

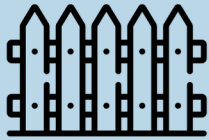
INO VAT product catalogue 2026

INO VAT PILLARS ground screws offer the perfect solution, allowing you to establish a solid foundation for your construction without the hassle of using concrete. Simple, yet strong.

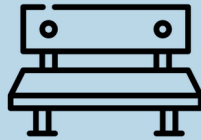


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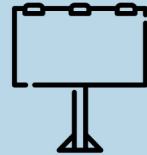
Where to use ground screws?
FOUNDATION



Fences & Posts



Benches



Outdoor Advertising



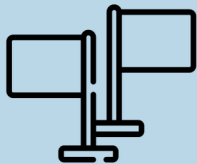
Saunas & Log Houses



Piers & Docks



Outdoor Lighting



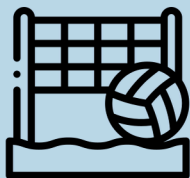
Flags & Flagpoles



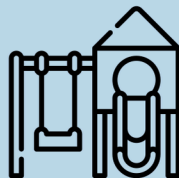
Road Signs



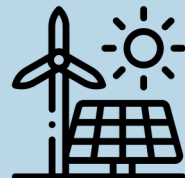
Sheds & Barns



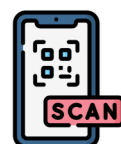
Volley Nets



Playgrounds

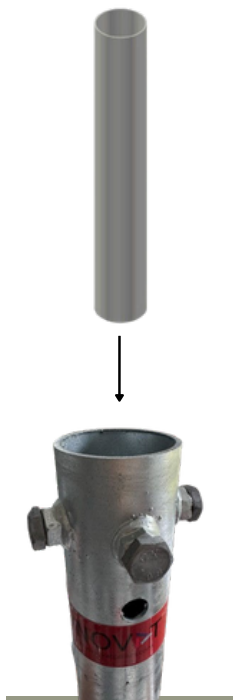


Solar Panels



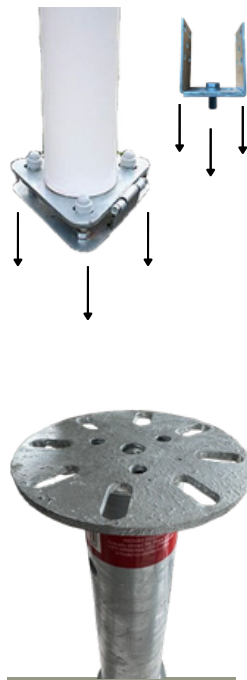
How to use ground screws? APPLICATION

G ground screws are designed for securing various types of pipes within the screws themselves. Pipes are firmly fixed using bolts, making these screws ideal for fences, flagpoles, volleyball nets, and other types of posts. They are also extendable for versatile applications.



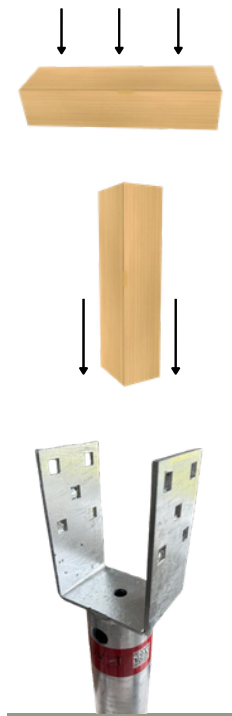
G profile

The **M ground screw** features a thick flat, round/hexagonal base with a support flange. M - profile screw piles offer a stable, smooth building surface, even in challenging terrain conditions.



