam Clar MQT 1.5 wire 2.0 wire 3.0 wire 5.0 wire 6.0 wire

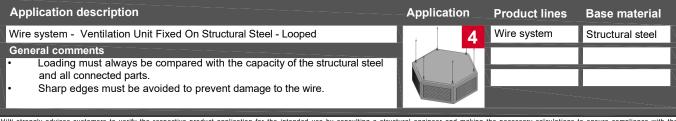
Application description	Application	Product lines	Base material
Wire system - Ventilation Unit Fixed On Structural Steel - MQ Cahnnel	4	Wire system	Structural steel
General comments <ul> <li>Loading must always be compared with the capacity of the steel beam and</li> </ul>		Beam Clamps	
all connected parts.		MQ Channel	
Only for vertically suspended loads. Not suitable for bracing.			

Hilti strongly advises customers to verify the respective product application for the intended use by consulting a structural engineer and making the necessary calculations to ensure compliance with the applicable norms and standards. Failure to consult and heed the advice of a structural engineer will free Hilti from any liability. It is essential that the product is used strictly in accordance with the applicable Hilti instructions for use, within the application limits specified in the Hilti technical data sheets, technical specifications and supporting product literature, and that the relevant application limits are not exceeded at any time. All rights reserved by Hilti Corporation. Duplication, utilization and/or publication of drawings contained in this manual are not permitted unless expressly agreed by Hilti Corporation.



#### Ventilation Unit Fixed On Structural Steel Profiles -Looped:





Hilli strongly advises customers to verify the respective product application for the intended use by consulting a structural engineer and making the necessary calculations to ensure compliance with the applicable norms and standards. Failure to consult and heed the advice of a structural engineer will free Hilti from any liability. It is essential that the product is used strictly in accordance with the applicable norms and standards. Failure to consult and heed the advice of a structural engineer will free Hilti from any liability. It is essential that the product is used strictly in accordance with the application funds specified in the Hilti technical aspectations and supporting product literature, and that the relevant application limits are not exceeded at any time. All rights reserved by Hilti Corporation. Duplication and/or publication of drawings contained in this manual are not permitted unless expressly agreed by Hilti Corporation.



### Electrical - Cable Tray, Ceiling Panel and Busbar Fixed On a Concrete Slab:

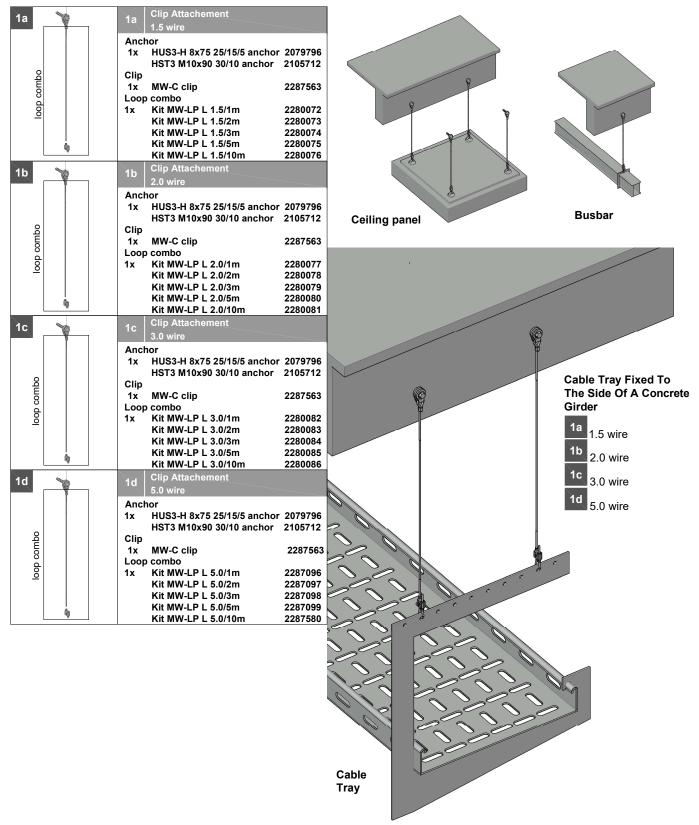
1a	1a Screw anchor, M8 support 1.5 wire	2a 2a-c Flush anchor, M8 support 1.5, 2.0, 3.0 wire
eyebolt combo	1x         screw anchor         376959           HUS-I 6x35 M8/M10 anchor         423180           1x         M8 nut         2184504           Eyebolt combo         1x           1x         eyebolt and lock           Kit MW-EB M8 L 1.5/1m         2280049           Kit MW-EB M8 L 1.5/3m         2280040           Kit MW-EB M8 L 1.5/3m         2280042           Kit MW-EB M8 L 1.5/5m         2280042           Kit MW-EB M8 L 1.5/1m         2280042	2b 2c of the second se
1b	1b Screw anchor, M8 support	2d 2d Flush anchor, M10 support
eyebolt combo	2.0 wire 1x screw anchor HUS-I 6x35 M8/M10 anchor HUS-I 6x55 M8/M10 anchor HUS-I 6x55 M8/M10 anchor 423180 1x M8 nut Eyebolt combo 1x eyebolt and lock Kit MW-EB M8 L 2.0/1m 2280044 Kit MW-EB M8 L 2.0/3m 2280045 Kit MW-EB M8 L 2.0/5m 2280047 Kit MW-EB M8 L 2.0/10m 2280048	S.0 wire Anchor 1x flush anchor HKD M10x25 anchor 2037453 HKD M10x30 anchor 376965 HKD M10x40 anchor 376967 1x M10 nut 2184505 Eyebolt combo 1x the same combos as 2d ► 1d
1c	1c Screw anchor, M8 support 3.0 wire	
eyebolt combo	3.0 wile           1x         screw anchor HUS-I 6x35 M8/M10 anchor HUS-I 6x55 M8/M10 anchor HUS-I 6x55 M8/M10 anchor 423180           1x         M8 nut           2184504           Eyebolt combo           1x         eyebolt and lock Kit MW-EB M8 L 3.0/1m           2280049           Kit MW-EB M8 L 3.0/2m           2280050           Kit MW-EB M8 L 3.0/3m           2280051           Kit MW-EB M8 L 3.0/5m           Z280052           Kit MW-EB M8 L 3.0/10m           2280053	Ceiling Panel
1d	1d Screw anchor, M10 support 5.0 wire	
eyebolt combo	1x         screw anchor HUS-I 6x35 M8/M10 anchor HUS-I 6x55 M8/M10 anchor HUS-I 6x55 M8/M10 anchor HUS-I 6x55 M8/M10 anchor 2184505           1x         M10 nut eyebolt combo         2184505           1x         eyebolt and lock Kit MW-EB M10 L 5.0/1m Kit MW-EB M10 L 5.0/2m Z280055         2280054 Kit MW-EB M10 L 5.0/3m Z280057           Kit MW-EB M10 L 5.0/10m Kit MW-EB M10 L 5.0/10m         2280057	Screw anchor 1a 1.5 wire 1b 2.0 wire 1c 3.0 wire 1d 5.0 wire 2a 1.5 wire 2b 2.0 wire 2c 3.0 wire 2d 5.0 wire
2e	2e Flush Anchor, M12 Support	2e 6.0 wire
eyebolt combo	6.0 wire           1x         flush anchor           HKD M12x50 anchor         378544           1x         M12 nut         2184554           Eyebolt combo         1x           1x         eyebolt and lock           Kit MW-EB M12 L 6.0/3m         2280059           Kit MW-EB M12 L 6.0/5m         2280060           Kit MW-EB M12 L 6.0/10m         2280061	
		Cable Tray

<ul> <li>Wire system - Electrical - Cable Tray, Ceiling Panel and Busbar On Concrete Slab</li> <li>General comments</li> <li>Loading must always be compared with the capacity of the anchor within</li> </ul>	5 Wire s	system Concre	
Loading must always be compared with the capacity of the anchor within			ete
<ul> <li>the chosen base material and all connected parts.</li> <li>Only for vertically suspended loads. Eye-bolt not suitable for bracing.</li> </ul>	Ancho	ors	

Hilti strongly advises customers to verify the respective product application for the intended use by consulting a structural engineer and making the necessary calculations to ensure compliance with the applicable norms and standards. Failure to consult and heed the advice of a structural engineer will free Hilti from any liability. It is essential that the product is used strictly in accordance with the applicable norms and standards. Failure to consult and heed the advice of a structural engineer will free Hilti from any liability. It is essential that the product is used strictly in accordance with the applicable norms and standards. Failure to consult and heed the advice of a structural engineer will free Hilti from any liability. It is essential that the product is used strictly in accordance with the application finits specified in the Hilti technical data sheets, technical specifications and supporting product literature, and that the relevant application limits are not exceeded at any time. All rights reserved by Hilti Corporation. Duplication, utilization and/or publication of drawings contained in this manual are not permitted unless expressly agreed by Hilti Corporation.



