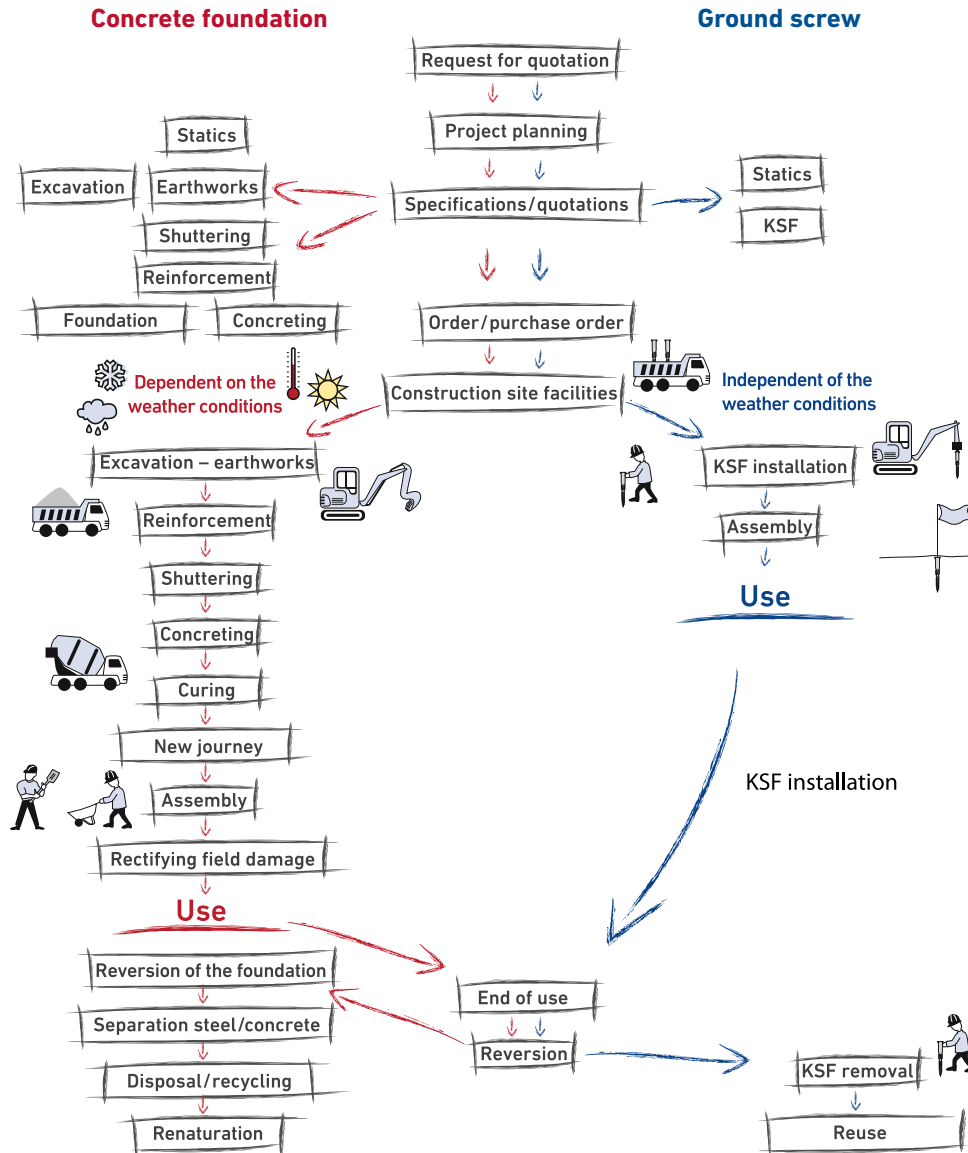


FIELDS OF APPLICATION PROFESSIONAL GROUND SCREWS

ADVANTAGES – ADDED VALUE

quicker – more effective – safer

Example for a construction site process:



Advantages:

- Cost savings
- Short assembly time
- Suitable for all load-bearing soil types
- Statically tested
- No earthwork and concrete work required
- Long service life
- Immediately loadable
- Extremely stable
- Quick changes of position
- The surrounding area remains unaffected
- Installation also into sealed surface areas
- Easily reversible and recyclable
- Environmentally friendly, ecological, sustainable
- Vertical position by patented eccentric and/or granulate system

Installation in all load-bearing ground types until ground class VII* (*if to be installed into rock, by means of pre-drill equipment)



THE GROUND SCREW

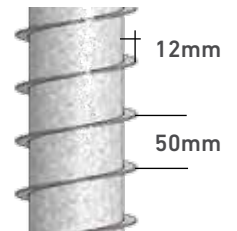
efficient – free of concrete – permanent

KRINNER ground screws are available with variable ground screw heads and are suitable for a wide range of applications in the modern construction of foundations.



KRINNER ground screws are available in different designs and sizes ranging from 55 cm to 210 cm.

The ground screws are protected against corrosion by means of a hot dip galvanized coating according to DIN EN ISO 1461.



The continuously welded spiral design facilitates installation and removal as well as the insertion into the most difficult ground conditions. The gradient of the thread allows for a quick and uncomplicated installation, while the width guarantees maximum load-bearing capacity.

Due to special manufacturing engineering, KRINNER ground screws guarantee a long service life.

The transition from the conical to the cylindrical pipe section is round up and ensures the highest level of quality and optimum contact with the ground.

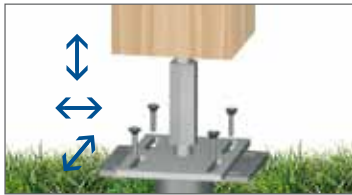
KRINNER ground screws have a load-bearing capacity of up to 70 kN (= 7 tons).

The patented and hammered screw tip provides for precise positioning in all ground types.