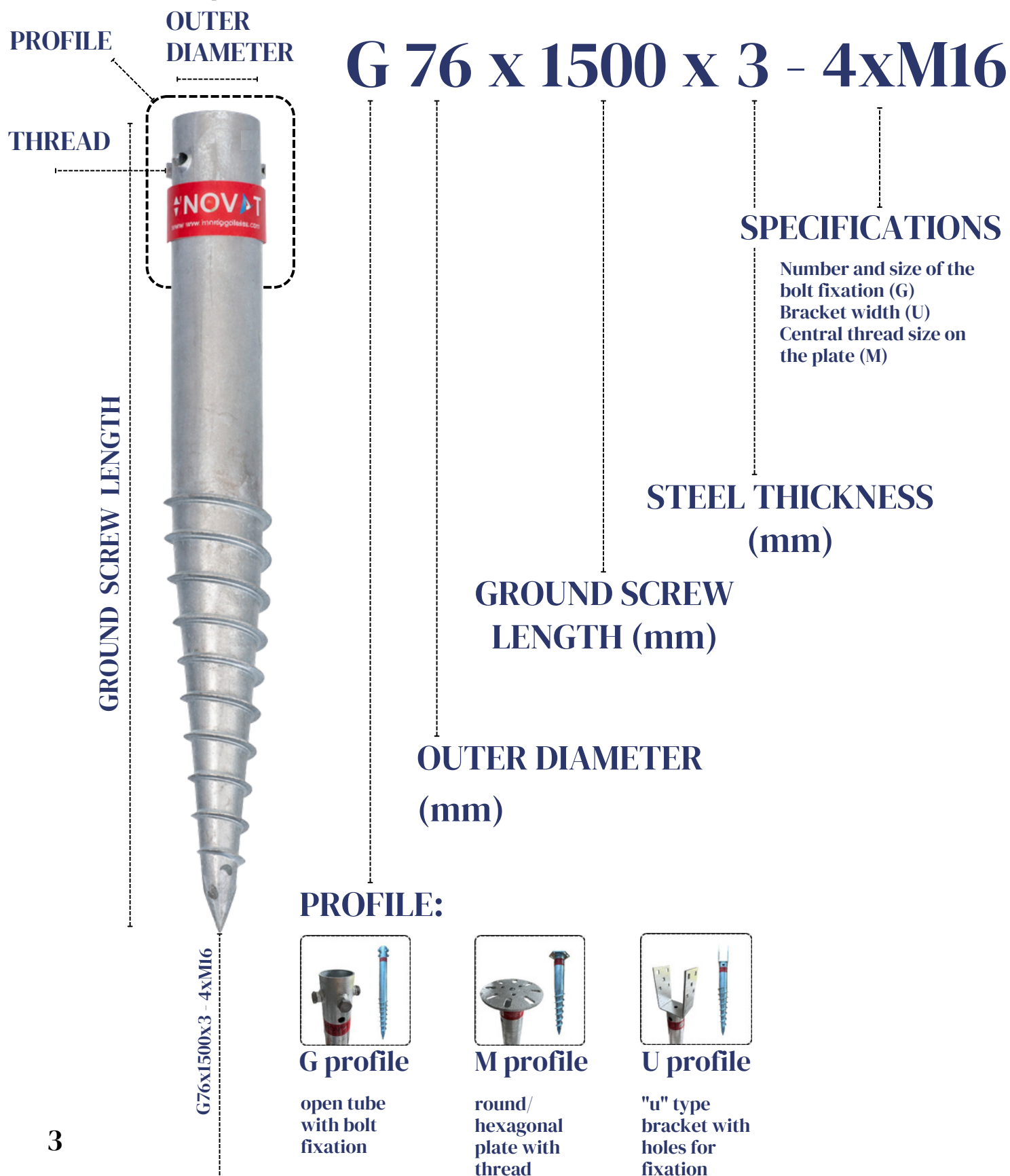
M profile

U ground screws are perfect for timber frame construction and garden projects, such as decking, garden structures, or sheds. These screws are designed for installing both vertical and horizontal beams securely.



U profile

GROUND SCREW



PROFILES



G profile

G 76x1000x3 -4xM16
G 76x1500x3 -4xM16
G 76x2100x3.5 - 4xM16
G 89x1500x3 -4xM16

pages **6-7**



M profile

M 68x550x2 - M16
M 76x800x3 - M16
M 76x1000x3 - M16
M 76x1300x3 - M16
M 76x1500x3 - M16
M 76x2000x3 - M16
M 76x2400x3.6 -M16
M 89x1500x3 -M16
M 114x2600x5.6 -M24
M 140x3100x3.6 - M24

pages **8-9**



U profile

U 68x685x2 - 71
U 68x865x1.8 - 91

pages **10-11**



Accessories

G 76 to M adapter
G 89 to M adapter
G 76 x 1000 extension
G 89 x 1000 extension
G to L adapter
M to U adapter

pages **12-14**



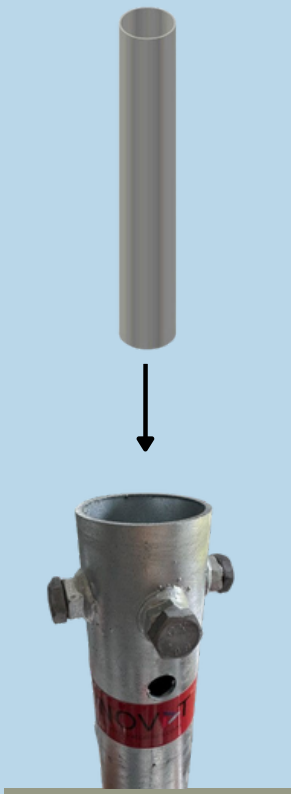
Equipment

Ground screw driver SPD-HD-03
Ground screw driver SPD-HD-06
Ground screw driver SPD-HD-08
Ground screw driver SPD-HD-10
Pre drilling tool
Ground screw reductor

pages **15-17**

G PROFILE

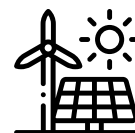
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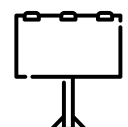
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Fences & Posts