#### Electrical - Cable Tray, Ceiling Panel and Busbar Fixed On a Concrete Girder:



Application description	Application	Product lines	Base material
Wire system - Electrical - Cable Tray, Ceiling Panel and Busbar On Concr. Girder	5	Wire system	Concrete
General comments <ul> <li>Loading must always be compared with the capacity of all connected parts</li> </ul>		Anchors	
and the anchor within the chosen base material. This capacity is affected by the angle of loading from the vertical and the prying factor.			
Only one wire may be suspended on each clip.			

Hill strongly advises customers to verify the respective product application for the intended use by consulting a structural engineer and making the necessary calculations to ensure compliance with the applicable norms and standards. Failure to consult and head the advice of a structural engineer will free Hill instructions for use, within the application limits specified in the Hilt itechnical data sheets, technical specifications and supporting product literature, and that the relevant application limits are not exceeded at any time. All rights reserved by Hilti Corporation. Duplication, utilization and/or publication of drawings contained in this manual are not permitted unless expressly agreed by Hilti Corporation.



#### **Electrical - Cable Tray, Ceiling Panel and Busbar Fixed On Metal Deck:**

1a	1a Deck hook 1.5 wire		2c	2c Through bolted V-hanger 3.0 wire	
1 7	Deck hook		X	V-Hanger	
	1x MW-DH deck hook	2277567	V ~00	1x MF-TSH M8 V-hanger	229006
- P	Loop combo			1x M8 nut	216465
	1x loop and lock		9	Through-bolt version 1-t-rod	
0	Kit MW-LP L 1.5/1m	2280072		1x AM8x1000 fixed t-rod	339793
윤	Kit MW-LP L 1.5/2m	2280073		4x M8 nut	216465
loop combo	Kit MW-LP L 1.5/3m	2280074		Through-bolt ver. 2-long h-head	
9	Kit MW-LP L 1.5/5m	2280075	eyebolt combo	1x M8x120 4.8 hex. head sc.	2063165
<u>8</u>				2x M8 nut	216465
	Kit MW-LP L 1.5/10m	2280076			210400
6				Eyebolt combo	
			A A	1x eyebolt and lock	
1b 7	1b Deck hook		Φ	Kit MW-EB M8 L 3.0/1m	2280049
	2.0 wire			Kit MW-EB M8 L 3.0/2m	2280050
8	Deck hook			Kit MW-EB M8 L 3.0/3m	2280051
		0077507	6	Kit MW-EB M8 L 3.0/5m	2280052
	1x MW-DH deck hook	2277567		Kit MW-EB M8 L 3.0/10m	2280053
loop combo	Loop combo			Through bolted V-hanger	
<u> </u>	1x loop and lock		2d	20	
ŏ	Kit MW-LP L 2.0/1m	2280077		5.0 wire	·
8	Kit MW-LP L 2.0/2m	2280078		V-Hanger	
<u> </u>	Kit MW-LP L 2.0/3m	2280079		1x MF-TSH M10 V-hanger	229007
	Kit MW-LP L 2.0/5m	2280080		1x M10 nut	2184505
*	Kit MW-LP L 2.0/10m	2280081	8	Through-bolt version 1-t-rod	
			u 1 1	1x AM8x1000 fixed t-rod	339793
				4x M8 nut	216465
	Through bolted V-hanger				
2a	20		<u>  4</u>	Through-bolt ver. 2-long h-head	
	1.5 wire		eyebolt combo	1x M8x120 4.8 hex. head sc.	2063165
XX	AV-Hanger			2x M8 nut	216465
	1x MF-TSH M8 V-hanger	229006		Eyebolt combo	
9	1x M8 nut	216465		1x eyebolt and lock	
ė	Through-bolt version 1-t-rod	210400	ω.	Kit MW-EB M10 L 5.0/1m	2280054
e e	1x AM8x1000 fixed t-rod	339793		Kit MW-EB M10 L 5.0/2m	2280055
				Kit MW-EB M10 L 5.0/3m	2280056
	4x M8 nut	216465		Kit MW-EB M10 L 5.0/5m	2280057
<u>q</u>	Through-bolt ver. 2-long h-head		aų.	Kit MW-EB M10 L 5.0/10m	2280058
5	1x M8x120 4.8 hex. head sc.	2063165			
eyebolt combo	2x M8 nut	216465			
8	Eyebolt combo				
	1x eyebolt and lock				<b>.</b>
ΰ	Kit MW-EB M8 L 1.5/1m	2280019			Ceiling panel
	Kit MW-EB M8 L 1.5/2m	2280040			5/1
	Kit MW-EB M8 L 1.5/3m	2280041			A D
4	Kit MW-EB M8 L 1.5/5m	2280042		V-Hanger	A 4
	Kit MW-EB M8 L 1.5/10m	2280043			X A
	Through bolted V-hanger			2a 15 wire	MAR I
2b	20		Baals Haals	1.5 wire	
	2.0 wire		Deck Hook 🗸		
X	V-Hanger		10	<sup>2b</sup> 2.0 wire	
V ~0.	1x MF-TSH M8 V-hanger	229006	1a 1.5 wire		
	1x M8 nut	216465		<sup>2c</sup> 3.0 wire	<0
8	Through-bolt version 1-t-rod	210400			
l f		339793	1b 2.0 wire	2d 5.0 wire	
				5.0 wire	
	4x M8 nut	216465			
eyebolt combo	Through-bolt ver. 2-long h-head s				Busbar
6	1x M8x120 4.8 hex. head sc.	2063165		. *	
	2x M8 nut	216465			AT CA
	Eyebolt combo			A	A B
jet l	1x eyebolt and lock		1 ~ 1 ~ ~	'×'	
ê	Kit MW-EB M8 L 2.0/1m	2280044			TOP 1
	Kit MW-EB M8 L 2.0/2m	2280045			
	Kit MW-EB M8 L 2.0/3m	2280046			
-	Kit MW-EB M8 L 2.0/5m	2280040		1	
ų.					
·	Kit MW-EB M8 L 2.0/10m	2280048			
			e e		1 An
			-	0	
			Cable Tray	L.	

Application description	Application	Product lines	Base material
Wire system - Electrical - Cable Tray, Ceiling Panel and Busbar On Metal Deck	5	Wire system	Metal Deck
General comments <ul> <li>Loading must always be compared with the capacity of the metal deck and</li> </ul>		V-Hangers	
all connected parts. • The deck hook must hang vertically from the deck.		N	
<ul> <li>Only one wire may be suspended on each deck hook.</li> </ul>			
Hilti strongly advises customers to verify the respective product application for the intended use by consulting a structure of the intended use by consulting a			to ensure compliance with the

Hilt strongly advises customers to verify the respective product application for the intended use by consulting a structural engineer and making the necessary calculations to ensure compliance with the applicable norms and standards. Failure to consult and head the advice of a structural engineer will free Hilt from any liability. It is essential that the product is used strictly in accordance with the applicable Hilt instructions for use, within the applicable in the Hilt it technical data sheets, technical specifications and supporting product literature, and that the relevant applicable in the Hilt is are not exceeded at any time. All rights reserved by Hilti Corporation. Duplication, utilization and/or publication of drawings contained in this manual are not permitted unless expressly agreed by Hilti Corporation.