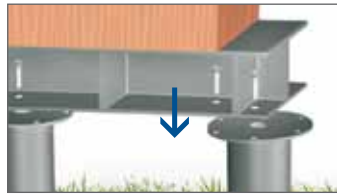


MOUNTING OPTIONS

diverse – future-proof – productive



POST SUPPORT:
Precisely fitting connection by means of variable axes and height adjustment.



WOODEN BEAM SUPPORT:
Can be applied as modular system using flange plates, tailored to the respective static loads.



GROUND SCREW COVER:
Very precise adaptation of wooden constructions.



U-SHAPED FIXATION:
Easy mounting with axis and height adjustment for wood to be mounted both in horizontal and vertical position.



FLANGE PLATES:
Can be applied as modular system using flange plates, tailored to the respective static loads.



INNOVATIVE ECCENTRIC:
Patented system for vernier adjustment and for vertical positioning for resonance-free assembly.



THREAD SCREWS:
Three and/or four thread screws for quick and easy assembly.



CONICAL SHAPE/GRANULATE:
Special plastic ground screw in cone shape for the highest stability and service life for fences and sign posts.

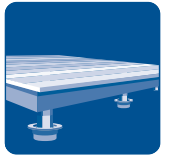
THE GROUND SCREW:

Hammered out of steel, hot dip galvanized and with a full penetration welded screw-in spiral.



WOOD CONSTRUCTION

ecological – free of concrete – durable



Carport: 10 ground screws
E 89x1000-E60



Solution and application examples

- Carports
- Footbridges and bridges
- Fence systems
- Wooden terraces
- Staircases
- Sports and play equipment
- Canopies
- Screen fences, noise protection and sound insulating walls
- Pergolas/pavilions
- Wooden houses
- Halls as wooden frame construction

Recommended ground screws:
E series, F series, G series, M series, U series

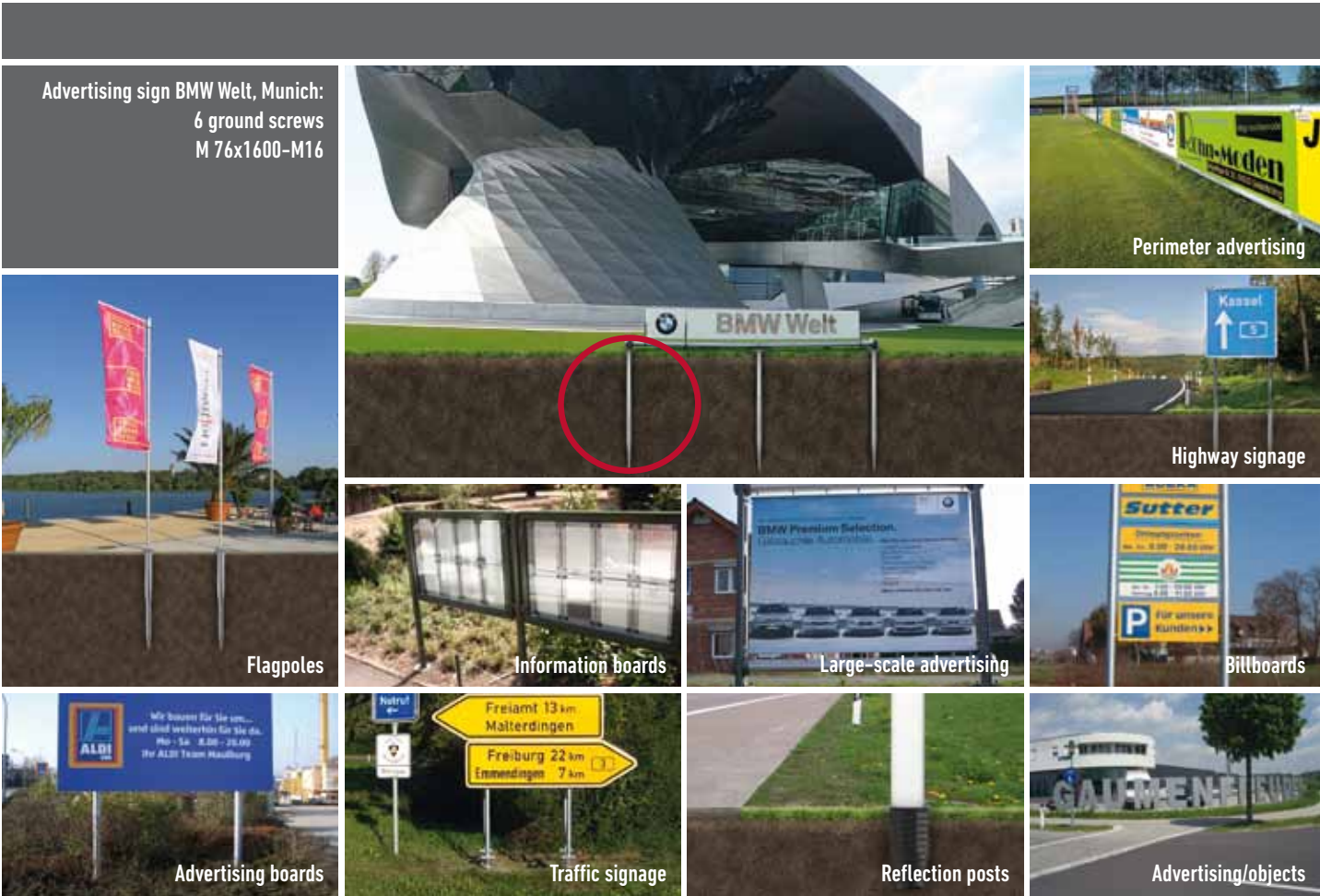


Using wood in construction is a sustainable and future-oriented solution. In this respect, the decision to avail of the KRINNER ground screw is in keeping with this way of thinking. The surrounding area remains unaffected; there is no soil sealing and the total expenditure for logistics is low.