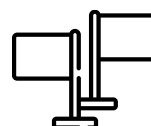
Solar Panels



Outdoor Advertising



Outdoor Lighting



Flags & Flagpoles

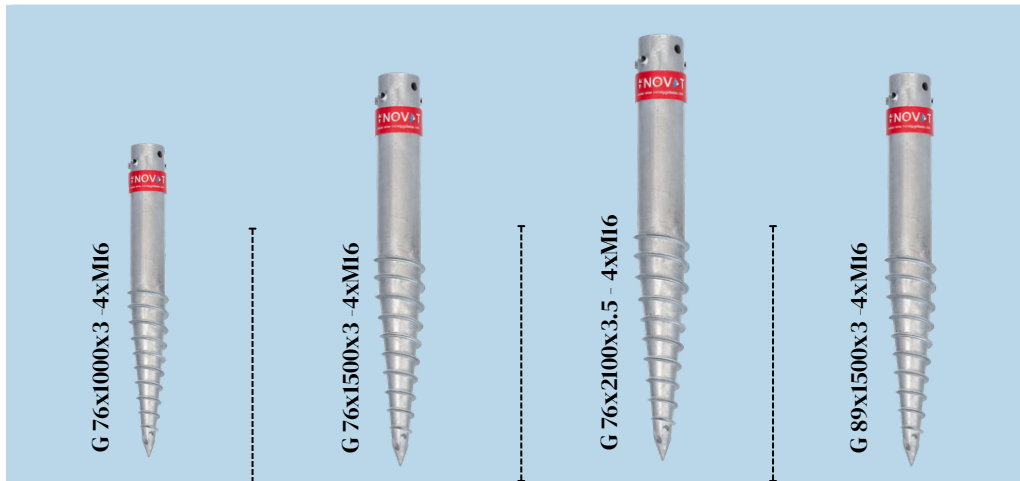


Road Signs

G PROFILE



Product Series



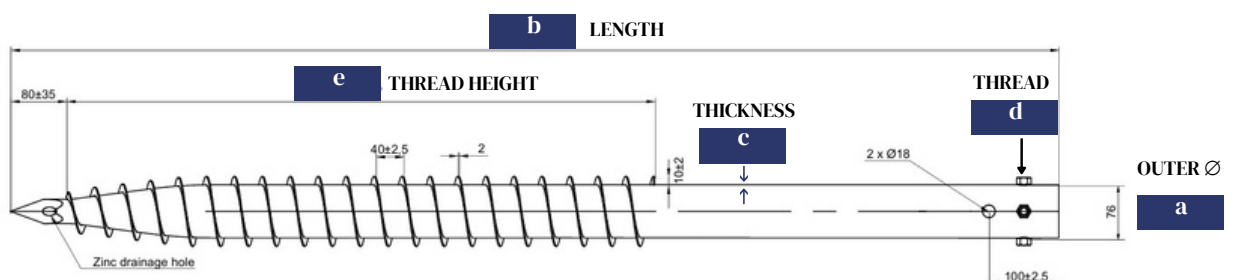
Technical Data

	OUTER Ø	LENGTH	THICKNESS	THREAD	THREAD HEIGHT	WEIGHT
	mm	mm	mm		mm	kg
G 76x1000x3 - 4xM16	76	1000	3	4xM16	440	3.75
G 76x1500x3 - 4xM16	76	1500	3	4xM16	880	8.65
G 76x2100x3.5 - 4xM16	76	2100	3.5	4xM16	1200	13.6
G 89x1500x3 - 4xM16	89	1500	3	4xM16	840	12.16
	a	b	c	d	e	

Load Tests

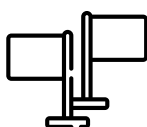
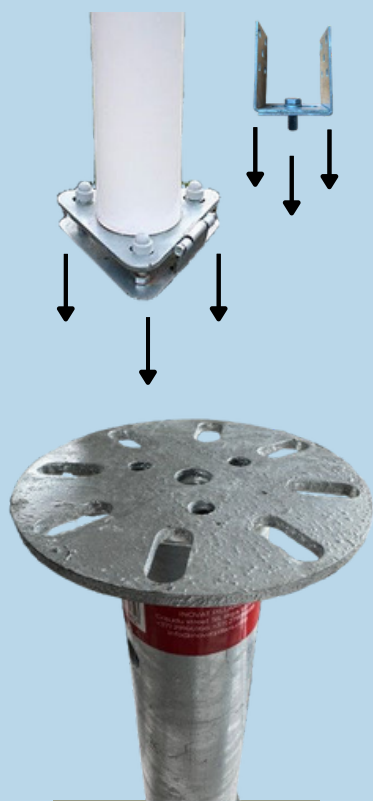
	MAX load, kN (kg)	MAX tension load, kN (kg)	Shift load, kN (kg)
G 76x1000x3 - 4xM16	16.5 (1683)	9.5 (969)	4.5 (459)
G 76x1500x3 - 4xM16	31 (3161)	18.5 (1886)	7.5 (765)
G 76x2100x3.5 - 4xM16	45 (4589)	26 (2651)	11 (1122)
G 89x1500x3 - 4xM16	36 (3671)	20.2 (2060)	9.3 (948)