#### Electrical - Cable Tray, Ceiling Panel and Busbar Fixed On Metal Deck - V-hanger with Integrated Nut:

			3	3		
1a		1aThrough bolted V-Hanger1.5 wire		1d	1d Through bolted V-Hai 5.0 wire	nger
		V-Hanger 1x MVA-MS M8 V-hanger 1x M8 nut	386558 2184504		V-Hanger 1x MVA-MS M10 V-hanger 1x M10 nut	386559 2184505
	8	Through-bolt version 1-t-rod	2104504		Through-bolt version 1-t-ro	
		1x AM8x1000 fixed t-rod 4x M8 nut	339793 2184504		1x AM8x1000 fixed t-rod 4x M8 nut	339793 2184504
) e		Through-bolt ver. 2-long h-head		g	Through-bolt ver. 2-long h-	
evebolt combo		1x M8x120 4.8 hex. head sc.	2063165		1x M8x120 4.8 hex. head sc	. 2063165
bolt		2x M8 nut Eyebolt combo	2184504	otto	2x M8 nut Eyebolt combo	2184504
eve		1x eyebolt and lock		eyebolt combo	1x eyebolt and lock	
		Kit MW-EB M8 L 1.5/1m Kit MW-EB M8 L 1.5/2m	2280019 2280040	Φ	Kit MW-EB M10 L 5.0/1m Kit MW-EB M10 L 5.0/2m	
		Kit MW-EB M8 L 1.5/2m	2280040		Kit MW-EB M10 L 5.0/2m	
		Kit MW-EB M8 L 1.5/5m	2280042		Kit MW-EB M10 L 5.0/5m	
		Kit MW-EB M8 L 1.5/10m	2280043		Kit MW-EB M10 L 5.0/10	m 2280058
1b		1b Through bolted V-Hanger 2.0 wire				
		V-Hanger 1x MVA-MS M8 V-hanger	386558	-		V-Hanger with
	9	1x M8 nut	2184504	Through bolted <		self-tapping screws
		Through-bolt version 1-t-rod 1x AM8x1000 fixed t-rod	339793		•	2 1 5 wine
		4x M8 nut	2184504			1.5 wire 2.0 wire
evebolt combo		Through-bolt ver. 2-long h-head starts 1x M8x120 4.8 hex. head sc.	screw 2063165			3.0 wire
lt co		2x M8 nut	2063165			5.0 wire
(ebc		Eyebolt combo				
e l		1x eyebolt and lock Kit MW-EB M8 L 2.0/1m	2280044		13190	
		Kit MW-EB M8 L 2.0/2m	2280045	1a 1.5 wire		
		Kit MW-EB M8 L 2.0/3m Kit MW-EB M8 L 2.0/5m	2280046 2280047			
	- the second sec	Kit MW-EB M8 L 2.0/10m	2280048	1b 2.0 wire		Ceiling panel
1c		1c Through bolted V-Hanger		1c 3.0 wire		· · ·
		3.0 wire V-Hanger		1d 5.0 wire		
		1x MVA-MS M8 V-hanger	386558	5.0 wire		
	1 P	1x M8 nut	2184504		4	
		Through-bolt version 1-t-rod 1x AM8x1000 fixed t-rod	339793		· · ·	
		4x M8 nut	2184504			<b>A</b>
l du		Through-bolt ver. 2-long h-head start 1x M8x120 4.8 hex. head sc.	screw 2063165			
tco		2x M8 nut	2184504			
evebolt combo		Eyebolt combo 1x eyebolt and lock				Busbar
e ve		Kit MW-EB M8 L 3.0/1m	2280049			
		Kit MW-EB M8 L 3.0/2m	2280050			· · · ·
		Kit MW-EB M8 L 3.0/3m Kit MW-EB M8 L 3.0/5m	2280051 2280052		1 ~ 1	
	P	Kit MW-EB M8 L 3.0/10m	2280053			
2	•	2 V-Hanger With Self-Tapping 1.5, 2.0, 3.0 and 5.0 wire	g Screws	~	C'	
		V-Hanger 1x MVA-MS M8 V-hanger	386558	Cable Tray		
		1X MVA-MS M8 V-nanger MVA-MS M10 V-hanger	386558			
		Self-tapping screws				
		6x S-MS 01Z 4.0x13 S-screw Securing nut	406471			
	and Ex	1x M8 nut	2184504			
		M10 nut	2184505			
	<b>U</b>			J		

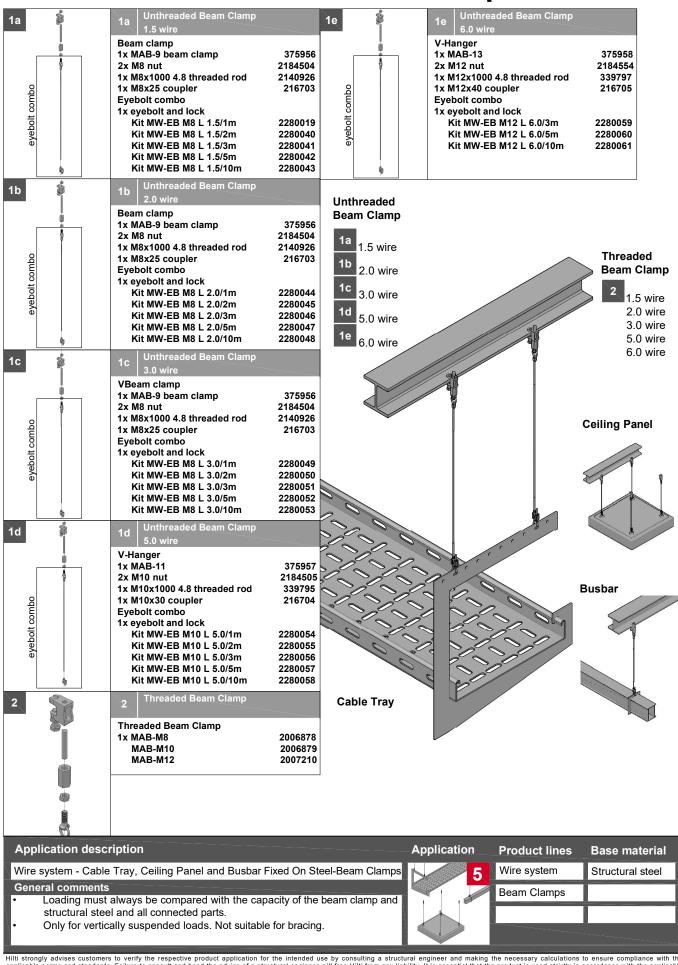
Application description	Application	Product lines	Base material
Wire system - Electrical - Cable Tray, Ceiling Panel and Busbar On Metal Deck	5	Wire system	Metal Deck
<ul> <li>General comments</li> <li>Loading must always be compared with the capacity of the metal deck and all connected parts.</li> <li>Only for vertically suspended loads. Not suitable for bracing.</li> </ul>		V-Hangers	
Hilli strongly advises customers to verify the respective product application for the intended use by consulting a struc			

Hilt istrongly advises customers to verify the respective product application for the intended use by consulting a structural engineer and making the necessary calculations to ensure compliance with the applicable norms and standards. Failure to consult and heed the advice of a structural engineer will free Hilti from any liability. It is essential that the product is used strictly in accordance with the applicable hilti instructions for use, within the application limits specified in the Hilti technical data sheets, technical specifications and supporting product literature, and that the relevant application limits are not exceeded at any time. All rights reserved by Hilti Corporation. Duplication, utilization and/or publication of drawings contained in this manual are not permitted unless expressly agreed by Hilti Corporation.

#### Version 1.0 from 10.2020, Page 57



#### Electrical - Cable Tray, Ceiling Panel and Busbar Fixed On Structural Steel Profiles - Beam Clamps:



Hilli strongly advises customers to verify the respective product application for the intended use by consulting a structural engineer and making the necessary calculations to ensure compliance with the applicable norms and standards. Failure to consult and heed the advice of a structural engineer will free Hilti from any liability. It is essential that the product is used strictly in accordance with the application for use, within the application limits specified in the Hilti technical aspecifications and supporting product literature, and that the relevant application limits are not exceeded at any time. All rights reserved by Hilti Corporation. Duplication, utilization and/or publication of drawings contained in this manual are not permitted unless expressly agreed by Hilti Corporation.



