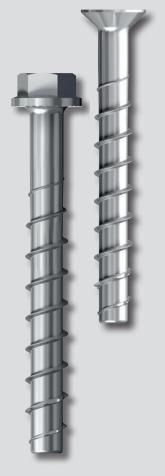


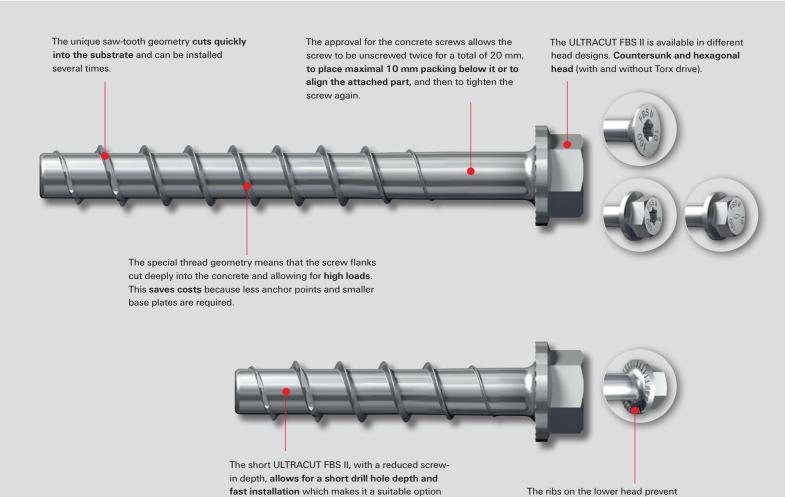
fischer concrete screw ULTRACUT FBS II

The high-performance concrete screw for absolute mounting ease.





ULTRACUT FBS II 8,10,12 and 14 zinc-plated steel. The high-performance concrete screw for absolute mounting ease.



Secure, even without cleaning the drill hole.

■ The ULTRACUT FBS II is designed for push-through installation.

for many applications.

- The screw is installed correctly when the screw head sits squarely on the fixture (visual check).
- Drill holes do not need to be cleaned during vertical assembly (ceiling and floor). For floor fixing the hole must be drilled 3x d₀ deeper.
- We recommend using a tangential impact screwdriver with a suitable impact screwdriver socket or Torx bit.
- The assessment document also covers the use of hollow drills (without cleaning of the hole) and diamond drilling holes.

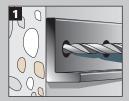
Your advantages

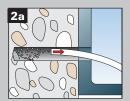
With up to 3 embedment depths, the ULTRACUT FBS II makes it possible for the same screw to be used for different component thicknesses.

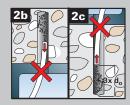
accidental unscrewing of the anchor making the system **more secure**.

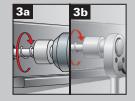
- Expansion-free anchoring (undercut) allows for lowest edge and axle clearances.
- The assessment (ETA Option 1) covers the use of single-point anchors in cracked and non-cracked concrete.
- The performance categorys Seismic C1 and C2 assessment ensures that the strictest of safety standards has been fulfilled (also with high earthquake specifications).
- The countersunk head is very suitable for visually appealing.
- The checking gauge allows a multiple use covered by the approval.

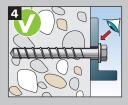
Installation



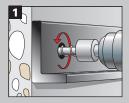


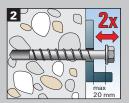






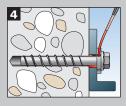
Fixture adjustment







Additional for seismic



Approvals











Recommendation







Reusability

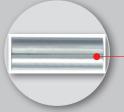




Temporary fixing and reusability in green concrete according to Z-21.8 - 2049 (valid for diameter 10 - 14)

The checking gauge must be pushed over the thread of the ULTRACUT FBS II every time before assembly. As soon as the screw end protrudes over the sleeve, the thread is too worn and is no longer approved for use. The concrete screw must always be checked for visible damage (e.g. corrosion) and replaced, if necessary.







The checking gauge, available separately, allows the outer diameter of the thread to be checked prior to the screw being reused; this complies with the approval for multiple use.

Applications.