1kN ~101.97kg. All values are approximate and can be used as estimates for initial calculations. Actual load tests are mandatory! The manufacturer is not liable for damage caused due to errors in the calculation of loads.



M PROFILE

The M ground screw features a thick flat, round/hexagonal base with a support flange. M - profile screw piles offer a stable, smooth building surface, even in challenging terrain conditions.



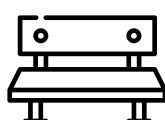
Flags & Flagpoles



Saunas & Log Houses



Sheds & Barns



Benches



Volley Nets



Playgrounds

M PROFILE



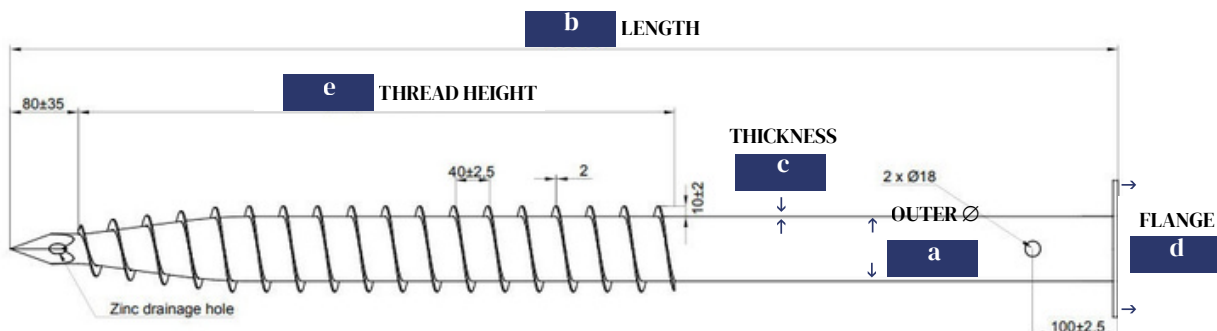
Technical Data

	OUTER Ø	LENGTH	THICKNESS	FLANGE	THREAD HEIGHT	WEIGHT
	mm	mm	mm		mm	kg
M 68x550x2 - M16	68	550	2	120	240	2.6
M 76x800x3 - M16	76	800	3	160	400	5.2
M 76x1000x3 - M16	76	1000	3	160	440	6.97
M 76x1300x3 - M16	76	1300	3	160	760	7.88
M 76x1500x3 - M16	76	1500	3	160	880	8.82
M 76x2000x3 - M16	76	2000	3	160	1160	13.01
M 89x1500x3 - M16	89	1500	3	230	840	12.16
M 114x2600x5.6 - M24	114	2600	5.6	220	1560	45.78
M 140x3100x3.6 - M24	140	3100	3.6	260	960	44.26
M 76x2400x3.6 - M16	76	2400	3.6	200	1500	18.76

Load Tests

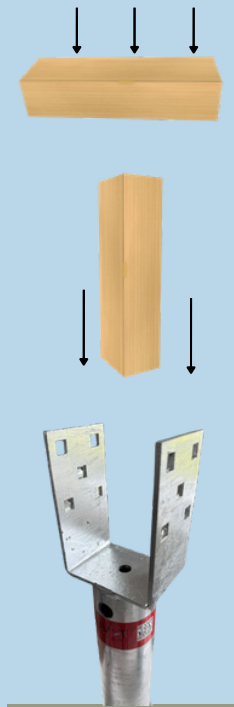
	MAX load, kN (kg)	MAX tension load, kN (kg)	Shift load, kN (kg)
M 68x550x2 - M16	10.5 (1071)	5.2 (530)	2.8 (286)
M 76x800x3 - M16	12.5 (1275)	6.5 (663)	3.4 (347)
M 76x1000x3 - M16	16.5 (1683)	9.5 (969)	4.5 (459)
M 76x1300x3 - M16	24 (2447)	14 (1428)	6 (612)
M 76x1500x3 - M16	31 (3161)	18.5 (1886)	7.5 (765)
M 76x2000x3 - M16	38 (3875)	22 (2243)	9 (918)
M 89x1500x3 - M16	36 (3671)	20.2 (2060)	9.3 (948)
M 114x2600x5.6 - M24	82.9 (8450)	48.6 (4950)	11.9 (1210)
M 140x3100x3.6 - M24	122.7 (12510)	71.8 (7320)	17.5 (1780)
M 76x2400x3.6 - M16	53.9 (5490)	32.4 (3300)	7.9 (810)

1kN ~101.97kg. All values are approximate and can be used as estimates for initial calculations. Actual load tests are mandatory!
The manufacturer is not liable for damage caused due to errors in the calculation of loads.