#### Electrical - Cable Tray, Ceiling Panel and Busbar Fixed On Structural Steel Profiles - MM Channel:

1a	1a Centric Fixation Of MM Cha	nnel	Ceiling panel	Busbar	
eyebolt combo	2x MM-T-16-36 beam clamps 1x MM-C-30 2mm channel 1x MM-S M8 saddle nut 1x M8 nut Eyebolt combo 1x eyebolt and lock Kit MW-EB M8 L 1.5/1m Kit MW-EB M8 L 1.5/2m Kit MW-EB M8 L 1.5/3m Kit MW-EB M8 L 1.5/5m Kit MW-EB M8 L 1.5/10m	418763 418749 418760 216465 2280019 2280040 2280041 2280042 2280043			
1b	Centric Fixation Of MM Cha           2.0 wire           2x MM-T-16-36 beam clamps           1x MM-C-30 2mm channel           1x MM-S M8 saddle nut           1x M8 nut           Eyebolt combo	nnel 418763 418749 418760 216465			
eyebolt combo	1x eyebolt and lock Kit MW-EB M8 L 2.0/1m Kit MW-EB M8 L 2.0/2m Kit MW-EB M8 L 2.0/3m Kit MW-EB M8 L 2.0/5m Kit MW-EB M8 L 2.0/10m	2280044 2280045 2280046 2280047 2280048	Centric Fixation Of MM Channel		
	Centric Fixation Of MM Cha           3.0 wire           2x MM-T-16-36 beam clamps           1x MM-C-30 2mm channel           1x MM-S M8 saddle nut           1x M8 nut           Eyebolt combo           1x eyebolt and lock	nnel 418763 418749 418760 216465	5.0 wire		
eyebolt combo	Kit MW-EB M8 L 3.0/1m Kit MW-EB M8 L 3.0/2m Kit MW-EB M8 L 3.0/3m Kit MW-EB M8 L 3.0/5m Kit MW-EB M8 L 3.0/10m	2280049 2280050 2280051 2280052 2280053			4
1d eyebolt combo	1dCentric Fixation Of MM Cha5.0 wire2x MM-T-16-36 beam clamps1x MM-C-30 2mm channel1x MM-S M10 saddle nut1x M10 nutEyebolt combo1x eyebolt and lockKit MW-EB M10 L 5.0/1mKit MW-EB M10 L 5.0/2mKit MW-EB M10 L 5.0/3mKit MW-EB M10 L 5.0/5mKit MW-EB M10 L 5.0/10m	118763 418763 418749 418761 2184505 2280054 2280055 2280056 2280056 2280057 2280058			
			Cable Tray		

Application description	Application	Product lines	Base material
Wire system - Electrical - Cable Tray, Ceiling P. and Busbar On Steel MM Cahnnel	5	Wire system	Structural steel
General comments <ul> <li>Loading must always be compared with the capacity of structural steel and</li> </ul>		Beam Clamps	
all connected parts		MM System	
Only for vertically suspended loads. Not suitable for bracing.			
Hilti strongly advises customers to verify the respective product application for the intended use by consulting a struc	tural engineer and making	the necessary calculations	to ensure compliance with the

Hill strongly advises customers to verify the respective product application for the intended use by consulting a structural engineer and making the necessary calculations to neure compliance with the applicable norms and standards. Failure to consult and head the advice of a structural engineer will free Hill from any liability. It is essential that the product is used strictly in accordance with the applicable Hill instructions for use, within the application limits specified in the Hill technical data sheets, technical specifications and supporting product literature, and that the relevant application limits are not exceeded at any time. All rights reserved by Hilti Corporation. Duplication, utilization and/or publication of drawings contained in this manual are not permitted unless expressly agreed by Hilti Corporation.



#### Electrical - Cable Tray, Ceiling Panel and Busbar Fixed On Structural Steel Profiles - MQ Channel:

1a	1a Centric Fixation Of MQ Cha 1.5 wire	nnel	1e	1e Centric Fixation Of MQ Ch 6.0 wire	annel
eyebolt combo	2x MQT-U beam clamp 1x MQ-41 3m channel 1x MQA-S-M8 saddle nut 1x M8 nut Eyebolt combo 1x eyebolt and lock Kit MW-EB M8 L 1.5/1m Kit MW-EB M8 L 1.5/2m Kit MW-EB M8 L 1.5/3m Kit MW-EB M8 L 1.5/5m Kit MW-EB M8 L 1.5/10m	2115454 369591 2141906 2184504 2280049 2280040 2280041 2280042 2280043	eyebalt combo	2x MQT-U beam clamp 1x MQ-41 3m channel 1x MQA-M12-B saddle nut 1x M12 nut Eyebolt combo 1x eyebolt and lock Kit MW-EB M12 L 6.0/3m Kit MW-EB M12 L 6.0/10m	2115454 369591 2199453 2184554 2280059 2280060 2280061
1b	1b Centric Fixation Of MQ Cha 2.0 wire	nnel			ve Beam Clamps
ombo	2x MQT-U beam clamp 1x MQ-41 3m channel 1x MQA-S-M8 saddle nut 1x M8 nut Eyebolt combo 1x eyebolt and lock	2115454 369591 2141906 2184504	Centric Fixation Of MQ Channel 1a 1.5 wire	<b>▲ MQT</b> 1.5 wire 2.0 wire 3.0 wire 5.0 wire 6.0 wire	
eyebolt combo	\$ Kit MW-EB M8 L 2.0/1m Kit MW-EB M8 L 2.0/2m Kit MW-EB M8 L 2.0/3m Kit MW-EB M8 L 2.0/5m Kit MW-EB M8 L 2.0/10m	2280044 2280045 2280046 2280047 2280048	1b         2.0 wire           1c         3.0 wire           1d         5.0 wire		
1c	Centric Fixation Of MQ Cha           3.0 wire           2x MQT-U beam clamp           1x MQ-41 3m channel	2115454 369591	1e 6.0 wire	A A A A A A A A A A A A A A A A A A A	9 8 
eyebolt combo	1x MQA-S-M8 saddle nut 1x M8 nut Eyebolt combo 1x eyebolt and lock Kit MW-EB M8 L 3.0/1m Kit MW-EB M8 L 3.0/2m Kit MW-EB M8 L 3.0/3m Kit MW-EB M8 L 3.0/5m Kit MW-EB M8 L 3.0/10m	2141906 2184504 2280049 2280050 2280051 2280052 2280053		Ceiling p	anel
1d	1d Centric Fixation Of MQ Cha 5.0 wire 2x MQT-U beam clamp	2115454			
eyebolt combo	1x MQ-41 3m channel 1x MQA-S-M10 saddle nut 1x M10 nut Eyebolt combo 1x eyebolt and lock Kit MW-EB M10 L 5.0/1m Kit MW-EB M10 L 5.0/2m Kit MW-EB M10 L 5.0/3m Kit MW-EB M10 L 5.0/10m	369591 2141907 2184505 2280054 2280055 2280056 2280056 2280057 2280058		Busbar	
2	2 Atternative Beam Clamp MQT 2x MQT-21-41 beam clamp 1x MQ-41 3mm channel	369675 369591	Cab	le Trav	
2	MQT 2x MQT-21-41 beam clamp			91	

Application description	Application	Product lines	Base material
Wire system - Electrical - Cable Tray, Ceiling P. and Busbar On Steel-MQ Cahnnel	5	Wire system	Structural steel
General comments <ul> <li>Loading must always be compared with the capacity of the structural steel</li> </ul>		Beam Clamps	
and all connected parts.		MQ Channel	
Only for vertically suspended loads. Not suitable for bracing.			
Lift strengly advises systemate to varify the respective product application for the intended use by consulting a structure			

Hilti strongly advises customers to verify the respective product application for the intended use by consulting a structural engineer and making the necessary calculations to ensure compliance with the applicable norms and standards. Failure to consult and heed the advice of a structural engineer will free Hilti from any liability. It is essential that the product is used strictly in accordance with the applicable norms, within the application limits specified in the Hilti technical absets, technical specifications and supporting product literature, and that the relevant application limits appecified in the Hilti action and/or publication of drawings contained in this manual are not permitted unless expressly agreed by Hilti Corporation.