ADVERTISING AND TRAFFIC TECHNOLOGY

effective – free of concrete – stable



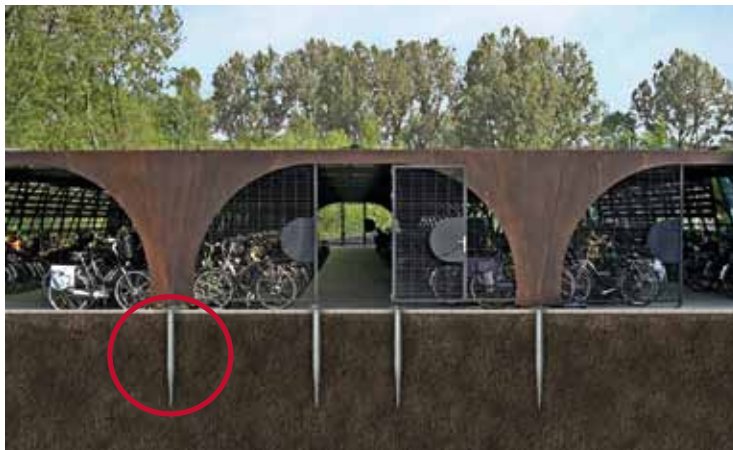
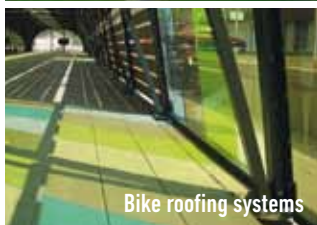
Solution and application examples
Flagpoles
Advertising and information boards
Perimeter advertising
Advertising pylons
Reflection posts
Large-scale advertising
Traffic guidance systems
Construction signs
Traffic lights
Sign gantries
Sound insulating walls
Warning and information signs
Traffic signs according to Traffic Code
Recommended ground screws: E series, F series, G series, M series, X series



Saving time and costs – enormous saving potentials are possible thanks to the optimized and quick mounting options. At the same time, the ecological, economic and material quality increases.

URBAN DEVELOPMENT, GARDENING AND LANDSCAPING

economic – free of concrete – flexible



Bike shed (900 m²),
Schiedam (the Netherlands):
86 ground screws
M 24 76x1200



Solution and application examples

Shelters/benches
Barriers, parking meters
Sun shading sails/systems
Protection and event facilities
Art objects
Street lamps
Barrier systems
Solar lamps
Screen fences, noise protection and sound insulating walls
Playground facilities
Ball retention systems
Video and monitoring systems
Industrial, safety and wire mesh fences

Recommended ground screws:
E series, F series, G series, M series, K series



Construction projects using KRINNER ground screws allow efficient construction processes with high time and cost savings.



HALL AND CONTAINER CONSTRUCTION

safe – free of concrete – uncomplicated



Solution and application examples

- Container systems on supports
- Production halls and warehouses
- Closed modular construction
- Light tunnels
- Event and stand construction
- Equipment and vehicle halls
- Wooden and steel halls
- Exhibition buildings
- Event tents
- Large screens
- Glass- and greenhouses
- Construction site containers and temporary buildings
- Prefabricated garages
- Loading platforms

Recommended ground screws:
E series, F series, G series, M series



With a foundation installation depth of up to 3.5 meters and the high quality, KRINNER ground screws also allow large-scale structures within a tight time frame.

Whether container buildings or prefabricated garages: all foundations are statically tested and certified according to strict guidelines regarding pressure, pull-out and lateral pressure loads.

FENCE CONSTRUCTION

efficient – free of concrete - professional



Solution and application examples

Industrial fences
Construction site fences
Wire mesh fences
Ball retention fences
Garden fences
Safety fences
Safety fence systems

Recommended ground screws:
E series, F series, G series, U series, K series



Garden, industrial or safety fence; for protection or safety purposes.



E SERIES

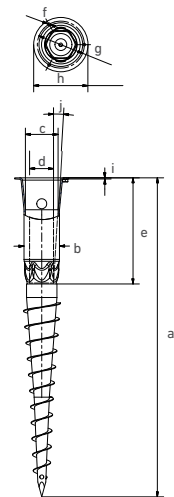
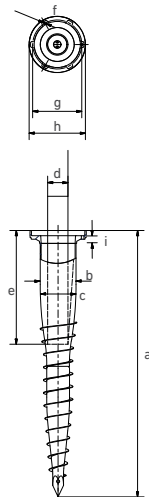
The KRINNER ground screw
with eccentric for exact alignment



E SERIES OVERVIEW

KSF E	140x2100-E76-100	140x1600-E76-100	140x1300-E76-100	89x1000-E60	89x800-E60	89x550-E60
Length (mm)	2100	1600	1300	1000	800	550
Tube Ø (mm)	139.70	139.70	139.70	88.90	88.90	88.90
Weight (kg)	23.50	18.50	15.00	5.50	4.30	3.50
Item no.	25500	26160	25502	24100	24080	24055
Eccentric E60				●	●	●
Eccentric set E60				●	●	●
Eccentric set E76	●	●	●			
Eccentric set E80	●	●	●			
Eccentric set E90	●	●	●			
Eccentric set E100	●	●	●			
Reduction E76-E60	●	●	●			
Reduction E76-E70	●	●	●			
Cover 2 mm E60				●	●	●
Cover 2 mm E76-E100	●	●	●			
Cover 8 mm E76-E100	●	●	●			
Clamping ring E60				●	●	●
Clamping screw E60				●	●	●
Clamping screw E76-E100	●	●	●			
Counter-sunk head screw E76-E100	●	●	●			
Level E60				●	●	●
Fields of application						

The ground screws of the E series are optionally available and, depending on the field of application, equipped with an eccentric set.