Metal construction

Railings



For maximum loads and minimal edge and axial spacings in cracked concrete.

e.g. ULTRACUT FBS II 10x95 SK

Brackets/base plates



For maximum loads in cracked concrete.

e.g. ULTRACUT FBS II 12x110 US

Shelving systems



For the anchoring of impact protection for high shear forces.

e.g. ULTRACUT FBS II 14x125 US

Ballustrades



With reduced embedment depth for use in thin concrete members from 100 mm thickness.

e.g. ULTRACUT FBS II 10x60 US

Timber work

Step/rise anchorage



e.g. ULTRACUT FBS II 10x230 US

Ideal for very large fixing thicknesses.

Ideal for adjustment after installation.

Beam anchorage

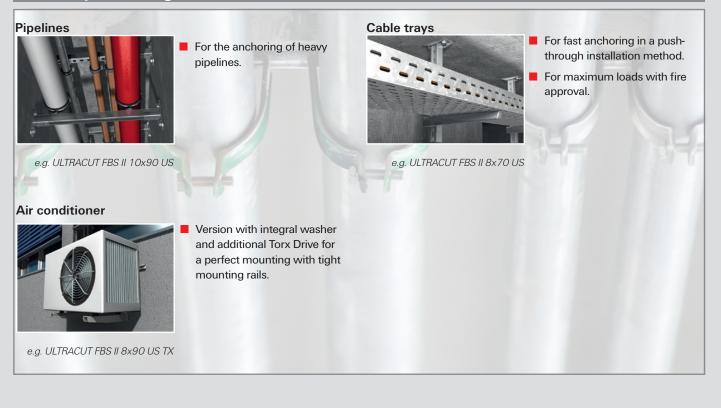


For the perfect transmission of force between the screw and the step/beam.

e.g. ULTRACUT FBS II 10x200 US



Sanitary / heating / electrics

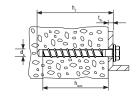


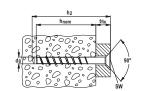
Range.





head





ltem	Zinc plated	Approval	diameter depth for pu	depth for push-	Screw length	th Screw-in depth							Sales unit
	steel			through fixings		h _{nom, 1}	t _{fix}	h _{nom, 2}	t _{fix}	h _{nom, 3}	t _{fix}		
	ArtNo gvz	ETA	d ₀ [mm]	h ₂ [mm]	l [mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	SW/TX	[pcs]
ULTRACUT FBS II 8x55 5/- US TX	536851		8	65	55	50	5	-	-	-		SW 13/TX 40	50
ULTRACUT FBS II 8x70 20/5 US TX	536852		8	80	70	50	20	-	-	65	5	SW 13/TX 40	50
ULTRACUT FBS II 8x80 30/15 US TX	536853		8	90	80	50	30	-	-	65	15	SW 13/TX 40	50
ULTRACUT FBS II 8x90 40/25 US TX	536854		8	100	90	50	40	-	-	65	25	SW 13/TX 40	50
ULTRACUT FBS II 8x100 50/35 US TX	536855		8	110	100	50	50	-	-	65	35	SW 13/TX 40	50
ULTRACUT FBS II 8x110 60/45 US TX	536856		8	120	110	50	60	-	-	65	45	SW 13/TX 40	50
ULTRACUT FBS II 8x130 80/65 US TX	536857		8	140	130	50	80	-	-	65	65	SW 13/TX 40	50
ULTRACUT FBS II 10x60 5/-/- US	536858		10	70	60	55	5	-	-	-		SW 15	50
ULTRACUT FBS II 10x70 15/5/- US	536859		10	80	70	55	15	65	5	-		SW 15	50
ULTRACUT FBS II 10x80 25/15/- US	536860		10	90	80	55	25	65	15	-	-	SW 15	50
ULTRACUT FBS II 10x90 35/25/5 US	536861		10	100	90	55	35	65	25	85	5	SW 15	50
ULTRACUT FBS II 10x100 45/35/15 US	536862		10	110	100	55	45	65	35	85	15	SW 15	50
ULTRACUT FBS II 10x120 65/55/35 US	536863		10	130	120	55	65	65	55	85	35	SW 15	50
ULTRACUT FBS II 10x140 85/75/55 US	536864		10	150	140	55	85	65	75	85	55	SW 15	50
ULTRACUT FBS II 10x160 105/95/75 US	536865		10	170	160	55	105	65	95	85	75	SW 15	50
ULTRACUT FBS II 10x200 145/135/115 US	536866		10	210	200	55	145	65	135	85	115	SW 15	20
ULTRACUT FBS II 10x230 175/165/145 US	536867		10	240	230	55	175	65	165	85	145	SW 15	20
ULTRACUT FBS II 10x260 205/195/175 US	536868		10	270	260	55	205	65	195	85	175	SW 15	20
ULTRACUT FBS II 12x70 10/-/- US	536869		12	80	70	60	10	-	-	-		SW 17	20
ULTRACUT FBS II 12x85 25/10/- US	536870		12	95	85	60	25	75	10	-		SW 17	20
ULTRACUT FBS II 12x110 50/35/10 US	536871		12	120	110	60	50	75	35	100	10	SW 17	20
ULTRACUT FBS II 12x130 70/55/30 US	536872		12	140	130	60	70	75	55	100	30	SW 17	20
ULTRACUT FBS II 12x150 90/75/50 US	536873		12	160	150	60	90	75	75	100	50	SW 17	20
ULTRACUT FBS II 14x75 10/-/- US	536874		14	90	75	65	10	-	-	-		SW 21	20
ULTRACUT FBS II 14x95 30/10/- US	536875		14	110	95	65	30	85	10	-		SW 21	20
ULTRACUT FBS II 14x100 35/15/- US	536876		14	115	100	65	35	85	15	-		SW 21	20
ULTRACUT FBS II 14x125 60/40/10 US	536877		14	140	125	65	60	85	40	115	10	SW 21	10
ULTRACUT FBS II 14x150 85/65/35 US	536878		14	165	150	65	85	85	65	115	35	SW 21	10
ULTRACUT FBS II 8x60 10/- SK	536880		8	70	60	50	10	-	-	-	-	TX 40	50
ULTRACUT FBS II 8x80 30/15 SK	536881		8	90	80	50	30	-		65	15	TX 40	50
ULTRACUT FBS II 8x90 40/25 SK	536882		8	100	90	50	40			65	25	TX 40	50
ULTRACUT FBS II 10x65 10/-/- SK	536884		10	75	65	55	10	-		-	-	TX 50	50
ULTRACUT FBS II 10x80 25/15/- SK	536885		10	90	80	55	25	65	15		-	TX 50	50
ULTRACUT FBS II 10x95 40/30/10 SK	536886		10	105	95	55	40	65	30	85	10	TX 50	50
ULTRACUT FBS II 10x100 45/35/15 SK	536887		10	110	100	55	45	65	35	85	15	TX 50	50
ULTRACUT FBS II 10x120 65/55/35 SK	536888		10	130	120	55	65	65	55	85	35	TX 50	50