#### Electrical - Cable Tray, Ceiling Panel and Busbar Fixed On Structural Steel Profiles - Looped:

1a	1a Looping The Profile 1.5 wire	- Ceiling panel	Busbar
loop combo	Kit MW-LP L 1.5/2m         22           Kit MW-LP L 1.5/3m         22           Kit MW-LP L 1.5/5m         22	880072 880073 880074 880076	
1b oqueo dog	Kit MW-LP L 2.0/2m         22           Kit MW-LP L 2.0/3m         22           Kit MW-LP L 2.0/5m         22	80077 880078 880079 880080 880081	
1c oqueo dool	Kit MW-LP L 3.0/2m         22           Kit MW-LP L 3.0/3m         22           Kit MW-LP L 3.0/5m         22	80082 80083 80084 80085 80086	Looping The Profile 1a 1.5 wire 1b 2.0 wire 1c 3.0 wire 5.0 wire
1d oppo combo	Kit MW-LP L 5.0/2m         22           Kit MW-LP L 5.0/3m         22           Kit MW-LP L 5.0/5m         22	87096 87097 87098 87580	

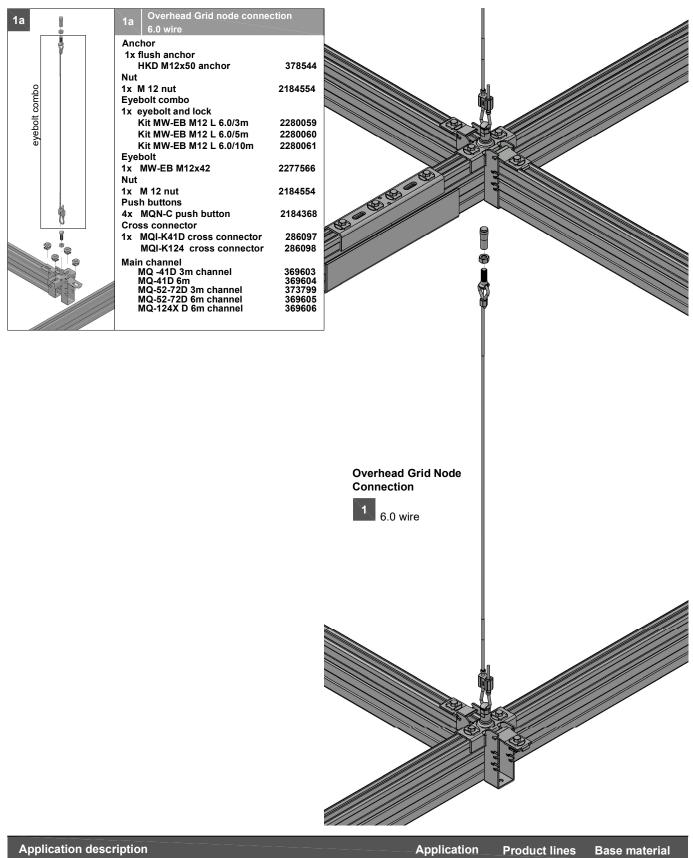
Application description	Application	Product lines	Base material
Wire system - Electrical - Cable Tray, Ceiling Panel and Busbar On Steel - Looped	5	Wire system	Structural steel
<ul> <li>General comments</li> <li>Loading must always be compared with the capacity of the structural steel and all connected parts.</li> <li>Sharp edges must be avoided to prevent damage to the wire</li> </ul>			
Hilli strongly advises customers to verify the respective product application for the intended use by consulting a struct	hand a pine of a phine.		

Hilt istrongly advises customers to verify the respective product application for the intended use by consulting a structural engineer and making the necessary calculations to ensure compliance with the applicable norms and standards. Failure to consult and heed the advice of a structural engineer will free Hilti from any liability. It is essential that the product is used strictly in accordance with the applicable horms and standards. Failure to consult and heed the advice of a structural engineer will free Hilti free Hilti free Hilti free Hilti restructions and supporting product literature, and that the relevant application limits apecified in the Hilti technical ata sheets, technical specifications and supporting product literature, and that the relevant application limits are not exceeded at any time. All rights reserved by Hilti Corporation. Duplication, utilization and/or publication of drawings contained in this manual are not permitted unless expressly agreed by Hilti Corporation.

Version 1.0 from 10.2020, Page 61



### **Overhead Grid System Fixed On Concrete Slab:**

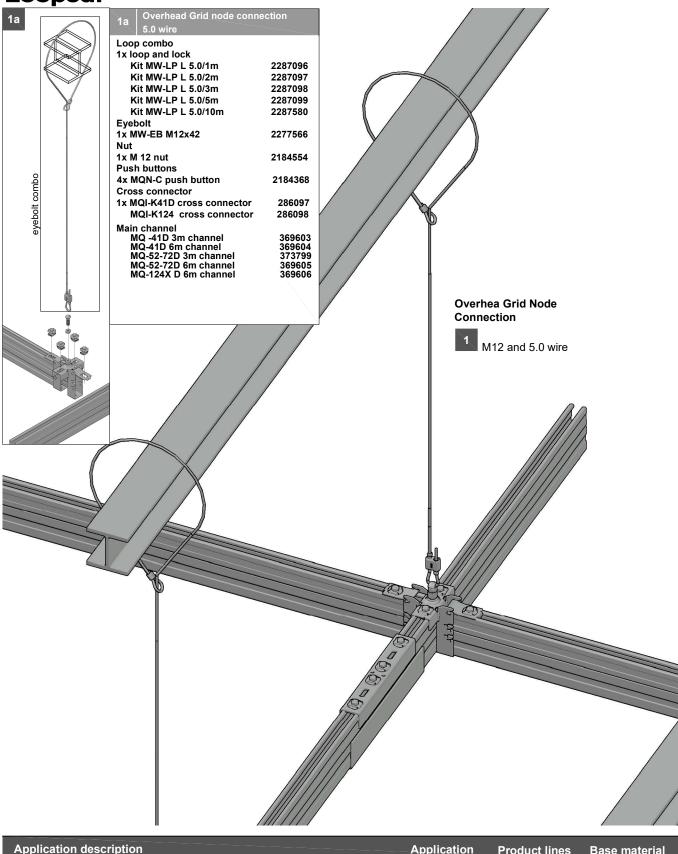


Wire system - Overhead Grid System Fixed On Concrete Slab	6	Wire system	Concrete
General comments <ul> <li>Loading must always be compared with the capacity of the anchor within</li> </ul>		OHG Grid system	
the chosen base material and all connected parts.		MQ system	
Only for vertically suspended loads. Eye-bolt not suitable for bracing.			

Hilti strongly advises customers to verify the respective product application for the intended use by consulting a structural engineer and making the necessary calculations to ensure compliance with the applicable norms and standards. Failure to consult and heed the advice of a structural engineer will free Hilti from any liability. It is essential that the product is used strictly in accordance with the applications for use, within the application limits specified in the Hilti technical data sheets, technical specifications and supporting product life user, and that the relevant application limits are not exceeded at any time. All rights reserved by Hilti Corporation. Duplication, utilization and/or publication of drawings contained in this manual are not permitted unless expressly agreed by Hilti Corporation.



#### **Overhead Grid System Fixed On Structural Steel -**Looped:

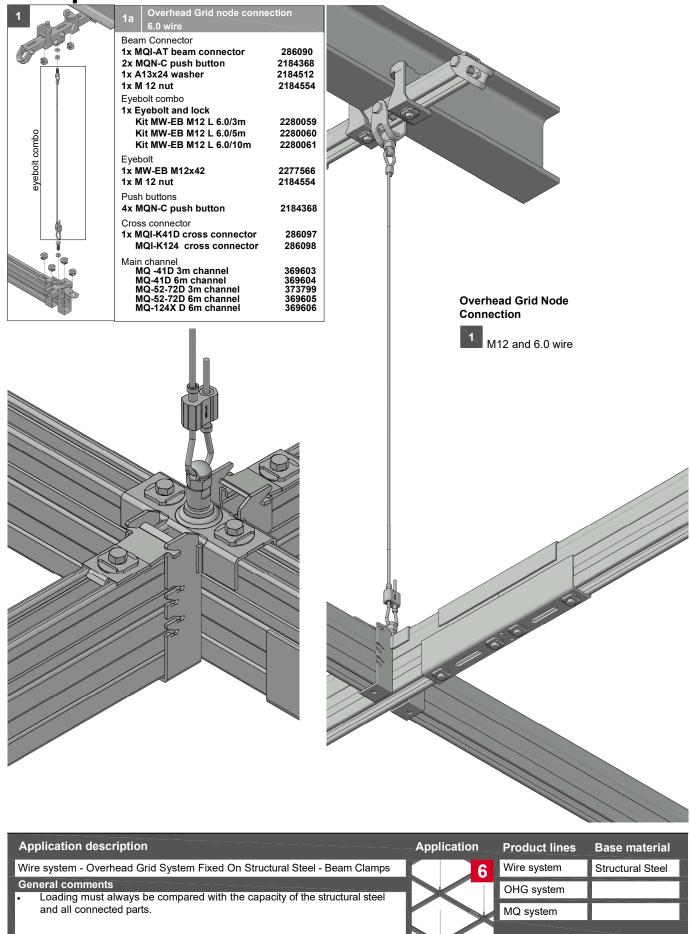


Арр	plication description	_ Application _	Product lines	Base material
Wire	e system - Overhead Grid System Fixed On Structural Steel - Looped	6	Wire system	Structural Steel
Gen •	eral comments Loading must always be compared with the capacity of the structural steel		OHG system	
/	and all connected parts.		MQ system	
	Sharp edges must be avoided to prevent damage to the wire.			