TECHNICAL DATA

KSF E		140x2100-E76-100	140x1600-E76-100	140x1300-E76-100	89x1000-E60	89x800-E60	89x550-E60
a	Length (mm) (±25 mm)	2110	1640	1310	1000	800	550
b	Outer Ø (mm)	139.70	139.70	139.70	88.90	88.90	88.90
c	Inner Ø (mm)	132.50	132.50	132.50	81.70	81.70	81.70
d	Adjustment Ø (mm)	100 90 80 76**	100 90 80 76**	100 90 80 76**	60	60	60
e	Adjustment depth (mm) (±25 mm)	975 1010 1040 1040	730 775 810 810	565 630 650 650	270	270	270
f	Thread	3xM12	3xM12	3xM12	3xM8	3xM8	3xM8
g	Hole circle Ø (mm)	192	192	192	118	118	118
h	Flange Ø (outer) (mm)	220	220	220	136	136	136
i	Flange thickness (mm)	14	14	14	3	3	3
j	Alignment range				3° (with eccentric)	3° (with eccentric)	3° (with eccentric)

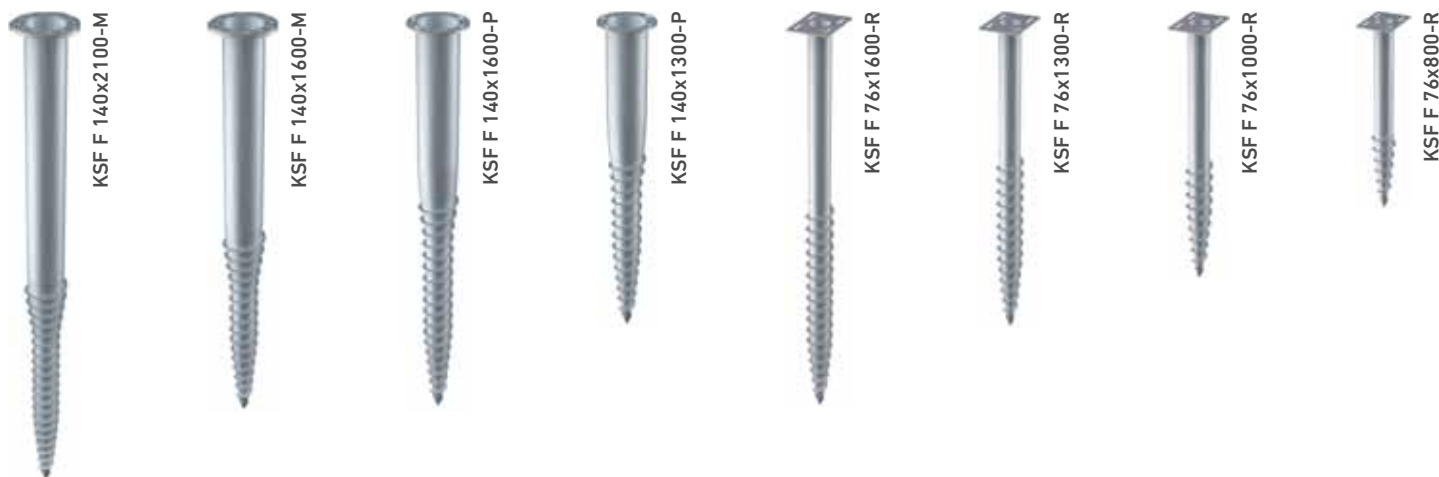
* Adjustment diameter (d) gives adjustment depth (e) and alignment range (j)

** Important installation note: In order to regulate the adjustment depth, we recommend filling up with chippings and/or inserting an accessory plate.












F SERIES

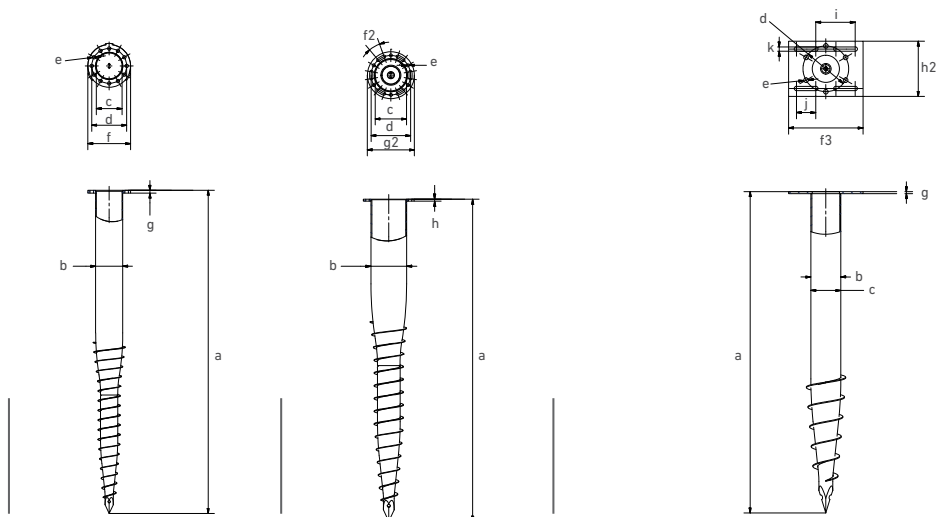
The KRINNER ground screw with flange plates for modular use



F SERIES OVERVIEW

KSF F	140x2100-M	140x1600-M	140x1600-P	140x1300-P	76x1600-R	76x1300-R	76x1000-R	76x800-R
Length (mm)	2100	1600	1600	1300	1600	1300	1000	800
Tube Ø (mm)	139.70	139.70	139.70	139.70	76.10	76.10	76.10	76.10
Weight (kg)	24.00	20.00	17.00	13.50	12.00	7.50	6.00	4.50
Item no.	25490	25489	25484	25483	25478	25477	25476	25475
Cover 2 mm P			●	●				
Post support flat R					●	●	●	●
Post support M24 R					●	●	●	●
Post support M44 R					●	●	●	●
Post support blade R					●	●	●	●
Post support side plate R					●	●	●	●
Post support vario PS 150 R					●	●	●	●
Fields of application	   		    					

The ground screws of the F series are equipped with round or angular flanges.
The thus possible fixation of the object to be borne provides for highest stability and safety, even with high or extremely static loads.



