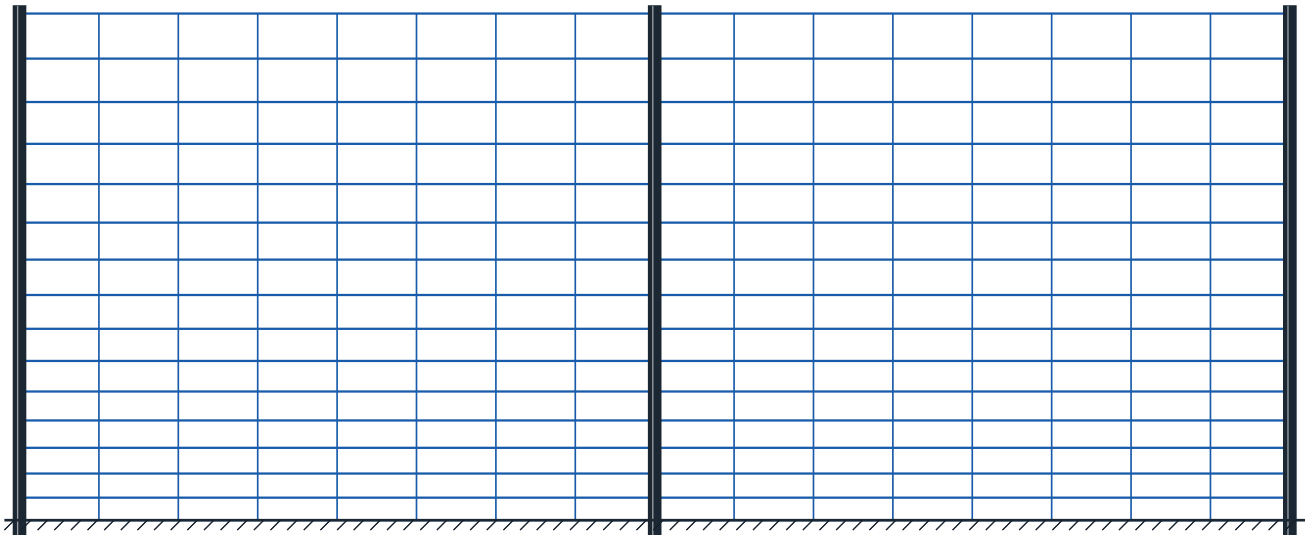


# Installation manual

HIGH-TENSILE KNOTTED FENCE • Q-KNOT AND ZS-KNOT



For SIMO installation crews, trained partner installers and supply-only customers. Follow it step by step: correct installation is what makes the fence last.

# Before you start

Read the whole manual before you start. High-tensile wire behaves differently from ordinary chainlink: it is stronger, springier and stores more energy under tension.

### SAFETY

Wear gloves, eye protection and safety boots throughout. Never stand in line with a wire under tension or in front of a fence puller. Secure every cut end: a released high-tensile wire can whip. Keep children and animals away from the work area.

### WHAT THIS MANUAL COVERS

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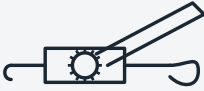
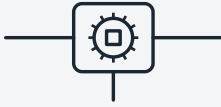
### WHY IT MATTERS

A knotted fence is a system: its rated life depends on correct posts, bracing, joining and tension as much as on the wire. With correct installation, SIMO Securon is rated for 35 years or more (Alpha), 20 years (Zeta Nova) and 10 years (Pi)\*.

\*To know how rated life is calculated, visit [simosecureon.com](https://simosecureon.com).

# Tools and materials

## QVIKFIXRR INSTALLATION TOOLS

|                                                                                                                                                                      |                                                                                                                                                                       |                                                                                                                                                                               |                                                                       |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------|
|  <p><b>Fence puller</b><br/>Draws the fabric along the line before it is fixed.</p> |  <p><b>Tensioner</b><br/>Fitted at terminals to bring the line wires to tension.</p> |  <p><b>Wire twister</b><br/>Ties off wires neatly and makes the splice-and-twist joins.</p> | <p><b>Wire grip joiners</b><br/>Tension grips for the line wires.</p> |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------|

## GENERAL TOOLS

- Measuring tape, string line and marking pegs
- Post-hole digger or auger
- Spirit level
- Concrete mixing tools
- Wire cutters rated for high-tensile wire
- Spanners for M10 fasteners