Hilti strongly advises customers to verify the respective product application for the intended use by consulting a structural engineer and making the necessary calculations to ensure compliance with the applicable norms and standards. Failure to consult and heed the advice of a structural engineer will free Hilti from any liability. It is essential that the product is used strictly in accordance with the applications for use, within the application limits specified in the Hilti technical data sheets, technical specifications and supporting product literature, and that the relevant application limits are not exceeded at any time. All rights reserved by Hilti Corporation. Duplication, utilization and/or publication of drawings contained in this manual are not permitted unless expressly agreed by Hilti Corporation.



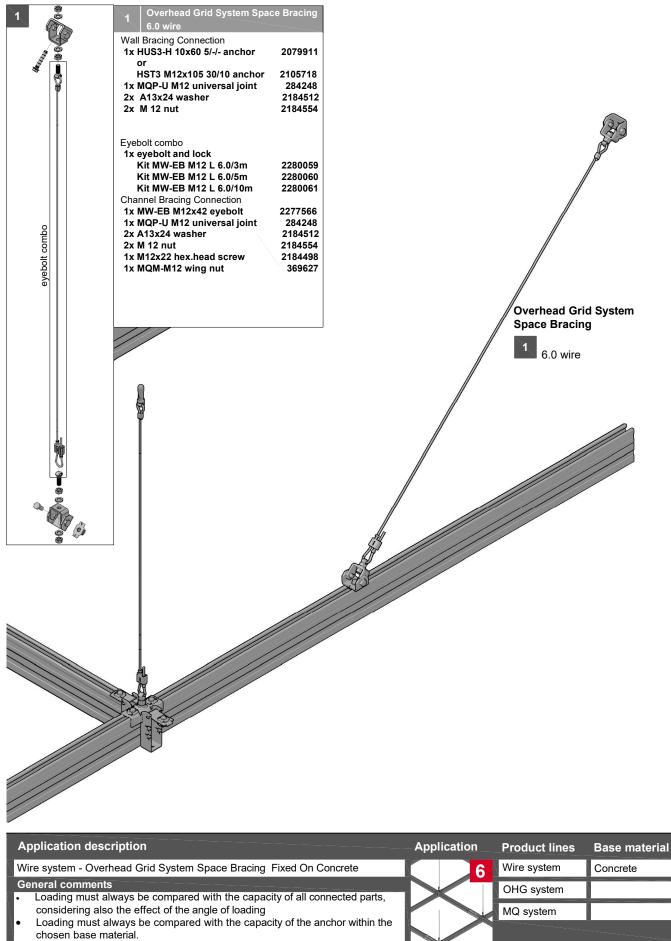
#### Overhead Grid System Fixed On Structural Steel - Beam Clamps:



Hilli strongly advises customers to verify the respective product application for the intended use by consulting a structural engineer and making the necessary calculations to ensure compliance with the applicable norms and standards. Failure to consult and heed the advice of a structural engineer will free Hilti from any liability. It is essential that the product is used strictly in accordance with the applications for use, within the application inits specified in the Hilti technical apscifications and supporting product liferume, and that the relevant application limits are not exceeded at any time. All rights reserved by Hilti Corporation. Duplication, utilization and/or publication of drawings contained in this manual are not permitted unless expressly agreed by Hilti Corporation.



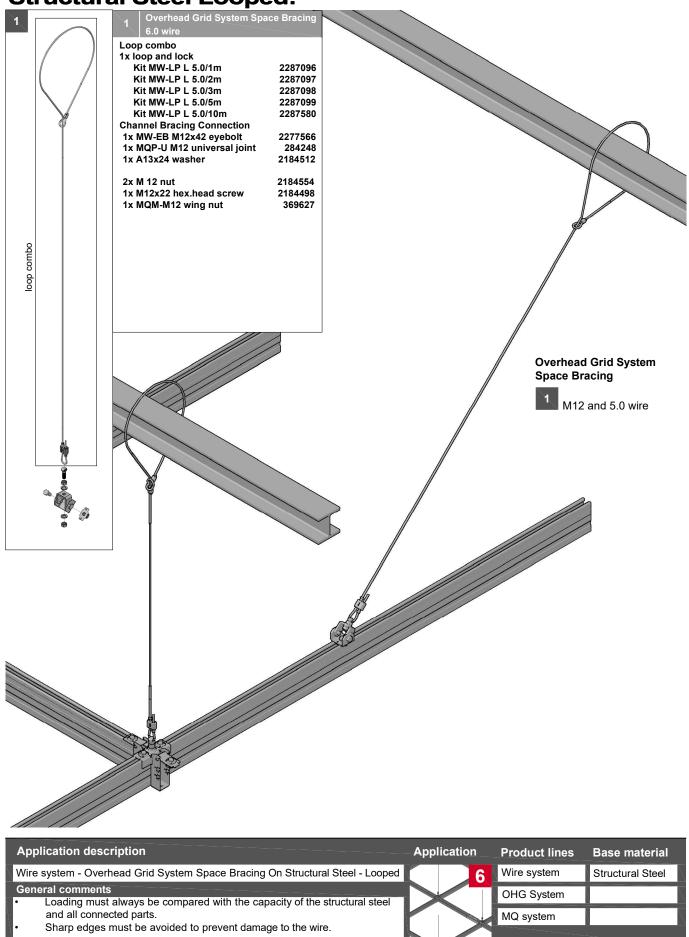
#### Overhead Grid System Space Bracing Fixed On Concrete:



Hilli strongly advises customers to verify the respective product application for the intended use by consulting a structural engineer and making the necessary calculations to ensure compliance with the applicable norms and standards. Failure to consult and heed the advice of a structural engineer will free Hilti from any liability. It is essential that the product is used strictly in accordance with the applications for use, within the application lints specified in the Hilti technical apear sheets, technical specifications and supporting product life user, and that the relevant application limits specified in the Hilti entructural engineer will reduce a structural engineer and making the necessary calculations for use, within the application in the specified in the Hilti exchical apear sheets, technical specifications and supporting product liferature, and that the relevant application limits are not exceeded at any time. All rights reserved by Hilti Corporation. Duplication, utilization and/or publication of drawings contained in this manual are not permitted unless expressly agreed by Hilti Corporation.



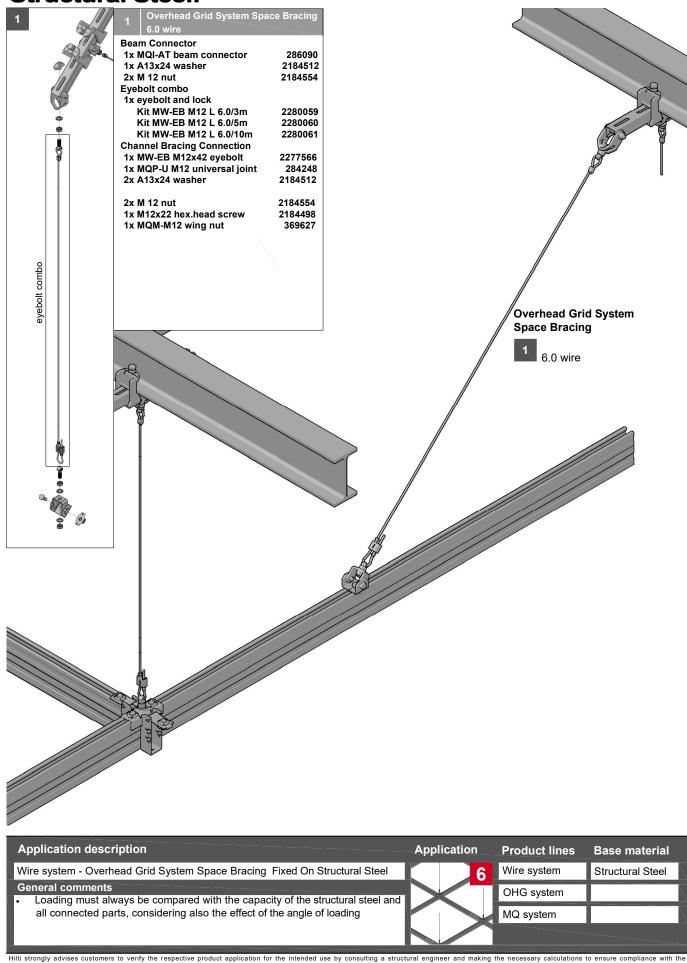
#### **Overhead Grid Space Bracing System Fixed On** Structural Steel Looped:



Hilli strongly advises customers to verify the respective product application for the intended use by consulting a structural engineer and making the necessary calculations to ensure compliance with the applicable norms and standards. Failure to consult and heed the advice of a structural engineer will free Hilti from any liability. It is essential that the product is used strictly in accordance with the applications for use, within the application inits specified in the Hilti technical apscifications and supporting product liferume, and that the relevant application limits are not exceeded at any time. All rights reserved by Hilti Corporation. Duplication, utilization and/or publication of drawings contained in this manual are not permitted unless expressly agreed by Hilti Corporation.