Additional assortment.

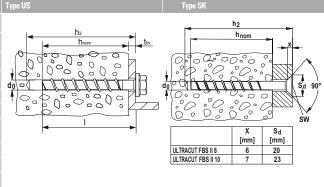


Complement for ULTRACUT FBS II										
tem	Art.No	Internal-diameter	External-diameter	Torx-Drive	Suitable for ULTRACUT FBS II	Sales unit				
		[mm]	[mm]	[TX]		[pcs]				
JLTRACUT FBS II checking gauge FUP 10	537201	12,0	-	-	FBS II 10	1				
JLTRACUT FBS II checking gauge FUP 12	537202	13,9	-	-	FBS II 12	1				
JLTRACUT FBS II checking gauge FUP 14	537203	15,6	-	-	FBS II 14	1				
lut Hexagon 13	538578	-	-		FBS II 8	1				
lut Hexagon 15	538579		-	-	FBS II 10	1				
ut Hexagon 17	538580		-		FBS II 12	1				
ut Hexagon 21	538581	-	-	-	FBS II 14	1				
ut TORX 40 1/2" - 1/4"	538575	-	-		FBS II	1				
ut TORX 50 1/2" - 15/16"	538576	-	-	-	FBS II	1				
it TX 40	533159	-	-	TX 40	FBS II 8	5				
it TX 50	538574		-	TX 50	FBS II 10 SK	1				
illing washer 1	538458	12,0	26		FBS II 8	4				
illing washer 2	538459	14,2	30		FBS II 10, FBS II 12	4				
illing washer 3	538460	19,2	38		FBS II 14	4				
asher for ULTRACUT FBS II 10	520471	13,5	44		FBS II 10	50				

Installation parameters and loads.