## MATERIALS

- SIMO Securon fence fabric (grade and grid as specified)
- QvikFixrr angle posts, standard 8.5 ft shafts: 50 x 50 x 6 mm for regular spans, 65 x 65 x 6 mm at terminals and corners; or concrete columns of at least 150 x 150 mm in high-grade concrete
- Bracing struts and horizontal stays
- QvikFixrr V-Clips and C-Clips (staples or clips for the stays), fabric locks and M10 fasteners
- Wire grip joiners for the line wires; wire tensioners for the terminals
- Concrete, and gravel or crushed stone where the ground needs it
- Toppings where specified: RTHT barbed wire, concertina coil



V-Clip



C-Clip



Fabric lock



M10 fastener



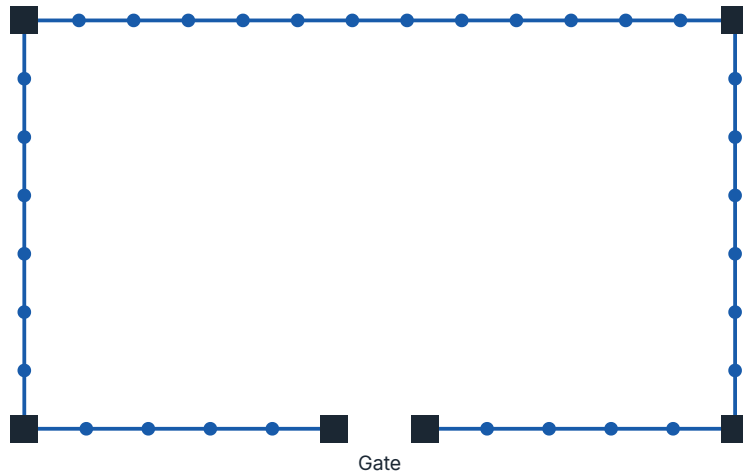
Angle post

### GOOD TO KNOW

Fence supply orders of 2 km running length and above come with one set of installation tools free, for the project: fence puller, tensioner and wire twister.

# Planning the line

Walk the whole line first. Mark every terminal, corner, change of direction and gate before anything is dug.



■ Terminal or corner post, braced

• Intermediate post, every 5 to 6 m (Alpha) or 5 m (Zeta Nova, Pi)

Every gate is two terminals. Every change of direction is a corner, braced both ways.

## WORKING OUT QUANTITIES

- Perimeter: measure it. A square plot of 1 acre is about 255 m around; 5 acres about 569 m.
- Intermediate posts: each straight run divided by the post gap. At 5 m, 569 m needs about 114 posts; chainlink at 2.5 m would need about 228.
- Terminals and corners: count them from your plan; each gate adds two.
- Fabric: each straight run divided by the roll length (Alpha 50 m, Zeta Nova 30 m, Pi 100 ft or 30.5 m; ZS-Knot 50 m), rounded up. Rolls on a long run are joined by splicing and twisting.

## CHECK THE SITE

Within 20 km of the coast, or on a chemically aggressive site (C4 and above), for example near chemical plants, fertiliser stores or industrial fumes? Stop and ask SIMO for a site-specific recommendation before ordering.

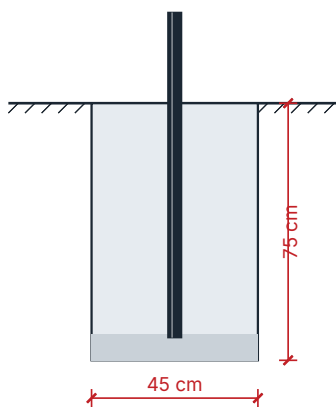
# Set out and dig

## 1 Set out the line

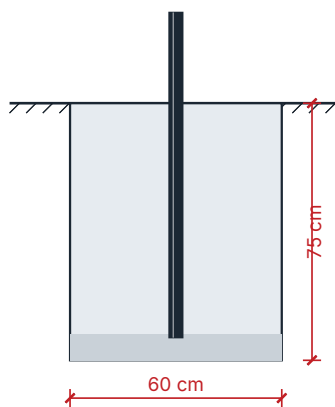
- Run a string line between terminal positions, pulled tight at the height of the fence base.
- Mark each post position along the line: every 5 to 6 m for Alpha, every 5 m for Zeta Nova and Pi.
- Check the line is clear of buried services before digging.