U PROFILE

U ground screws are perfect for timber frame construction and garden projects, such as decking, garden structures, or sheds. These screws are designed for installing both vertical and horizontal beams securely.



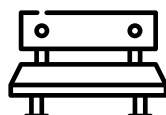
Piers & Docks



Fences & Posts



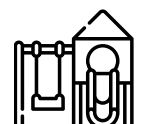
Sheds & Barns



Benches



Volley Nets

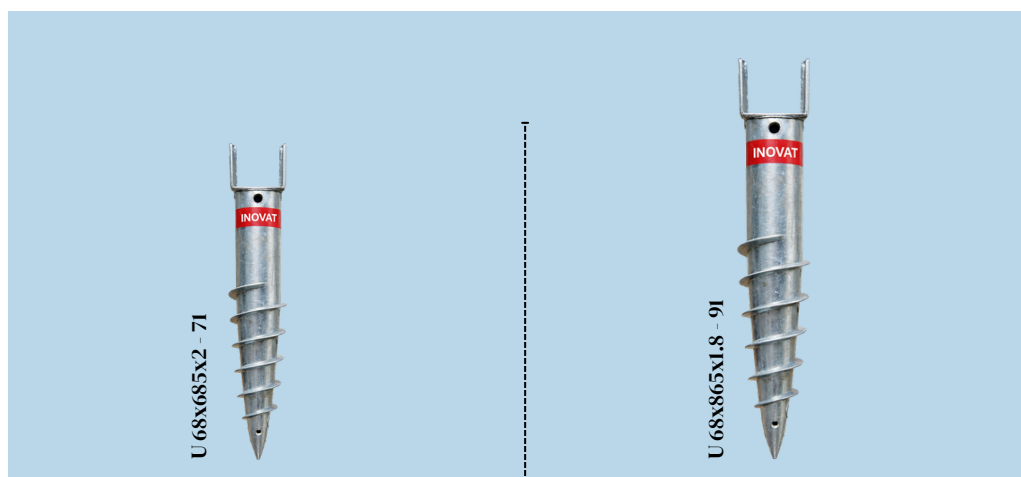


Playgrounds

U PROFILE



Product Series



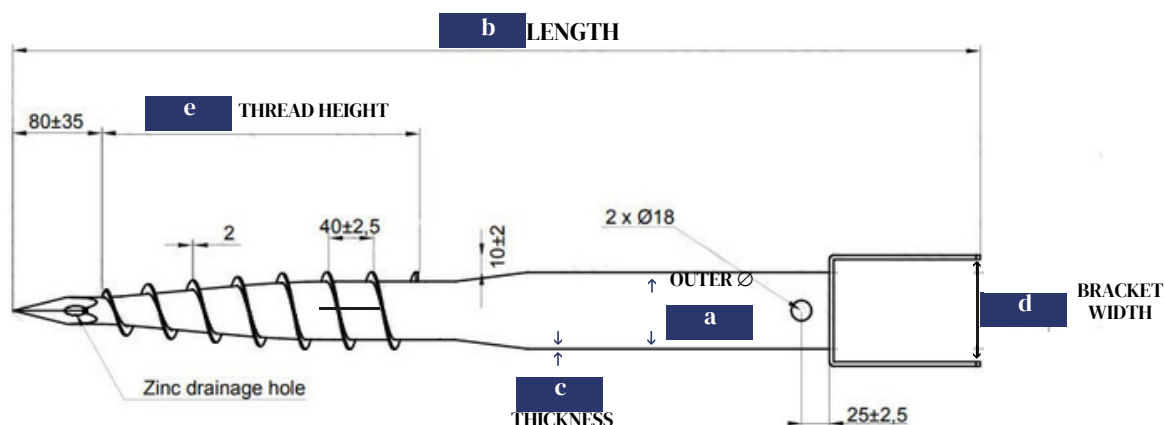
Technical Data

	OUTER Ø	LENGTH	THICKNESS	BRACKET WIDTH	THREAD HEIGHT	WEIGHT
	mm	mm	mm		mm	kg
U 68x685x2 - 71	68	685	2	71	280	2.2
U 68x865x1.8 - 91	68	865	1.8	91	280	3.2

Load Tests

	MAX load, kN (kg)	MAX tension load, kN (kg)	Shift load, kN (kg)
U 68x685x2 - 71	9.5 (969)	4.8 (489)	2.5 (255)
U 68x865x1.8 - 91	6.2 (632)	4.6 (469)	2.55 (260)

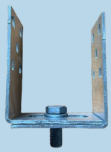
1 kN ~ 101.97 kg. All values are approximate and can be used as estimates for initial calculations. Actual load tests are mandatory! The manufacturer is not liable for damage caused due to errors in the calculation of loads.