TECHNICAL DATA

KSF F		140x2100-M	140x1600-M	140x1600-P	140x1300-P	76x1600-R	76x1300-R	76x1000-R	76x800-R
a	Length (mm) (±25 mm)	2065	1665	1592	1262	1575	1275	1045	815
b	Outer Ø shaft (mm)	139,70	139,70	139,70	139,70	76,10	76,10	76,10	76,10
c	Inner Ø (mm)	132,50	132,50	132,50	132,50	68,90	70,90	70,90	70,90
d	Hole circle Ø (mm)	180	180	167	167	116	116	116	116
e	Bore hole circle (mm)	12xØ17	12xØ17	6xØ13	6xØ13	6xØ11	6xØ11	6xØ11	6xØ11
f/g2	Flange Ø (outer) (mm)	220	220	199	199				
f2	Elongated hole			6xØ13-~20°	6xØ13-~20°				
f3	Length flange (mm)					189	189	189	189
g/h	Flange thickness (mm)	15	15	8	8	5	5	5	5
h2	Width flange (mm)					140	140	140	140
i	Bore grid elongated hole (mm)					100	100	100	100
j	Length elongated hole (mm)					49	49	49	49
k	Elongated hole Ø (mm)					11	11	11	11













G SERIES

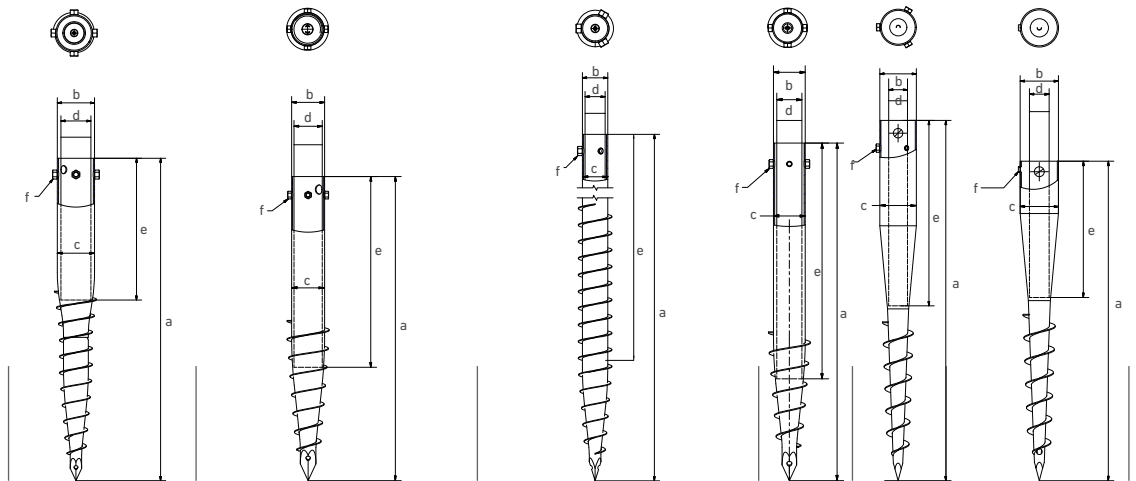
The KRINNER ground screw
with thread fixation



G SERIES OVERVIEW

KSF G	114x1300-4xM16	114x1000-4xM16	89x1300-4xM12	89x1000-4xM12	89x800-4xM12	76x2100-3xM16	76x1600-3xM16	76x1300-3xM16	76x800-4xM12	66x650-3xM8	66x650-1xM8	66x550-1xM8
Length (mm)	1300	1000	1300	1000	800	2100	1600	1300	800	650	650	550
Tube Ø (mm)	114.30	114.30	88.0	88.90	88.90	76.10	76.10	76.10	76.10	66	66	66
Weight (kg)	11.00	8.0	7.80	6.60	5.80	14.00	10.50	8.50	3.80	1.85	1.80	1.60
Item no.	25461	25460	25459	25458	25457	25456	25455	25454	24083	25452	20065	20055
Special granulate 0.50 kg	●	●	●	●	●				●	●	●	●
Special granulate 1.50 kg	●	●	●	●	●				●			
Screw-in rod long 2.40 kg	●	●	●	●	●				●			
Screw-in rod short 0.60 kg										●	●	●
Bushing set G66 0.10 kg											●	●
Joint cover G66 0.30 kg											●	●
Rotating insert G66 0.10 kg											●	●
Foundation cover G66 0.20 kg											●	●
Cover G66 0.10 kg											●	●
Fields of application	    								    			

The ground screws of the G series are equipped with one, three or four screw threads.
They are ideally suitable for quick vertical and permanent installation of pylons and fence posts.