## 2 Dig the foundations

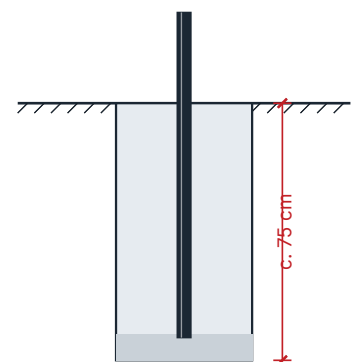
- Terminal posts: at least 45 x 45 cm and 75 cm deep.
- Corner posts: 60 x 60 cm and 75 cm deep.
- Intermediate posts: about 75 cm deep on average. Size and depth depend on the soil and the fence height: adjust them to the site, or follow the approved drawing.
- Post height is the fence height plus at least 50 cm, set into the concrete. Angle posts 50 x 50 x 6 mm (65 x 65 x 6 mm at terminals and corners), or concrete columns of at least 150 x 150 mm.
- Place gravel or crushed stone at the base of postholes where the ground needs drainage.



**TERMINAL**  
45 x 45 x 75 cm



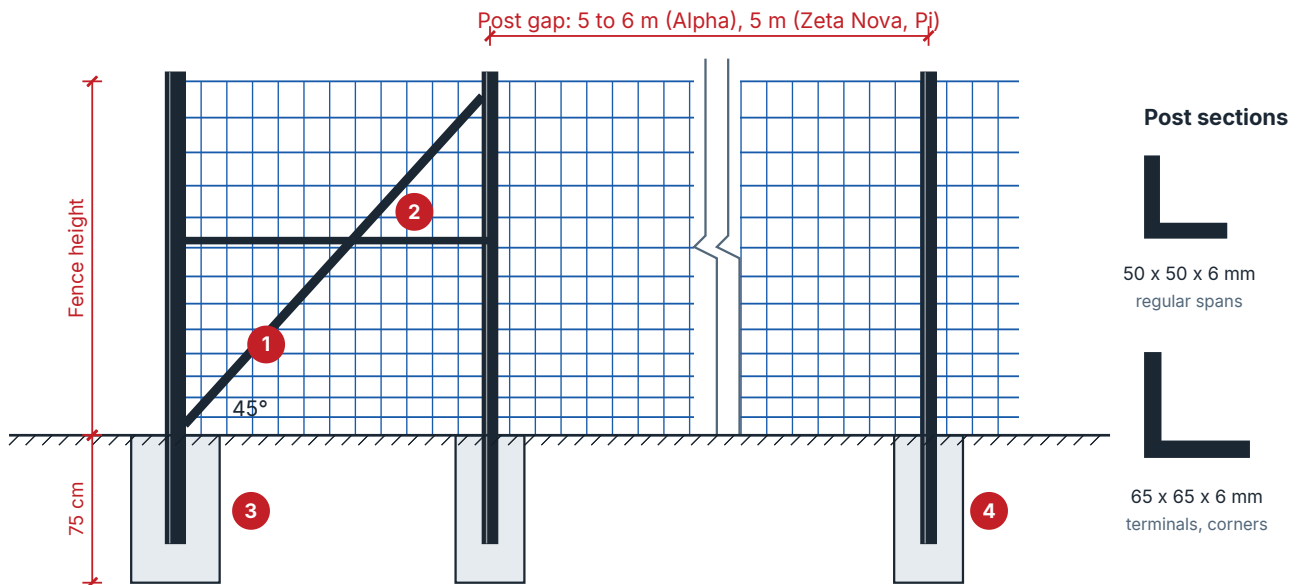
**CORNER**  
60 x 60 x 75 cm



**INTERMEDIATE**  
About 75 cm deep, to suit the site

# Brace the ends

## 3 Terminal and corner assemblies



- 1 Diagonal strut at 45 degrees from the top of the first supporting post down to the base of the terminal.
- 2 Horizontal stay between the terminal and the first supporting post.
- 3 Terminal foundation at least 45 x 45 cm, 75 cm deep.
- 4 Intermediate posts follow at the post gap for the grade.

### CORNERS

Corners are braced in both directions, one assembly for each line leaving the corner, on a foundation of 60 x 60 cm, 75 cm deep.