ACCESSORIES

Ground screw accessories provide enhanced flexibility for any construction project. These accessories are crafted from high-quality, hot-dip galvanized steel, ensuring durability and reliability. They allow you to extend the ground screw or adapt it to different profiles for specialized applications.

ADJUSTABLE L-BRACKETS



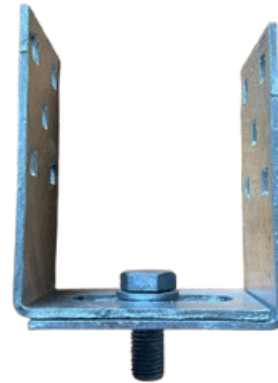
M ADAPTOR



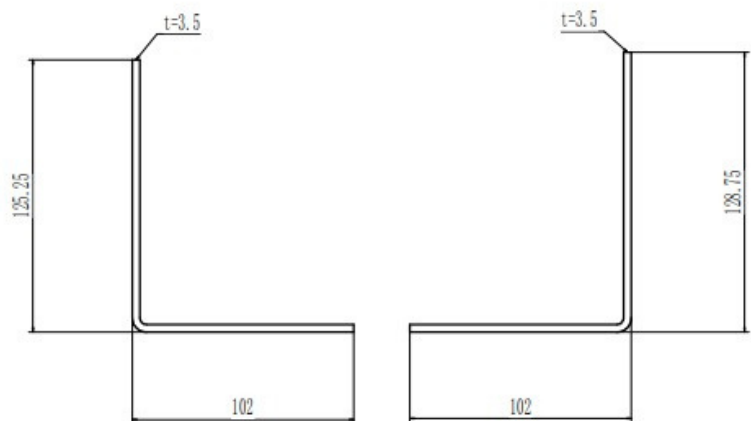
EXTENSION 1m



➤ M to U adapter



Adjustable L-brackets offer increased flexibility for using popular timber sizes in your foundation frame. Simply adjust the brackets to the required width, mount them on top of any M-profile ground screw, and secure with a bolt. These brackets also enable rotation, allowing you to align the timber in the desired direction.

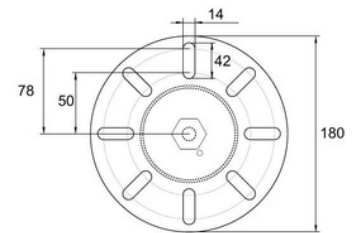
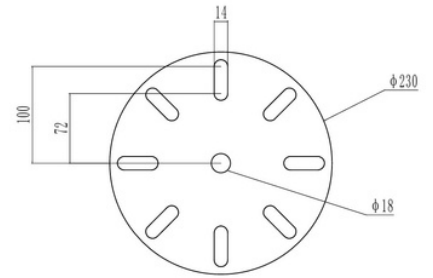
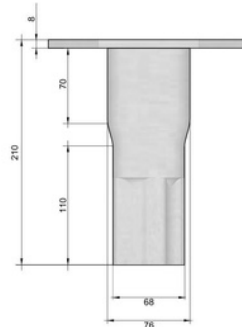
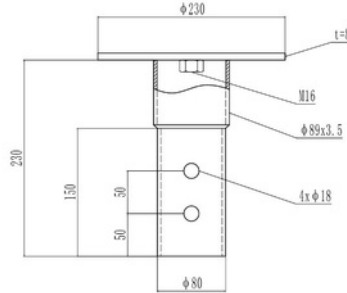


Each set includes **two brackets**, along with a **washer and bolt**. If needed, a single bracket can also be used independently.



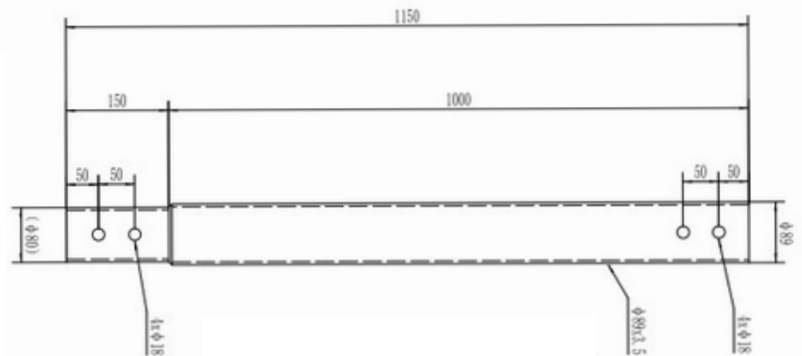
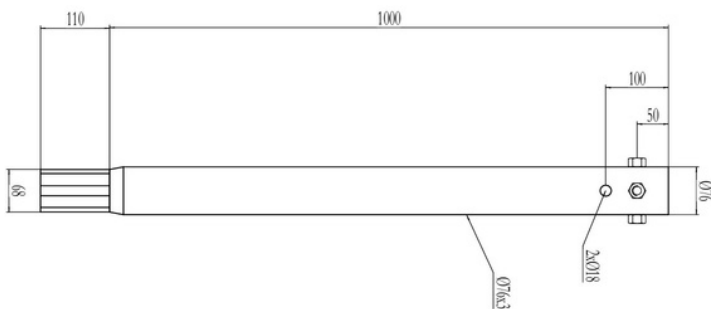
➤ G 76 to M adapter, G 89 to M adapter