Installation parameters concrete C 20/25 - C50/60

•		-	-			
ULTRACUT FBS II Concrete screw			10	12	14	Type US
Drill hole diameter [mm]	d_0	8	10	12	14	
Nominal screw-in depth h _{nom}	h _{nom1}	50	55	60	65	h ₂
	h _{nom2}	-	65	75	85	000000
	h _{nom3}	65	85	100	115	do
Drill hole depth (push-through installation) [mm]	h ₂ ≥	I + 10	I+ 10	I+10	I+15	
Clearance hole diameter [mm]	d _f	10,6 - 12	12,8 - 14	14,8 - 16	16,9 - 18	
Maximum torque for installation with impact screw driver in concrete	T _{imp, max}	600	650	650	650	<u> </u>
Maximum torque for manual installation in concrete	T _{max}	65	100	150	250	
Width across flat	SW	13	15	17	21	
Drive	Torx	T 40 (SK	T 50 (SK)	-	_	



Installation parameters masonry

ULTRACUT FBS II Concrete screws					
Base material	Compressive strength class	Size	[mm]	8	10
	[N/mm ²]	h _{nom}	[mm]	65	85
Solid clay brick (EN771-1)	≥ 12	T _{inst}	[Nm]	5	10
Solid sand-lime brick (EN771-2)	≥ 12	T _{inst}	[Nm]	15	15
Aerated concrete (EN771-4)	≥ 6	T _{inst}	[Nm]	5	10

Concrete screw ULTRACUT FBS II

Highest permissible loads for a single anchor 1) in concrete C20/254)

For the design the complete assessment ETA-15/0352 has to be considered.

					Cracked	concrete		Non-cracked concrete					
Туре	Nominal embedment depth	Min. member thick- ness	Installation torque	Permissible tensile load	Permissible shear load	Min. spacing	Min. edge distance	Permissible tensile load	Permissible shear load	Min. spacing	Min. edge distance		
	h _{nom}			N _{zul} 3)			c _{min} 2)		V _{zul} 3)		c _{min} 2)		
	[mm]	[mm]	[Nm]	[kN]	[kN]	[mm]	[mm]	[kN]	[kN]	[mm]	[mm]		
FBS II 8	50	100	≤ 600	2,9	4,2	35	35	5,9	5,9	35	35		
FB3 II 0	65	120	≥ 000	5,7	9,0	35	35	9,0	9,0	35	35		
	55	100		4,3	4,8	40	40	6,8	6,8	40	40		
FBS II 10	65	120		5,7	12,5	40	40	8,8	14,0	40	40		
	85	140		9,6	16,6	40	40	13,5	16,6	40	40		
	60	110		5,5	11,0	50	50	7,7	15,2	50	50		
FBS II 12	75	130	≤ 650	8,0	15,2	50	50	11,2	15,2	50	50		
	100	150		12,5	20,3	50	50	17,5	20,3	50	50		
FBS II 14	65	120		6,1	12,1	60	60	8,5	17,0	60	60		
	85	140		9,4	18,8	60	60	13,2	22,1	60	60		
	115	180		15,4	29,4	60	60	21,6	29,4	60	60		

¹⁾ The partial safety factors for material resistance as regulated in the assessment as well as a partial safety factor for load actions of γ_L = 1,4 are considered. As an single anchor counts e.g. an anchor with a spacing s \geq 3 x h_{ef} and an edge distance c \geq 1,5 x h_{ef}.

²⁾ Minimum possible axial spacings resp. edge distance while reducing the permissible load.

³⁾ For combinations of tensile loads, shear loads, bending moments as well as reduced edge distances or spacings (anchor groups) see assessment.

⁴⁾ For higher concrete strength classes up to C50/60 higher permissible loads may be possible.

⁵⁾ Maximun allowable torque moment for installation with any tangential impact screw driver.

Installation parameters and loads.

Concrete Screw ULTRACUT FBS II

Highest permissible loads¹⁾ for a single anchor for use as a temporary fixing of site equipment ⁴⁾. For the design the complete approval Z-21.8-2049 has to be considered.