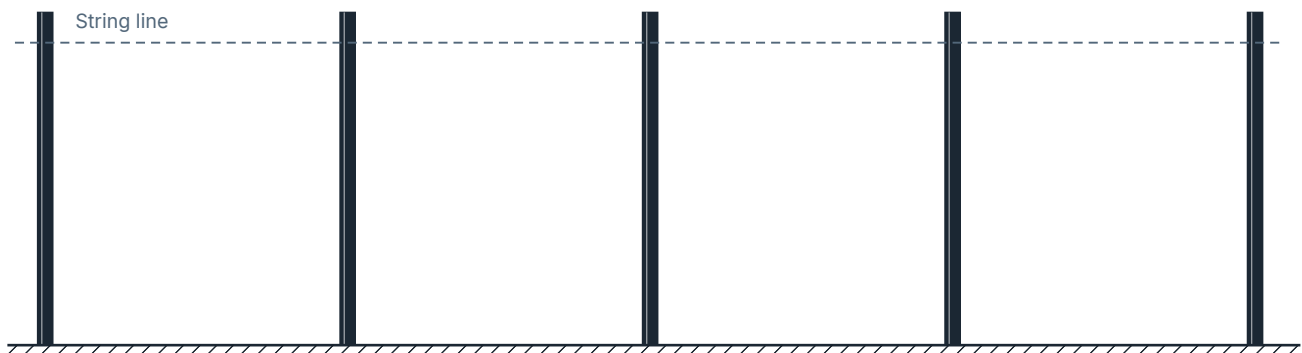
### GATES

Treat each gate post as a terminal: braced the same way, on a terminal foundation, so the weight of the gate never hangs on the fabric. Hang the gate only after the concrete has cured. Fit the top hinge with its pin pointing down, so the gate cannot be lifted off. Leave enough clearance for the gate to swing over the highest point of the ground, and check that it opens, closes and latches freely before handover. Gate size and fittings: as specified for the site.

# Set the line posts

## 4 Intermediate posts and curing

- Set each intermediate post plumb on the string line, checked with a spirit level in two directions.
- Keep post heights even so the fabric sits at a constant height.
- Use rust-free posts only: a rusted post shortens the life of the whole fence.



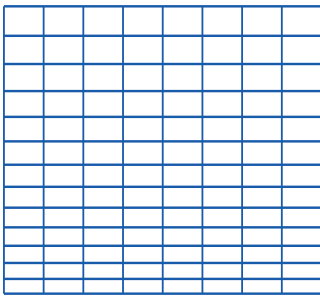
### DO NOT RUSH THIS

Let the concrete cure fully before any tension goes on. Tensioning early pulls terminals out of line and loosens the whole fence. Keep the concrete damp, and wait at least 7 days with ordinary Portland cement (OPC), or at least 10 days with PPC or another blended cement, or in hot, dry weather: the curing periods of IS 456. If in doubt, wait longer.

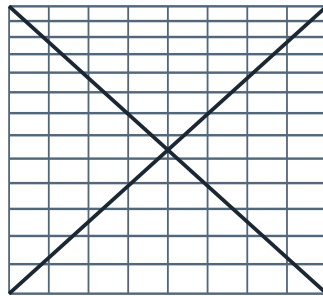
# Run out the fabric

## 5 Run out, anchor and join the fabric

- Unroll the fabric along the line, next to the posts, and stand it upright.
- Check the orientation: on a graduated grid, the closest wires go at the bottom, where animals push and small animals try to pass.
- Anchor the start at the first terminal with a flat bar fabric lock and M10 fasteners.
- Join rolls on long runs by splicing and twisting the line wires together: no welding and no joint, and the twist leaves the coating intact.
- Never weld or joint the fabric.



**Right:** closest wires at the bottom



**Wrong:** upside down

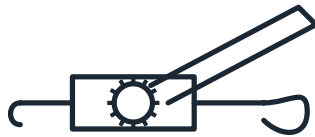


Splice and twist: line wire ends overlapped and twisted round each other.

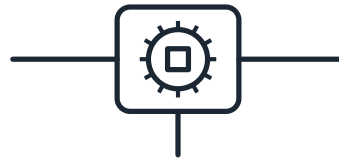
# Tension

## 6 Tension the fence

- Fit the fence puller to the free end and draw the fabric along evenly, so every line wire takes load together.
- Bring the line wires to tension with wire tensioners at the terminal posts, using tension wire grips on the line wires.
- Target: 0.8 kN of installed tension in each line wire (about 80 kgf). Check it with a wire tension meter on every line wire, near the middle of each tensioned run, and bring all the line wires to the same reading.
- Watch the crimps between stays: they act as springs and should stay visible, not be pulled flat.
- Re-check the terminal bracing: it should not move as tension comes on.