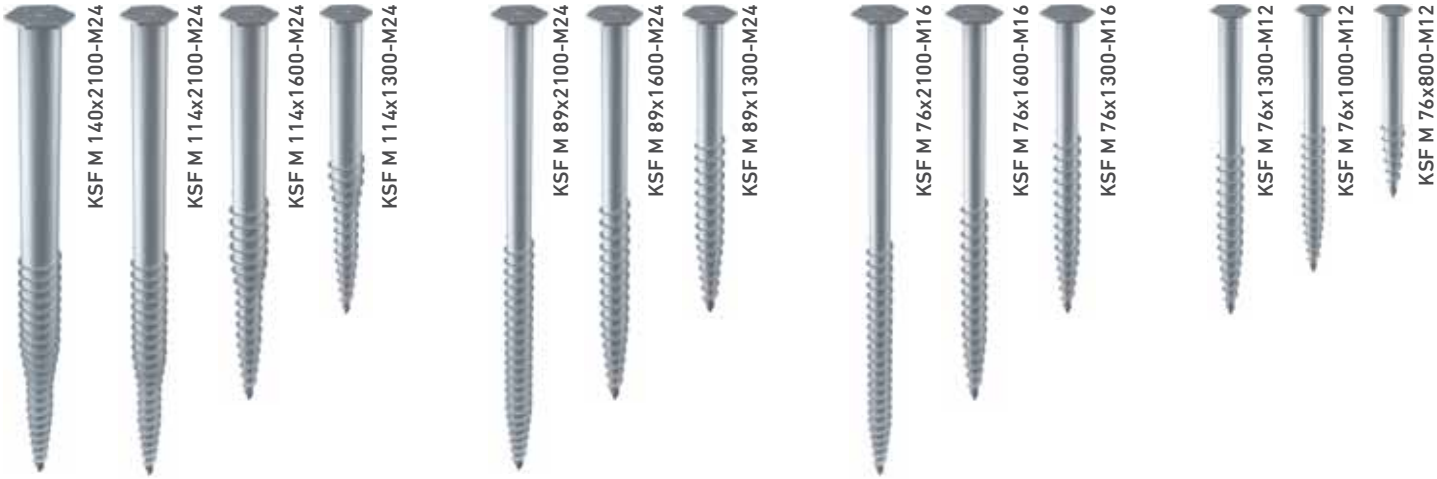
TECHNICAL DATA

KSF G		114x1300-4xM16	114x1000-4xM16	89x1300-4xM12	89x1000-4xM12	89x800-4xM12	76x2100-3xM16	76x1600-3xM16	76x1300-3xM16	76x800-4xM12	66x650-3xM8	66x650-1xM8	66x550-1xM8
a	Length (mm) (±25 mm)	1300	990	1280	1080	830	2080	1580	1280	810	650	650	550
b	Outer Ø shaft (mm)	114.30	114.30	88.90	88.90	88.90	76.10	76.10	76.10	76.10	66	66	66
c	Inner Ø (mm)	107.10	107.10	83.70	83.70	83.70	68.90	68.90	68.90	70.90	62	62	62
d	Adjustment Ø (mm)	100 90 80 76	100 90 80 76	76 40x60 60 48	76 40x60 60 48	76 40x60 60 48	60	60	60	70 60 48 40 34	62 55,5 50 43 38,5 34	62 55,5 50 43 38,5 34	62 55,5 50 43 38,5 34
e	Adjustment depth (mm) (±25 mm)	490 540 570 590	350 400 440 460	970 1020 1055 1090	780 830 855 900	520 570 600 640	1815	1315	1020	460 590 650 690 730	210 228 245 276 317 395	210 228 245 276 317 395	110 128 145 176 217 295
f	Thread	4xM16	4xM16	4xM12	4xM12	4xM12	3xM16	3xM16	3xM16	4xM12	3xM8	1xM8	1xM8










M SERIES

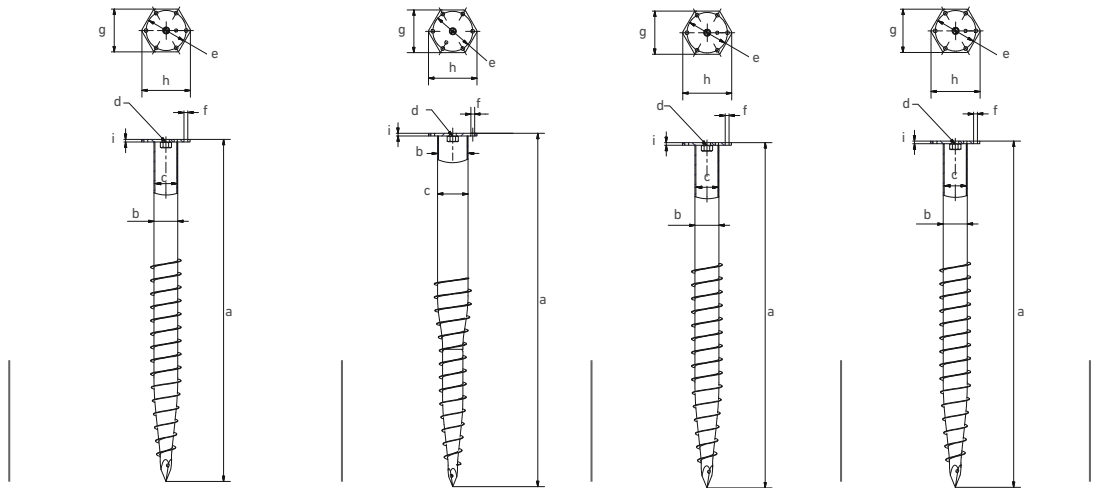
The KRINNER ground screw
for direct installation on the thread



M SERIES OVERVIEW

KSF M	140x2100-M24	114x2100-M24	114x1600-M24	114x1300-M24	89x2100-M24	89x1600-M24	89x1300-M24	76x2100-M16	76x1600-M16	76x1300-M16	76x1300-M12	76x1000-M12	76x800-M12
Nominal length (mm)	2100	2100	1600	1300	2100	1600	1300	2100	1600	1300	1300	1000	800
Tube Ø (mm)	139.70	114.30	114.30	114.30	88.90	88.90	88.90	76.10	76.10	76.10	76.10	76.10	76.10
Weight (kg)	26.00	21.00	16.00	13.00	18.00	14.00	11.50	16.00	12.50	10.00	7.00	5.30	4.20
Item no.	25400	25352	25351	25350	25302	25301	25300	25204	25203	25202	25201	25205	25200
Fields of application	  										   		

The ground screws of the M series are equipped with a centered M thread which allows that the object to be borne is directly screwed onto the ground screw.



