Technical Sheet

FM-MP3 evo
Heavy Duty Three Segments Through Anchor

The FM-MP3 evo is an anchor made of galvanised steel, which is placed into a drilled hole and anchored by torque-controlled expansion.







Features

Material

- Steel
- White zinc plated

Benefits

- Universal metallic anchor even for hollow base materials
- Single shell body with exclusive cone containing system
- Accessories for all types of fixing requirements
- Fire resistance R120

Applications

Applications

- Safety barriers
- Fencing
- Railings

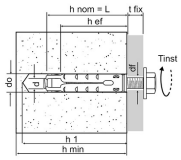
Suitable for

- Multiple use for non-structural applications on cracked and non-cracked concrete

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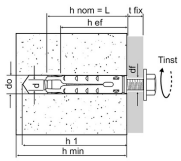
Technical Data



Product Dimensions Anchor Only

Reference	Metallic fixings dimensions								Installation data			
	Title	Product Dimensions[mm]		Other					Installation data			Spacing and edge distances
		Plug[mm]	Size[mm]	Hole diameter [d_o][mm]	Min. setting depth [h_{ef}][mm]	Hole diameter in fixture [df] [mm]	Qty per box[stk]	Qty per outer box	Min. hole depth [h_1] [mm]	Nominal embedment depth [h_{nom}] [mm]	Installation torque[Nm]	Min. support thickness[mm]
73300B1004500	FM-MP3 evo	10x45*	M6	10	36	8	50.0	500	60	45	8	100

*Certified product when coupled with hex head screw DIN933 grade 8.8 and washer DIN125-1 ($t_{fix} = L_v - h_{nom}$)



Product Dimensions Hex Head Screw

Reference	Metallic fixings dimensions										Installation data			
	Title	Product Dimensions[mm]			Other						Installation data			Spacing and edge distances
		Plug[mm]	Hex head screw	Thread length [Lv] [mm]	Fixture thickness [$tf_{ix,max}$] with standard setting depth [$h_{ef,stD}$][mm]	Hole diameter [d_o] [mm]	Min. setting depth [h_{ef}] [mm]	Hole diameter in fixture [df][mm]	Qty per box[stk]	Qty per outer box	Min. hole depth [h_1] [mm]	Nominal embedment depth [h_{nom}][mm]	Installation torque[Nm]	Min. support thickness[mm]

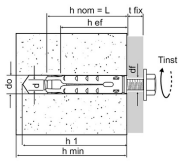
** Not covered by CE certification

Technical Sheet

FM-MP3 evo

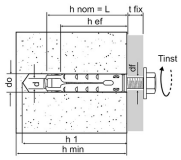
Heavy Duty Three Segments Through Anchor

Product Dimensions Hex Head Screw Large Washer



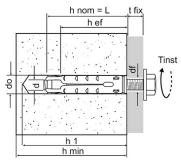
Reference	Metallic fixings dimensions										Installation data			
	Title	Product Dimensions[mm]			Other						Installation data			Spacing and edge distances
		Plug[mm]	Hex head screw	Thread length [Lv] [mm]	Fixture thickness [$tf_{ix,max}$] with standard setting depth [$h_{ef,stD}$][mm]	Hole diameter [d_o] [mm]	Min. setting depth [h_{ef}] [mm]	Hole diameter in fixture [df][mm]	Qty per box[stk]	Qty per outer box	Min. hole depth [h_1] [mm]	Nominal embedment depth [h_{nom}][mm]	Installation torque[Nm]	Min. support thickness[mm]
**Not covered by CE certification														

Product Dimensions Threaded Bar



Reference	Metallic fixings dimensions										Installation data			
	Title	Product Dimensions[mm]			Other						Installation data			Spacing and edge distances
		Plug[mm]	Bar	Thread length [Lv] [mm]	Fixture thickness [$tf_{ix,max}$] with standard setting depth [$h_{ef,stD}$][mm]	Hole diameter [d_o] [mm]	Min. setting depth [h_{ef}] [mm]	Hole diameter in fixture [df][mm]	Qty per box[stk]	Qty per outer box	Min. hole depth [h_1] [mm]	Nominal embedment depth [h_{nom}][mm]	Installation torque[Nm]	Min. support thickness[mm]
**Not covered by CE certification														

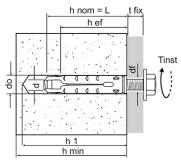
Product Dimensions Forged Cup Hook



Reference	Metallic fixings dimensions									Installation data			
	Title	Product Dimensions[mm]				Other				Installation data			Spacing and edge distances
		Plug[mm]	Cup hook	Internal Ø hook or eye [O] [mm]	Thread length [Lv][mm]	Hole diameter [d_o][mm]	Min. setting depth [h_{ef}] [mm]	Qty per box[stk]	Qty per outer box	Min. hole depth [h_1][mm]	Nominal embedment depth [h_{nom}] [mm]	Installation torque[Nm]	Min. support thickness[mm]
**Not covered by CE certification													

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Product Dimensions Forged Eye

Reference	Metallic fixings dimensions									Installation data			
	Title	Product Dimensions[mm]				Other				Installation data			Spacing and edge distances
		Plug[mm]	Eye	Internal Ø hook or eye [O][mm]	Thread length [Lv][mm]	Hole diameter [d_o][mm]	Min. setting depth [h_{ef}] [mm]	Qty per box[stk]	Qty per outer box	Min. hole depth [h_1][mm]	Nominal embedment depth [h_{nom}] [mm]	Installation torque[Nm]	Min. support thickness[mm]
**Not covered by CE certification													

Recommended loads / for single anchors / with no edge distances or spacings - ETA-09/0067