#### **Overhead Grid Space Bracing System Fixed On** Structural Steel:

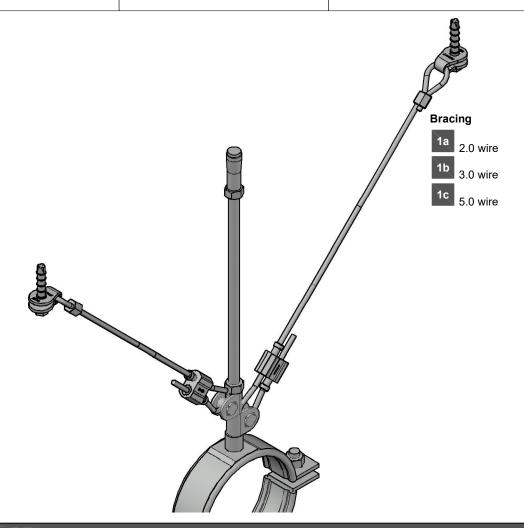


Hilli strongly advises customers to verify the respective product application for the intended use by consulting a structural engineer and making the necessary calculations to ensure compliance with the applicable norms and standards. Failure to consult and heed the advice of a structural engineer will free Hilti from any liability. It is essential that the product is used strictly in accordance with the applications for use, within the application inits specified in the Hilti technical aspecifications and supporting product literature, and that the relevant application limits are not exceeded at any time. All rights reserved by Hilti Corporation. Duplication, utilization and/or publication of drawings contained in this manual are not permitted unless expressly agreed by Hilti Corporation.



## **Bracing - Single Fastening Point on Concrete Slab:**

1a Bracing 2.0 wire		1b Bracing 3.0 wire		1c Bracing 5.0 wire		1a-c
Anchor		Anchor		Anchor		
1x HUS3-H 8x75 25/15/5 anchor	2079796	1x HUS3-H 8x75 25/15/5 anchor	2079796	1x HUS3-H 8x75 25/15/5 anchor	2079796	
HST3 M10x90 30/10 anchor	2105712	HST3 M10x90 30/10 anchor	2105712	HST3 M10x90 30/10 anchor	2105712	
Clip		Clip		Clip		
1x MW-C clip	2287563	1x MW-C clip	2287563	1x MW-C clip	2287563	
Loop combo		Loop combo		Loop combo		AF
1x loop and lock		1x loop and lock		1x loop and lock		
Kit MW-LP L 2.0/1m	2280077	Kit MW-LP L 3.0/1m	2280082	Kit MW-LP L 5.0/1m	2287096	🦧   🕻
Kit MW-LP L 2.0/2m	2280078	Kit MW-LP L 3.0/2m	2280083	Kit MW-LP L 5.0/2m	2287097	l 🌷
Kit MW-LP L 2.0/3m	2280079	Kit MW-LP L 3.0/3m	2280084	Kit MW-LP L 5.0/3m	2287098	
Kit MW-LP L 2.0/5m	2280080	Kit MW-LP L 3.0/5m	2280085	Kit MW-LP L 5.0/5m	2287099	loop combo
Kit MW-LP L 2.0/10m	2280081	Kit MW-LP L 3.0/10m	2280086	Kit MW-LP L 5.0/10m	2287580	b b
Seismic hinge		Seismic hinge		Seismic hinge		b c
1x MQS-H-8	2083738	1x MQS-H-8	2083738	1x MQS-H-8	2083738	8
1x MQS-H-10	2083739	1x MQS-H-10	2083739	1x MQS-H-10	2083739	-
1x MQS-H-12	2083740	1x MQS-H-12	2083740	1x MQS-H-12	2083740	
						1
						G



Application description		Application	Product lines	Base material
Wire system - Bracing Single Fastening Point On Concrete	Slab	. / 7	Wire system	Concrete
<ul> <li>General comments</li> <li>Loading must always be compared with the capacity and the anchor within the chosen base material. This the angle of loading from the vertical and the prying f</li> <li>Only one wire may be suspended on each clip.</li> </ul>	s capacity is affected by		MQS System	
Hilti strangly advises systematic to varify the respective product application for the in	tended use by sensulting a structu	rel engineer and making	the necessary coloulations	to opeuro compliance with the

Hilti strongly advises customers to verify the respective product application for the intended use by consulting a structural engineer and making the necessary calculations to ensure compliance with the applicable norms and standards. Failure to consult and heed the advice of a structural engineer will free Hilti from any liability. It is essential that the product is used strictly in accordance with the applicable norms and standards. Failure to consult and heed the advice of a structural engineer will free Hilti from any liability. It is essential that the product is used strictly in accordance with the application functions for use, within the application initis specified in the Hilti technical absets, technical specifications and supporting product literature, and that the relevant application limits are not exceeded at any time. All rights reserved by Hilti Corporation. Duplication, utilization and/or publication of drawings contained in this manual are not permitted unless expressly agreed by Hilti Corporation.



## Bracing - Single Fastening Point on Concrete Slab - Double Connection:

Anchor       Anchor       Anchor       Anchor         1x HUS3-H 8x75 25/15/5 anchor       2079796       1x HUS3-H 8x75 25/15/5 anchor       2079796       1x HUS3-H 8x75 25/15/5 anchor       2079796         HST3 M10x90 30/10 anchor       2105712       HST3 M10x90 30/10 anchor       2105712       Clip       1x HUS3-H 8x75 25/15/5 anchor       2079796         Clip       1x MW-C clip       2287563       1x MW-C clip       2287563       1x MW-C clip       2287563         Loop combo       1x loop and lock         Kit MW-LP L 2.0/1m       2280077       Kit MW-LP L 3.0/1m       2280082       Kit MW-LP L 5.0/1m       2287096         Kit MW-LP L 2.0/2m       2280078       Kit MW-LP L 3.0/2m       2280083       Kit MW-LP L 5.0/3m       2287097         Kit MW-LP L 2.0/3m       2280079       Kit MW-LP L 3.0/3m       2280084       Kit MW-LP L 5.0/3m       2287098         Kit MW-LP L 2.0/3m       2280081       Kit MW-LP L 3.0/1om       2280085       Kit MW-LP L 5.0/1om       2287098         Kit MW-LP L 2.0/1m       2280081       Kit MW-LP L 3.0/1om       2280085       Kit MW-LP L 5.0/1om       2287098       2287098         Kit MW-LP L 2.0/3m       2280081       Kit MW-LP L 3.0/1om </th
MQS-A 16.3 2083724

Bracing

2.0 wire

3.0 wire

5.0 wire

1a

1b

1c

 Application description
 Application
 Product lines
 Base material

 Wire system - Bracing Single Fastening Point On Concrete Slab - Double
 7
 Wire system
 Concrete

 General comments

 Loading must always be compared with the capacity of all connected parts and the anchor within the chosen base material. This capacity is affected by the angle of loading from the vertical and the prying factor.
 Only one wire may be suspended on each clip.

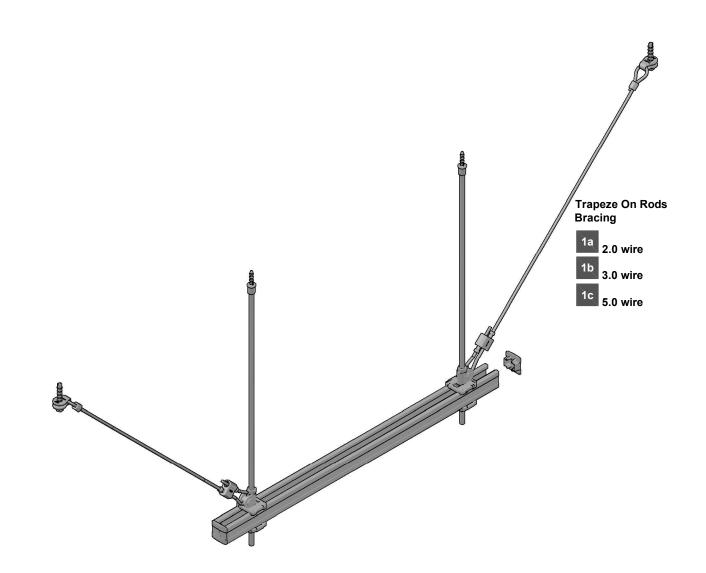
 MQS System
 Image: Concrete state st

Hilti strongly advises customers to verify the respective product application for the intended use by consulting a structural engineer and making the necessary calculations to ensure compliance with the applicable norms and standards. Failure to consult and heed the advice of a structural engineer will free Hilti from any liability. It is essential that the product is used strictly in accordance with the applications for use, within the application inits specified in the Hilti technical aspecifications and supporting product literature, and that the relevant application limits specified in the Hilti action and/or publication of drawings contained in this manual are not permitted unless expressly agreed by Hilti Corporation.



