

FM-MP3 evo Ekspansionshylse

FM-MP3 evo er et anker fremstillet af galvaniseret stål med tre ekspansionssektorer, som installeres i et forboret hul og forankres ved momentkontrolleret ekspansion.

Egenskaber

Materiale

- Stål
- Hvid zinkbelagt

Fordele

- Universal metalanker, også egnet til hule grundmaterialer
- Et-lags ankerkrop med unikt ekspansionssystem
- Mange anvendelsesmuligheder
- Brandmodstandsevne R120

Anvendelse

Anvendelsesområder

1. Sikkerhedsbarrierer
2. Hegn
3. Gelændere

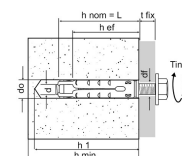
Egnet til:

- Godkendt til:
 1. Bærende konstruktioner i urevnet beton
 2. Anvendelse af flere ankre (multiple use) i ikkebærende konstruktioner i revnet og urevnet beton



**FM-MP3 evo
Ekspansionshylse**
Teknisk data

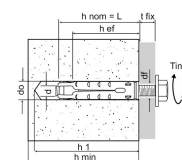
Produktdimension - Kun anker



Art. nr.	Bezeichnung	Stik [Ø x L]	Til skruer	Hole diameter [d _o] [mm]	Min. huldybde [h ₁] [mm]	Nominel indlejningsdybde [h _{nom}] [mm]	Min. indstillingsdybde [h _{eff}] [mm]	Huldiameter i befæstelseselement [d _f] [mm]	fast tykke
73300B1205000	FM-MP3 evo	12x50*	M8	12	70	50	43	10	
73300B1506000		15x60*	M10	15	80	60	50	12	
73300B1808000		18x80*	M12	18	100	80	69	14	

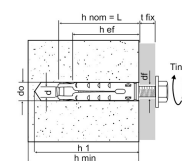
* Certified product when coupled with hex head screw DIN933 grade 8.8 and washer DIN125-1 ($t_{fix} = L_v - h_{nom}$)

Produktdimension - Sekskantskrue klasse 8.8



Art. nr.	Bezeichnung	Stik [Ø x L]	Unbrakoskrue [Ø x L]	Maks. fastgørelses tykkelse [t _{fix}] [mm]	Hole diameter [d _o] [mm]	Min. huldybde [h ₁] [mm]	Nominel indlejningsdybde [h _{nom}] [mm]	Min. indstillingsdybde [h _{eff}] [mm]	Hul befæst
73301B1808000	FM-MP3 evo	18x80	M12x100	20	18	100	80	69	

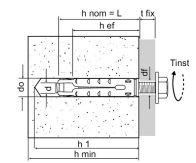
Produktdimension - Sekskantskrue klasse 8.8 Stor skive



Art. nr.	Bezeichnung	Stik [Ø x L]	Unbrakoskrue [Ø x L]	Maks. fastgørelses tykkelse [t _{fix}] [mm]	Hole diameter [d _o] [mm]	Min. huldybde [h ₁] [mm]	Nominel indlejningsdybde [h _{nom}] [mm]	Min. indstillingsdybde [h _{eff}] [mm]	Hul befæst
73307B1004500	FM-MP3 evo	10x45**	M6x50	5	10	60	45	36	
73307B1205000		12x50**	M8x60	10	12	70	50	43	
73307B1506000		15x60**	M10x80	20	15	80	60	50	

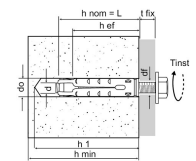
** Not covered by CE certification

FM-MP3 evo Ekspansionshylse



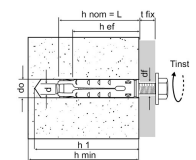
Produktdimension - Gevindstang klasse 5.8

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Produktdimension - Smedet kopkrog

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Produktdimension - Smedet øje

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Anbefalede belastninger / for enkeltankre / uden kantafstande eller mellemrum - ETA-09/0067

Art. nr.	Bezeichnung	Design capacity - Non-cracked concrete (3)								Bending moment MRd [Nm]
		Spænding - N _{rec1}				Skæring - V _{rec} (1-2)				
		C20/25 [kN]	C30/37 [kN]	C40/50 [kN]	C50/60 [kN]	C20/25 [kN]	C30/37 [kN]	C40/50 [kN]	C50/60 [kN]	
73300B1205000	FM-MP3 evo	5.7	7	8	8.8	6.8	8.2	8.2	8.2	17
73300B1506000	FM-MP3 evo	8.3	10.4	12	13.2	8.5	10.3	12	13.2	34
73300B1808000	FM-MP3 evo	11.9	14.5	16.8	18.4	19.3	19.3	19.3	19.3	60

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 $\gamma_F=1.4$. The loading figures are valid for unreinforced concrete and reinforced concrete with a rebar spacing $s \geq 15$ cm (any diameter) or with a rebar spacing $s \geq 10$ 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 ($c \leq \max [10 \text{ hef}; 60d]$) 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 $\sigma_L + \sigma_R \leq 0$. In the absence of detailed verification $\sigma_R = 3 \text{ N/mm}^2$ can be assumed (σ_L equals the tensile stress within the concrete induced by external loads, anchors loads included).