Type / screw diameter / drill hole diameter	[d ₀]	1	3		10		12			14		
Screw in depth [mm]	[h _{nom}]	50	65	55	65	85	60	75	100	65	85	115
Permissible Loads N _{perm} ³⁾ for cracked and non-cracked concrete												
Concrete strength $f_{ck,cube} \ge 10 \text{ N/mm}^2$	[kN]	1,9	3,4	2,2	2,9	5,7	2,8	4,0	7,5	2,4	3,6	8,9
Concrete strength $f_{ck,cube} \ge 15 \text{ N/mm}^2$	[kN]	2,3	4,1	2,7	3,5	7,0	3,4	4,9	9,2	2,9	4,5	10,9
Concrete strength $f_{ck,cube} \ge 20 \text{ N/mm}^2$	[kN]	2,6	4,8	3,1	4,1	8,1	3,9	5,6	10,6	3,4	5,2	12,6
Minimum spacing ²⁾	[mm]	200	260	220	260	340	240	300	400	260	340	460
Minimum edge distance in load direction ²⁾	[mm]	70	90	75	90	115	80	100	135	90	115	155
Minimum edge distance rectangular to load direction ²⁾	[mm]	100	130	110	130	170	120	150	200	130	170	230
Max. torque on installation with impact screw driver	T _{imp, max}	400	600	400	400	650	400	400	650	400	400	650
Max. torque on installation with standard torque wrench	T _{max}	45	65	65	65	100	75	75	150	75	75	150

¹⁾ The partial safety factors for material resistance as regulated in the approval as well as a partial safety factor for load actions of $\gamma_L = 1.4$ are considered.

Concrete screw ULTRACUT FBS II

Highest recommended loads 1) 3) for each fixing point 4) 5) 6) 7) in solid brick masonry.

Base material	Compressive strength class [N/mm²]	Туре		FBS II 8	FBS II 10
Nominal embedment depth		h _{nom}	[mm]	65	85
O.F.L. L.S.L/FN774.1)	≥ 12	F _{empf} 2)	[kN]	1,1	1,4
Solid clay brick (EN771-1)	≥ 20	F _{empf} 2) 8)	[kN]	1,6	1,6
Calidanad lima haid (FN771.9)	≥ 12	F _{empf} 2) 8)	[kN]	1,2	1,2
Solid sand-lime brick (EN771-2)	≥20	F _{empf} 2) 8)	[kN]	1,2	1,2
Aerated concrete (EN771-4)	≥6	F _{empf} ²⁾)	[kN]	0,7	0,9
Minimum spacing within anchor groups of 2 or 4 anchors		S _{min}	[mm]	8	30
Minimum distance to the horizontal joint		C _{min,v}	[mm]	2	20
Minimum distance to the vertical joint		C _{min,h}	[mm]	4	10
Minimum distance to the free edge		C _{min,free}	[mm]	2	00

¹⁾ An appropriate safety factor is considered.

- 5) The given data are valid for multiple fixings of non-structural applications.
- 6) A fixing point can be a single anchor, 2 anchors or 4 anchors with a minimum spacing smin. Anchor groups of 4 anchors are arranged in rectangular disposition.
- 7) The fixing points have to be arranged in this way that there will be always maximum one fixing point arranged in one brick.

²⁾ Minimum possible axial spacings resp. edge distance for single anchors.

³⁾ Valid for tensile load, shear load and oblique load under any angle, with the exception of rectangularly to the axis of the tilt-up brace acting forces.

⁴⁾ E.g. tilt-up braces, fall protections and scaffoldings.

²⁾ The given loads apply to the given brick measures. For bigger sizes higher recommended loads may be possible. In this case please contact our technical department for further advice.

³⁾ Valid for tensile load, shear load and oblique load under any angle.

On - site screw testing is recommended to validate technical data. If the joints are not visible 100% anchor testing is recommended.

fischer FIXPERIENCE.

The new design and information software suite.



- The new modular design program includes engineering software and application modules.
- The software is based on international design standards (ETAG 001 and EC2, such as EC1, EC3 and EC5), including the national application documents. All common force and measurement units are available.
- Incorrect input will be recognized and the software gives tips to get a correct result. This ensures a safe and reliable design every time.
- The graphical display can easily be rotated through 360°, panned, tilted or zoomed as required.
- The 3 D display gives a detailed and realistic image.
- The "live update" feature helps to keep the program up to date ensuring you are always working with the latest version.
- Free download and updates at www.fischer.de/fixperience-en

Our service to you.



We are available to you at any time as a reliable partner to offer technical support and advice:

- Our products range from chemical resin systems to steel anchors through to nylon anchors.
- Competence and innovation through own research, development and production.
- Global presence and active sales service in over 100 countries.
- Qualified technical consulting for economical and compliant fastening solutions. Also on-site at the construction site if requested.
- Training sessions, some with accreditation, at your premises or at the fischer ACADEMY.
- Design and construction software for demanding applications.

This is what fischer stands for.



See the extensive main catalogue or visit our website at www.fischer.de for information about the complete fischer range