TECHNICAL DATA

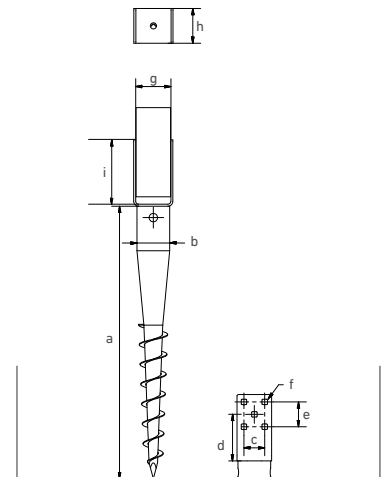
KSF M		140x2100-M24	114x2100-M24	114x1600-M24	114x1300-M24	89x2100-M24	89x1600-M24	89x1300-M24	76x2100-M16	76x1600-M16	76x1300-M16	76x1300-M12	76x1000-M12	76x800-M12
a	Length (mm) (±25 mm)	2070	2075	1575	1325	2080	1580	1280	2078	1578	1278	1275	1045	815
b	Outer Ø shaft (mm)	139.70	114.30	114.30	114.30	88.90	88.90	88.90	76.10	76.10	76.10	76.10	76.10	76.10
c	Inner Ø (mm)	132.50	107.10	107.10	107.10	81.70	81.70	81.70	68.90	68.90	68.90	70.90	70.90	70.90
d	Thread	M24	M24	M24	M24	M24	M24	M24	M16	M16	M16	M12	M12	M12
e	Hole circle Ø (mm)	180	150	150	150	150	150	150	150	150	150	116	116	116
f	Bore hole circle (mm)	6xØ14	6xØ14	6xØ14	6xØ14	6xØ14	6xØ14	6xØ14	6xØ14	6xØ14	6xØ14	6xØ11	6xØ11	6xØ11
g	Wrench size flange (mm)	200	160	160	160	160	160	160	160	160	160	120	120	120
h	Flange Ø (mm)	225	182	182	182	182	182	182	182	182	182	136	136	136
i	Flange thickness (mm)	10	10	10	10	10	10	10	8	8	8	5	5	5



U SERIES

**The KRINNER ground screw
for the easy installation of beams**

The ground screws of the U series are particularly adjusted to the common dimensions of wooden beams.



U SERIES OVERVIEW

KSF U	66x865-111	66x730-111	66x865-91	66x730-91	66x730-71	66x550-71
Length (mm)	865	730	865	730	730	550
Tube Ø (mm)	66	66	66	66	66	66
Weight (kg)	2.90	2.80	2.90	2.70	2.60	2.20
Item no.	21066	21062	21065	21061	21063	21060
Screw-in rod short 0.60 kg	●	●	●	●	●	●
Fields of application						

TECHNICAL DATA

KSF U	66x865-111	66x730-111	66x865-91	66x730-91	66x730-71	66x550-71
a Length (mm) (±25 mm)	865	730	865	730	730	550
b Outer Ø (mm)	66	66	66	66	66	66
c Distance square perforation (mm)	42	42	42	42	42	42
d Distance centered square perforation (mm)	90	90	90	90	90	90
e Distance square perforation (mm)	50	50	50	50	50	50
f Square hole Ø (mm)	11	11	11	11	11	11
g Clear width (mm)	111	111	91	91	71	71
h Width U-profile (mm)	70	70	70	70	70	70
i Depth U-profile (mm)	130	130	130	130	130	130

* Suitable for carriage bolts M10



K SERIES

The KRINNER Ground Screw
made from plastic

This series is particularly
suitable for mounting fence
and sign posts.



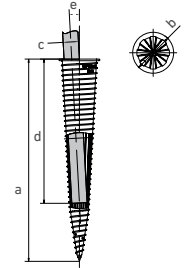
KSF K 60x800



KSF K 42x650



KSF K 34x550



K SERIES OVERVIEW

KSF K	60x800	42x650	34x550
Nominal length (mm)	800	650	550
Weight (kg)	1.00	0.60	0.35
Item no.	22080	22065	22000
Special granulate 0.50 kg	●	●	●
Special granulate 1.50 kg	●	●	●
Fields of application			

TECHNICAL DATA

KSF K	60x800	42x650	34x550
a Length (mm) (±25 mm)	800	650	550
b Outer Ø (mm)	163	136	98
c Adjustment Ø (mm)	75 60x40= Ø 72 70 60 48 42 34	48 42 34	42 34
d Adjustment depth (mm)	425 470 480 575 640 660 690	455 500 530	325 400
e Alignment range	3°	2.7°	2.5°



X SERIES

The KRINNER Ground Screw
for special applications

The ground screws for special
applications, e.g. road reflec-
tion posts.

X SERIES OVERVIEW

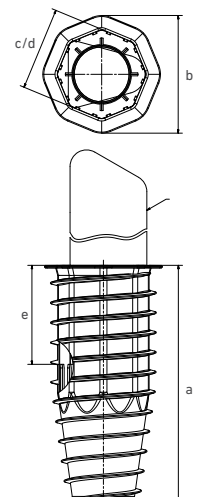
KSF X	130x350-LP
Nominal length (mm)	350
Tube Ø (mm)	178
Weight (kg)	0.60
Item no.	22040
Cover sleeve	●
Fields of application	



KSF X 130x350-LP


TECHNICAL DATA

KSF X	130x350-LP
a Length (mm) (±25 mm)	350
b Outer Ø (mm)	178
c Inner Ø (mm)	125
d Adjustment Ø (mm)	125
e Adjustment depth (mm)	150