* The above load values also apply to: evo S

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Designkapaciteter - enkelt forankring - ingen kantafstande

Art. nr.	Bezeichnung	Designkapacitet - ikke-revnet beton (3)								Bøjningsmoment MRd [Nm]
		Spænding - NRd (1)				Skæring - VRd (1-2)				
		C20/25 [kN]	C30/37 [kN]	C40/50 [kN]	C50/60 [kN]	C20/25 [kN]	C30/37 [kN]	C40/50 [kN]	C50/60 [kN]	
73300B1205000	FM-MP3 evo	8	-	-	-	9.3	-	-	-	24
73300B1506000	FM-MP3 evo	1.6	-	-	-	11.6	-	-	-	48
73300B1808000	FM-MP3 evo	16.7	-	-	-	27	-	-	-	84
73301B1808000	FM-MP3 evo	16.7	-	-	-	27	-	-	-	84
73307B1004500	FM-MP3 evo	5	-	-	-	5.1	-	-	-	9.6
73307B1205000	FM-MP3 evo	8	-	-	-	9.3	-	-	-	24
73307B1506000	FM-MP3 evo	11.6	-	-	-	11.6	-	-	-	48

1. The design 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 $s \geq 15$ cm (any diameter) or with a rebar spacing $s \geq 10$ 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 ($c \leq \max [10 \text{ hef}; 60d]$) 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 $\sigma_L + \sigma_R \leq 0$. In the absence of detailed verification $\sigma_R = 3 \text{ N/mm}^2$ can be assumed (σ_L equals the tensile stress within the concrete induced by external loads, anchors loads included).

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Anbefalede belastninger / for enkeltankre / uden kantafstande eller mellemrum - ETA-10/0074

Art. nr.	Bezeichnung	Designkapacitet - revnet og ikke-revnet beton
		Træk og Forskydning - F_{rec} [kN] - C20/25-C50/60
73300B1205000	FM-MP3 evo	5.7
73300B1506000	FM-MP3 evo	7.6
73300B1808000	FM-MP3 evo	9.5

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 $\gamma_F=1.4$. The loading figures are valid for unreinforced concrete and reinforced concrete with a rebar spacing $s \geq 15$ cm (any diameter) or with a rebar spacing $s \geq 10$ 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 ($c \leq \max [10 \text{ hef}; 60d]$) 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 $\sigma_L + \sigma_R \leq 0$. In the absence of detailed verification $\sigma_R = 3 \text{ N/mm}^2$ can be assumed (σ_L equals the tensile stress within the concrete induced by external loads, anchors loads included).

* The above load values also apply to: evo S

Produktdimension - Gør-det-selv - Sekskantskrue

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Produktdimension - Gør-det-selv - Smedet kopkrog

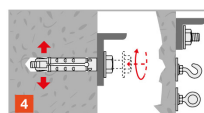
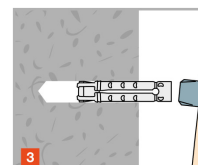
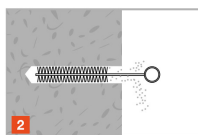
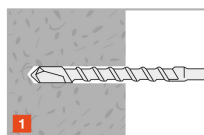
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Produktdimension - Gør-det-selv - Smedet øje

Table "Produktdimension - Gør-det-selv - Smedet øje" cannot be displayed : no references available.

FM-MP3 evo Ekspansionshylse

Montering



Installation data

Art. nr.	Bezeichnung	Ø drilling hole [d0] [mm]	Min. drill depth [h1] [mm]	Ø boreholder [df] [mm]	Installation torque [Tinst] [Nm]	Embedment depth [hef] [mm]	Min. support thickness [hmin] [mm]
73300B1205000	FM-MP3 evo	12	70	10	15	43	100
73300B1506000	FM-MP3 evo	15	80	12	30	50	100
73300B1808000	FM-MP3 evo	18	100	14	50	69	140
73301B1808000	FM-MP3 evo	18	100	14	50	69	140
73307B1004500	FM-MP3 evo	10	60	8	8	36	100
73307B1205000	FM-MP3 evo	12	70	10	15	43	100
73307B1506000	FM-MP3 evo	15	80	12	30	50	100

** Not covered by CE certification

Achs- und Randabstände - ETA-09/0067 Opt.7

Art. nr.	Bezeichnung	min. Randabstand [cmin] [mm]	min. Achsabstand [smin] [mm]	charak. Randabstand [ccr,N] [mm]	charak. Achsabstand [scr,N] [mm]
73300B1205000	FM-MP3 evo	45	45	65	130
73300B1506000	FM-MP3 evo	50	50	75	150
73300B1808000	FM-MP3 evo	75	75	104	208

**Ausführung RH ohne CE-Kennzeichnung

FM-MP3 evo Ekspansionshylse

Afstande og kantafstande - ETA-10/0074

Art. nr.	Bezeichnung	Characteristic spacing(5) - Scr,N [scr,N] [mm]	Characteristic edge distance [ccr,N] [mm]	Min. edge distance [cmin] [mm]	Min. spacing [smin] [mm]
73300B1205000	FM-MP3 evo	45	45	200	130
73300B1506000	FM-MP3 evo	50	50	200	150
73300B1808000	FM-MP3 evo	75	75	200	210

* The above table values also apply to: evo S