Fence puller



Tensioner

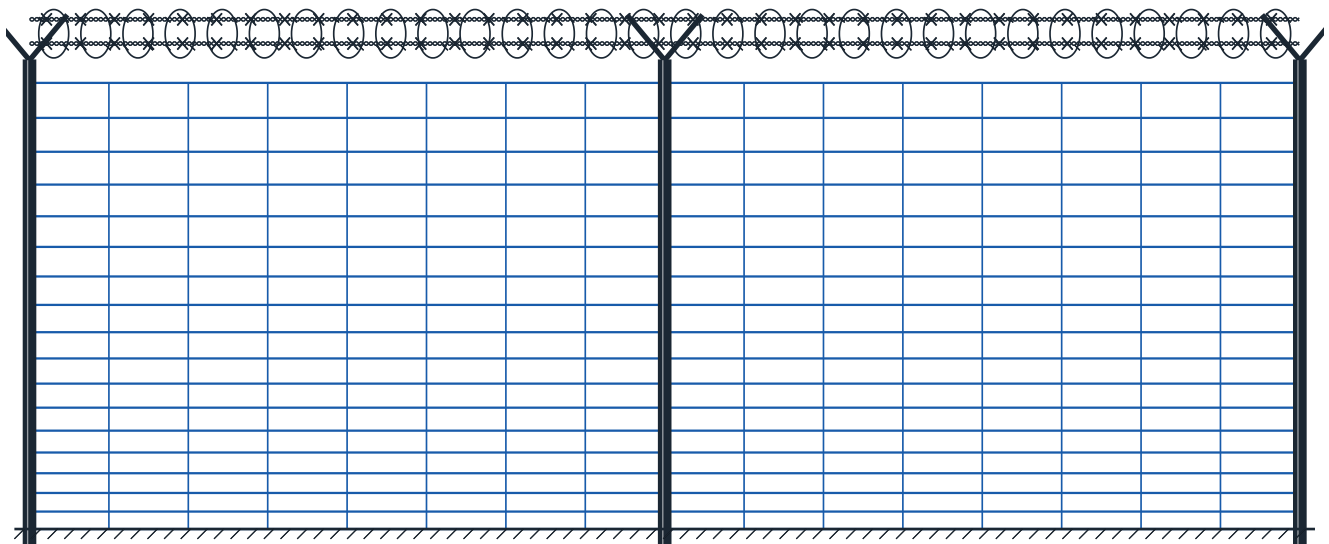
### SAFETY

Never stand in line with the wire or the puller while tensioning. Tension slowly and evenly. Wear eye protection.

# Fix and finish

## 7 Fix, tie off and add toppings

- Fix the fabric to every intermediate post with QvikFixrr V-Clips or C-Clips; staples or clips for the stays.
- Tie off wires at the terminal with the wire twister; trim and turn in the ends.
- Mount toppings on the post attachments: RTHT barbed wire strands, and concertina coil seated between them where specified.
- For ZS-Knot 4 x 2 anti-climb fences, keep toppings continuous across every post so there is no gap to climb through.



Toppings on the post attachments: RTHT barbed wire and concertina coil.

# Final checks

## 8 Inspect and hand over

- ☐ Terminal and corner assemblies braced and not moving.
- ☐ Posts plumb, even in height, and free of rust.
- ☐ Fabric the right way up, fixed at every post.
- ☐ Roll joins spliced and twisted; no welded or jointed fabric; cut ends turned in.
- ☐ Tension even along the run; crimps still visible.
- ☐ Toppings continuous where specified.
- ☐ Site cleared of wire offcuts and packaging.
- ☐ Care guidance handed to the customer.

INSTALLED BY

DATE

# Care and troubleshooting

## CARE

- Store rolls closed, dry and off the ground until they go up.
- Walk the line after storms or impacts.
- Keep fertilisers and chemicals off the fence.
- Replace any rusted post early.
- Never weld or joint the fabric, even for repairs. Join rolls only by splicing and twisting.

## TROUBLESHOOTING

|                                      |                                                                                               |
|--------------------------------------|-----------------------------------------------------------------------------------------------|
| <b>Fence sagging between posts</b>   | Check terminal bracing first, then re-tension at the terminal.                                |
| <b>Terminal leaning</b>              | Bracing or foundation is undersized, or tension went on before the concrete cured. Re-set it. |
| <b>Fabric dented after an impact</b> | The crimps usually recover. Check the clips at nearby posts.                                  |
| <b>A broken wire</b>                 | Contact SIMO. Do not weld or joint it.                                                        |

Retail buyers: installing to this manual is also a condition of the SIMO written guarantee. Terms and conditions: [simosecureon.com/guarantee](https://simosecureon.com/guarantee).

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