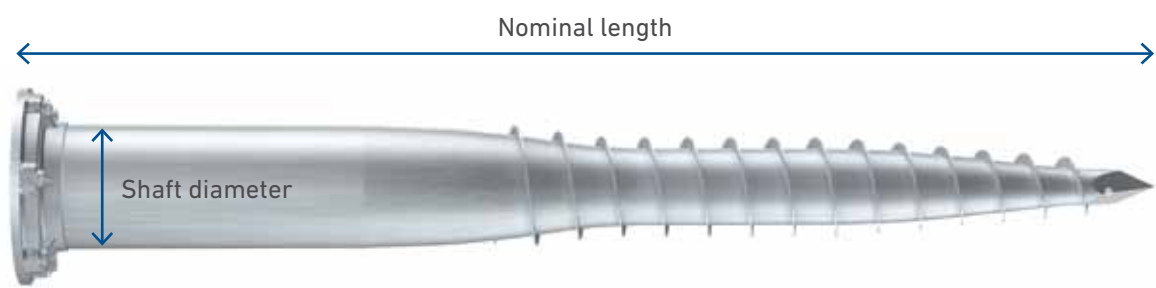


OVERVIEW OF RANGE OF PRODUCTS

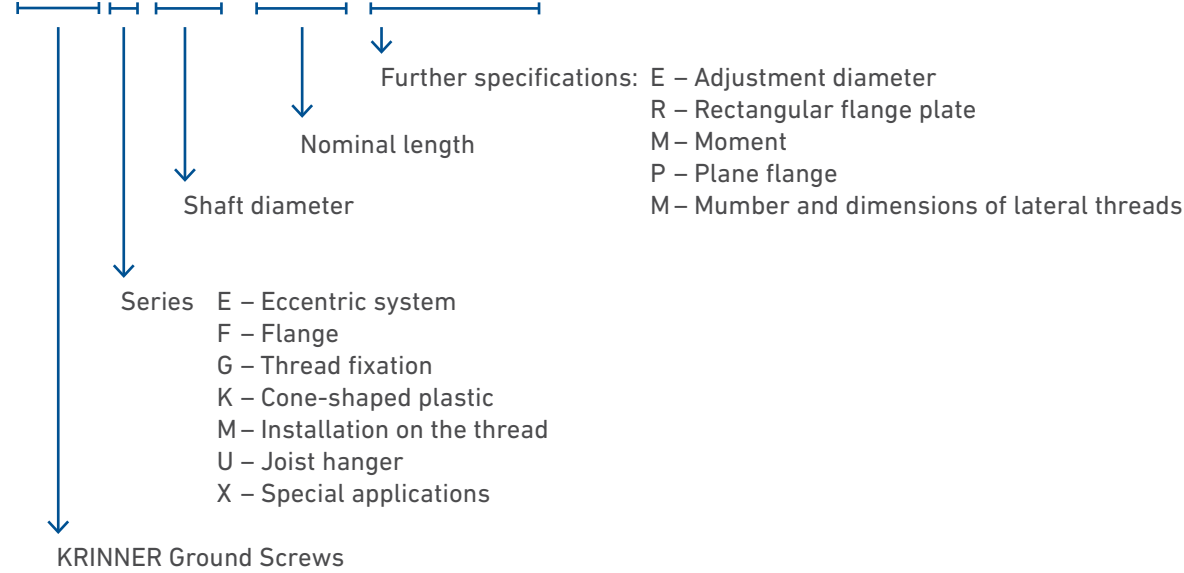
individual – competent – comprehensive

																				
E series		F series			G series						K series	M series					U series			X series
-E76-100	-E60	-P	-M	-R	114-4x M16	89-4x M12	76-3x M16	76-4x M12	66-3x M8	66-1x M8		-140-M24	-114-M24	-89-M24	-76-M16	-76-M12	-111	-91	-71	-LP

Designation code for KRINNER Ground Screws



e.g. **KSF E 140x1300-E76-100**



Ground screw drivers



KR E 20 ground screw driver Z 1



KR D 55 ground screw driver



KR B 40 ground screw driver




















KR B 60 ground screw driver



ACCESSORIES

Suitable aids and supplements

				
Reduction	Eccentric set	Eccentric	Level	Clamping ring
Reduction for eccentric set E76 to 60 mm or 70 mm	Eccentric set for different tube diameters; contents: clamping ring (screw connection ring for permanent fixation); eccentric; hexagon screws (for fixing the clamping ring)	Eccentric for ground screws of the E series (E60) for alignment and fixation	Spirit level for adjusting the eccentric E60	Clamping ring for ground screws of the E series
E series	E series	E series	E series	E series
				
Clamping screw	Post support	Rotating insert	Triangle spirit level	Foundation cover
Clamping screw for ground screws		Rotating insert, suitable for KSF 66	Triangle spirit level for the exact alignment of tubes/ posts in ground screws	Inner cover for ground screws G 66x550-1xM8 and G 66x650-1xM8 incl. hexagon socket screw
E series	F series	G series	universal	G series
				
Joint cover	Bushing set	Foundation cover, outside	Tooth disc for wood	Cover sleeve
Joint cover for cross struts of mesh wire fences when used together with KSF G 66x550-1xM8 and KSF G 66x650-1xM8	5-part bushing set for ground screws G 66x550-1xM8 and G 66x650-1xM8; reduction to 55.5 mm/50.0 mm/ 43.0 mm/38.5 mm/ 34.0 mm	Foundation cover, suitable for 60 mm tubes	Tooth disc for fastening wooden beams	Cover sleeve for reflection posts
G series	G series	universal	universal	universal
				X series
				
Special granulate	Cover	Screw-in rod		
Special granulate for quick and permanent tube fixation	Cover for ground screws if not in use	Screw-in aid for manually screwing in ground screws		
universal	E series	universal		
G series	F series	G series		
K series	G series	U series		

With compliments of: _____



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