Transforms G profile to M profile



➤ G 76 x 1000, G 89 x 1000 extension

Extends G profile for 1 meter



ACCESSORIES

Ground screw accessories provide enhanced flexibility for any construction project. These accessories are crafted from high-quality, hot-dip galvanized steel, ensuring durability and reliability. They allow you to extend the ground screw or adapt it to different profiles for specialized applications.

**ADJUSTABLE
L-ADAPTOR
FOR G PROFILE**



G GROUND SCREW



G TO L adapter



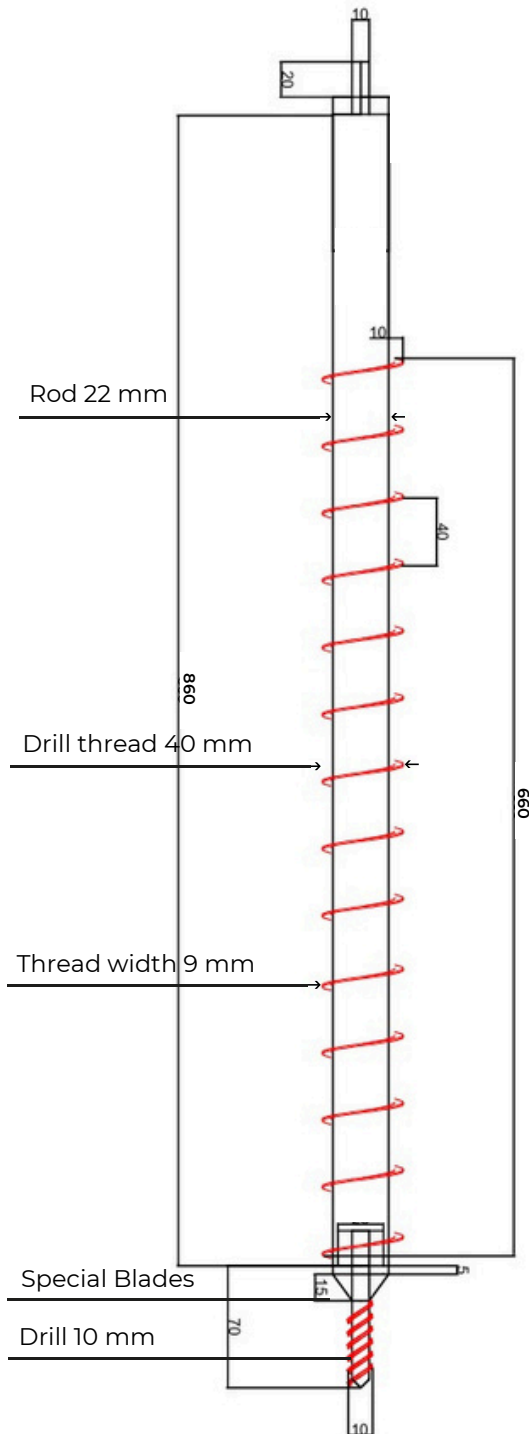
The **adjustable G-to-L adapter** provides added flexibility for using popular timber sizes in your foundation frame. Simply adjust the bracket to the required width, attach it to any G-profile ground screw, and secure it with a bolt. The bracket also allows for rotation, making it easy to align the timber in the desired direction.

G to L adapter is easier to use. It allows 360° rotation and adjusting the L bracket to necessary position.





Pre drilling tool



GROUND SCREW PRE DRILLING TOOL

Pre-drilling for ground screws makes installation much easier, especially in hard soils. This process helps reduce the effort needed to install ground screws manually, with a steel rod, or using a ground screw reducer. Additionally, pre-drilling lowers the strain on power tools, preventing overheating and potential burnout.

40 mm

drill thread

10 mm

connection with screw driver (bit)

660 mm

thread length

22mm

base

SPECIAL BLADES

for cutting harder soil

for
**RENT
& SALE**

INSTALLATION EQUIPMENT

The ground screw reductor is an excellent mechanical tool that enables ground screws to be installed using a standard electric screwdriver. It's ideal for installing ground screws up to 1000mm in length, making the process more efficient and accessible.