### **Bracing - Trapeze On Rods Fixed On Concrete Slab:**

a Bracing 2.0 wire		1b Bracing 3.0 wire		1c Bracing 5.0 wire		1a-c
Anchor		Anchor		Anchor		
1x HUS3-H 8x75 25/15/5 anchor	2079796	1x HUS3-H 8x75 25/15/5 anchor	2079796	1x HUS3-H 8x75 25/15/5 anchor		
HST3 M10x90 30/10 anchor	2105712	HST3 M10x90 30/10 anchor	2105712	HST3 M10x90 30/10 anchor	2105712	
Clip		Clip		Clip		
1x MW-C clip	2287563	1x MW-C clip	2287563	1x MW-C clip	2287563	
_oop combo		Loop combo		Loop combo		
1x Loop and lock		1x Loop and lock		1x Loop and lock		ရှိ
Kit MW-LP L 2.0/1m	2280077	Kit MW-LP L 3.0/1m	2280082	Kit MW-LP L 5.0/1m	2287096	combo
Kit MW-LP L 2.0/2m	2280078	Kit MW-LP L 3.0/2m	2280083	Kit MW-LP L 5.0/2m	2287097	
Kit MW-LP L 2.0/3m	2280079	Kit MW-LP L 3.0/3m	2280084	Kit MW-LP L 5.0/3m	2287098	doo
Kit MW-LP L 2.0/5m	2280080	Kit MW-LP L 3.0/5m	2280085	Kit MW-LP L 5.0/5m	2287099	-
Kit MW-LP L 2.0/10m	2280081	Kit MW-LP L 3.0/10m	2280086	Kit MW-LP L 5.0/10m	2287580	
1x Seismic hinge		1x Seismic hinge		1x Seismic hinge		
MQS-H-8	2083738	MQS-H-8	2083738	MQS-H-8	2083738	
MQS-H-10	2083739	MQS-H-10	2083739	MQS-H-10	2083739	
MQS-H-12	2083740	MQS-H-12	2083740	MQS-H-12	2083740	



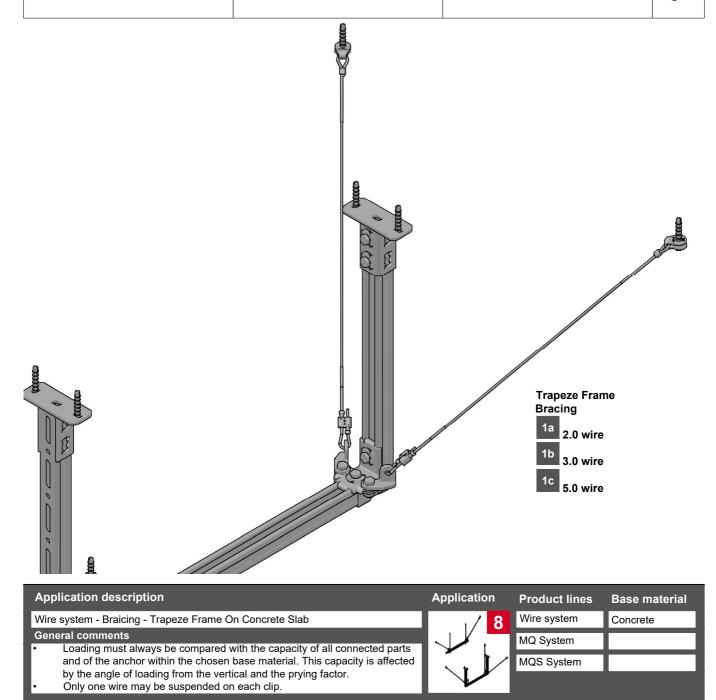
Application description	Application	Product lines	Base material
Wire system - Bracing - Trapeze On Rods On Concrete Slab	1/ 8	Wire system	Concrete
General comments <ul> <li>Loading must always be compared with the capacity of all connected parts</li> </ul>		MQ System	
and anchor within the chosen base material. This capacity is affected by the		MQS System	
<ul> <li>angle of loading from the vertical and the prying factor.</li> <li>Only one wire may be suspended on each clip.</li> </ul>			
Hilti strongly advises customers to verify the respective product application for the intended use by consulting a struct	ural engineer and making	the necessary calculations	to ensure compliance with the

Hill strongly advises customers to verify the respective product application for the intended use by consulting a structural engineer and making the necessary calculations to neure compliance with the applicable norms and standards. Failure to consult and head the advice of a structural engineer will free Hill instructions for use, within the application limits specified in the Hilt itechnical data sheets, technical specifications and supporting product literature, and that the relevant application limits are not exceeded at any time. All rights reserved by Hilti Corporation. Duplication, utilization and/or publication of drawings contained in this manual are not permitted unless expressly agreed by Hilti Corporation.



### **Bracing - Trapeze Frame Fixed On Concrete Slab:**

1a Bracing 2.0 wire		1b Bracing 3.0 wire		1c Bracing 5.0 wire		1a-c
Anchor		Anchor		Anchor		9
1x HUS3-H 8x75 25/15/5 anchor	2079796	1x HUS3-H 8x75 25/15/5 anchor	2079796	1x HUS3-H 8x75 25/15/5 anchor	2079796	0
HST3 M10x90 30/10 anchor	2105712	HST3 M10x90 30/10 anchor	2105712	HST3 M10x90 30/10 anchor	2105712	8
Clip		Clip		Clip		
1x MW-C clip	2287563	1x MW-C clip	2287563	1x MW-C clip	2287563	
Loop combo		Loop combo		Loop combo		
1x Loop and lock		1x Loop and lock		1x Loop and lock		
Kit MW-LP L 2.0/1m	2280077	Kit MW-LP L 3.0/1m	2280082	Kit MW-LP L 5.0/1m	2287096	
Kit MW-LP L 2.0/2m	2280078	Kit MW-LP L 3.0/2m	2280083	Kit MW-LP L 5.0/2m	2287097	combo
Kit MW-LP L 2.0/3m	2280079	Kit MW-LP L 3.0/3m	2280084	Kit MW-LP L 5.0/3m	2287098	5
Kit MW-LP L 2.0/5m	2280080	Kit MW-LP L 3.0/5m	2280085	Kit MW-LP L 5.0/5m	2287099	
Kit MW-LP L 2.0/10m	2280081	Kit MW-LP L 3.0/10m	2280086	Kit MW-LP L 5.0/10m	2287580	doo
1x Seismic hinge		1x Seismic hinge		1x Seismic hinge		
MQS-A 11.5	2083722	MQS-A 11.5	2083722	MQS-A 11.5	2083722	
1x Seismic trapeze angle		1x Seismic trapeze angle		1x Seismic trapeze angle		
MQS-W-41 angle	2083735	MQS-W-41 angle	2083735	MQS-W-41 angle	2083735	D
MQS-W-72 angle	2083736	MQS-W-72 angle	2083736	MQS-W-72 angle	2083736	
MQS-W-41D angle	2083737	MQS-W-41D angle	2083737	MQS-W-41D angle	2083737	o Stale



Hilti strongly advises customers to verify the respective product application for the intended use by consulting a structural engineer and making the necessary calculations to ensure compliance with the applicable norms and standards. Failure to consult and heed the advice of a structural engineer will free Hilti from any liability. It is essential that the product is used strictly in accordance with the applicable norms, within the application inits specified in the Hilti technical again sheets, technical specifications and supporting product literature, and that the relevant application limits are not exceeded at any time. All rights reserved by Hilti Corporation. Duplication, utilization and/or publication of drawings contained in this manual are not permitted unless expressly agreed by Hilti Corporation.



www.facebook.com/hiltigroup www.hilti.group