Reference	Metallic fixings dimensions	Metallic fixings loads								
	Title	Recommended loads - Non-cracked concrete								
		Bending moment M_{reC}[Nm]	Tension - N_{reC}[kN]				Shear - V_{reC}[kN]			
			C20/25[kN]	C30/37[kN]	C40/50[kN]	C50/60[kN]	C20/25[kN]	C30/37[kN]	C40/50[kN]	C50/60[kN]
73300B1004500	FM-MP3 evo	7	3.6	4.4	5.1	5.6	3.7	3.7	3.7	3.7

1. The recommended loads have been calculated using the partial safety factors for resistances stated in ETA-approval(s) and with a partial safety factor for actions of γF=1.4. The loading figures
are valid for unreinforced concrete and reinforced concrete with a rebar spacing s ≥ 15 cm (any diameter) or with a rebar spacing s ≥ 10 cm, if the rebar diameter is 10 mm or smaller.
2. The figures for shear are based on a single anchor without influence of concrete edges. For anchorages close to edges (c ≤ max [10 hef; 60d]) the concrete edge failure shall be checked per
ETAG 001, Annex C, design method A.
3. Concrete is considered non-cracked when the tensile stress within the concrete is\sigmaL +\sigmaR ≤ 0. In the absence of detailed verification\sigmaR = 3 N/mm² can be assumed (\sigmaL equals the tensile
stress within the concrete induced by external loads, anchors loads included).
* The above load values also apply to: evo S

Technical Sheet

FM-MP3 evo
Heavy Duty Three Segments Through Anchor

Design capacities - single anchor - no edge distances

Reference	Metallic fixings dimensions	Metallic fixings loads								
	Title	Design capacity - Non-cracked concrete (3)[kN]								
		Bending moment MRd[Nm]	Tension - NRd (1)				Shear - VRd (1-2)[kN]			
			C20/25[kN]	C30/37[kN]	C40/50[kN]	C50/60[kN]	C20/25[kN]	C30/37[kN]	C40/50[kN]	C50/60[kN]
73300B1004500	FM-MP3 evo	9.6	5	-	-	-	5.1	-	-	-

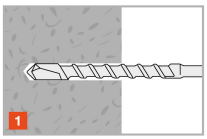
1. The design loads loads have been calculated using the partial safety factors for resistances stated in ETA-approval(s). The loading figures are valid for unreinforced concrete and reinforced concrete with a rebar spacing s ≥ 15 cm (any diameter) or with a rebar spacing s ≥ 10 cm, if the rebar diameter is 10mm or smaller.
2. The figures for shear are based on a single anchor without influence of concrete edges. For anchorages close to edges (c ≤ max [10 hef; 60d]) the concrete edge failure shall be checked per ETAG 001, Annex C, design method A.
3. Concrete is considered non-cracked when the tensile stress within the concrete is\sigmaL +\sigmaR ≤ 0. In the absence of detailed verification\sigmaR = 3 N/mm² can be assumed (\sigmaL equals the tensile stress within the concrete induced by external loads, anchors loads included).
** Not covered by CE certification

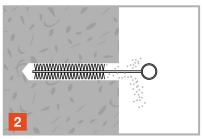
Recommended loads / for single anchors / with no edge distances or spacings - ETA-10/0074

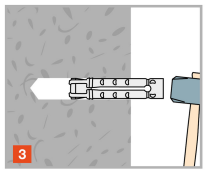
Reference	Metallic fixings dimensions	Metallic fixings loads
	Title	Recommended loads for single anchor with no edge distances or spacings - ETA-10/0074
		Design capacity - cracked and Non-cracked concrete
		Tension and Shear - F_{rec} [kN] - C20/25-C50/60
73300B1004500	FM-MP3 evo	2.9

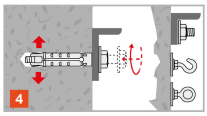
1. The recommended loads have been calculated using the partial safety factors for resistances stated in ETA-approval(s) and with a partial safety factor for actions of γF=1.4. The loading figures
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2. The figures for shear are based on a single anchor without influence of concrete edges. For anchorages close to edges (c ≤ max [10 hef; 60d]) the concrete edge failure shall be checked per
ETAG 001, Annex C, design method A.
3. Concrete is considered non-cracked when the tensile stress within the concrete is\sigmaL +\sigmaR ≤ 0. In the absence of detailed verification\sigmaR = 3 N/mm² can be assumed (\sigmaL equals the tensile stress within the concrete induced by external loads, anchors loads included).
* The above load values also apply to: evo S

Installation









Installation data

Reference	Metallic fixings dimensions	Installation data					
	Title	Installation data					Spacing and edge distances
		Ø drilling hole[mm]	Min. drill depth[mm]	Ø drilling fixture[mm]	Installation torque[Nm]	Embedment depth[mm]	Min. support thickness[mm]
73300B1004500	FM-MP3 evo	10	60	8	8	36	100

** Not covered by CE certification

Spacings and edge distances - ETA-09/0067

Reference	Metallic fixings dimensions	Installation data			
	Title	Spacing and edge distances			
		Min. edge distance[mm]	Min. spacing[mm]	Characteristic edge distance[mm]	Characteristic spacing(5) - Scr,N[mm]
73300B1004500	FM-MP3 evo	35	35	54	108

* The above table values also apply to: evo S

Spacings and edge distances - ETA-10/0074

Reference	Metallic fixings dimensions	Installation data			
	Title	Spacings and edge distances - Mutiple support			
		Characteristic spacing(5) - Scr,N[mm]	Characteristic edge distance[mm]	Min. edge distance[mm]	Min. spacing[mm]
73300B1004500	FM-MP3 evo	35	35	200	100

* The above table values also apply to: evo S

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