1 minute
assembling time

13 kg
weight

40x25x10 cm
box size

regular screwdriver
compatible to

1:78
gear ratio

for
**RENT
& SALE**



➤ Ground Screw Reductor



Adaptors for all profiles:



➤ Screw Pile driver SPD-HD-03

Protection type	Class II double insulation
Frequency	50-60 Hz
Rated Voltage	AC 220 V
Maximum Input Power	1800 kVA
Maximum Torque	Max. 1800 N.m
Torque range	500-1800 N.m
Rotate Speed (r/min)	15
Max. diameter of drill hole	76 mm
Max. depth of drill hole	1200 mm
Rotary drive dimension	25x25 mm
Host Machine Net Weight(kg)	9.2 KG



INSTALLATION EQUIPMENT

Professional ground screw equipment simplifies the process and offers significant benefits for installers. Ground screw higher torque and enable faster enhancing efficiency on the job.



Set includes:

- Screw Pile driver
- bearing shoulder
- handle
- spare coals
- assembly tools
- instruction

Adaptor heads are not included!

for
**RENT
& SALE**

➤ Screw Pile driver SPD-HD-06

Protection type	Class II double insulation
Frequency	50-60 Hz
Rated Voltage	AC 220 V
Maximum Input Power	2800 kVA
Maximum Torque	Max. 3200 N.m
Rotate Max. Speed (r/min)	20
Diameter of drill hole	10 - 300 mm
Max. depth of drill hole	2500 mm
Rotary drive dimension	32x32 mm
Host Machine Net Weight(kg)	15.48 KG

➤ Screw Pile driver SPD-HD-08

Protection type	Class II double insulation
Frequency	50-60 Hz
Rated Voltage	AC 220 V
Maximum Input Power	4800 kVA
Maximum Torque	Max. 6000 N.m
Rotate Max. Speed (r/min)	11
Diameter of drill hole	10 - 300 mm
Max. depth of drill hole	3000 mm
Rotary drive dimension	38x38 mm
Host Machine Net Weight(kg)	22.9 KG

➤ Screw Pile driver SPD-HD-10

Power Supply	210-240V
Operating Frequency	50-60 Hz
Maximum input power	5500W
Rotation speed	9.5r/min
Maximum Torque	Max. 6000-10000 N.m
Net weight	32kg

GROUND SCREW LENGTH BASED ON FROST DEPTH

Ground screws provide a stable foundation when the threaded section is installed below the frost line.

The **recommended screw length** depends on local frost depth and soil conditions.

The table below provides **recommended minimum ground screw lengths for different frost depths**.

Thread Length 610 mm

Frost Depth	Recommended Ground Screw Length
0 – 80 cm	1300 mm
80 – 110 cm	1600 mm
110 – 150 cm	2000 mm
>150 cm	Contact Inovat

Thread Length 880 mm

Frost Depth	Recommended Ground Screw Length
0 – 90 cm	1500 mm
90 – 120 cm	1600 mm
110 – 160 cm	2000 mm
>160 cm	Contact Inovat

*Recommended lengths assume installation slightly above ground level and may vary depending on soil density and structural loads.

LOAD CAPACITY

Ground screws provide a **strong and reliable foundation** solution for a wide range of structures, including **solar installations, terraces, modular buildings, fences, and pontoons.**

The load-bearing capacity depends on several factors such as ground screw diameter, installation depth, soil conditions, and the number of screws used in the foundation system.

The table below shows **typical load capacities depending on soil type.** These values are intended as a general reference. Final load capacity should always be verified based on local soil conditions and project requirements.

Ground Screw Load Capacity by Soil Type

Diameter (mm)	Dense Sand / Gravel	Medium Dense Sand	Fine Sand	Sandy Clay	Plastic Clay	Peat / Organic
68	18.0 kN	15.0 kN	13.5 kN	12.0 kN	9.0 kN	4.5 kN
76	30.0 kN	25.0 kN	22.5 kN	20.0 kN	15.0 kN	7.5 kN
89	45.6 kN	38.0 kN	34.2 kN	30.4 kN	22.8 kN	11.4 kN

*Values shown are indicative and may vary depending on soil density, installation depth, and site conditions.

CERTIFICATIONS:

Our ground screws are manufactured according to European construction standards and certified factory production control systems, ensuring consistent quality and structural reliability.

PRODUCTION CERTIFICATION: EN 1090-1:2009+A1:2011

STRUCTURAL STEEL STANDARD: EN 1090-2 (EXC2)

EU CONSTRUCTION PRODUCT REGULATION: CPR (EU) 305/2011

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SCAN ME

