



[Home](#)
[Antennas](#)
[QFH](#)
[Calculator](#)

Language:
[Español](#)
[Deutsch](#)

[QFH](#)
[Introduction](#)
[Matching](#)

Calculator

[Simulations](#)
[Dimensions](#)
[Groundplane](#)

[Pictures](#)

Related:
[Simple helicoidal](#)

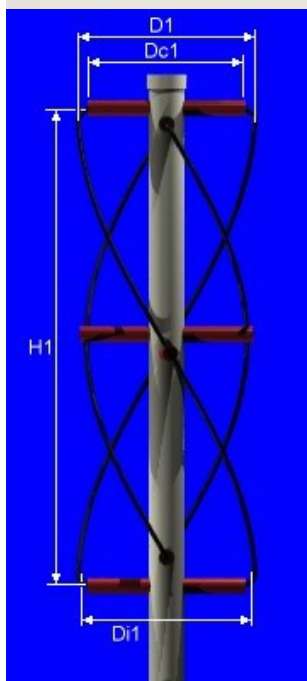
Input the data

Thanks to suggestions of Kevin and Barry Fittler, and the insistence of many others, I've finally made a bit of time to do 'repair work' on the calculator. Please report problems, if any.

Design frequency	145.8 MHz
Number of turns (twist)	0.5 v
Length of one turn	1 v wavelengths
Bending radius	30 mm
Conductor diameter	19.3 mm (optimum: 19.3 mm)
Width/height ratio	0.44
	Calculate

Results

Wavelength	2057.6 mm
Compensated wavelength	2197.5 mm
Bending correction	12.8 mm

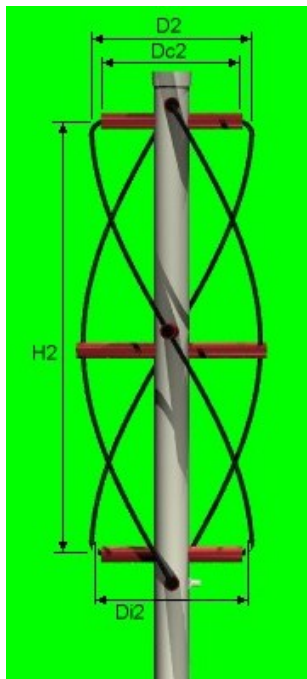


Larger loop

Total length		2254.6 mm
Vertical separator		846.6 mm
Total compensated length		2306.1 mm
Compensated vertical separation		786.6 mm
Antenna height	H1=	696.4 mm
Internal diameter	Di1=	287.1 mm
Horizontal separator	D1=	306.4 mm
Compensated horiz. separation	Dc1=	246.4 mm

Smaller loop

Total length		2142.5 mm
Vertical tube		805.4 mm
Compensated total length		2194 mm
Compensated vertical tube		745.4 mm
Antenna height	H2=	662.6 mm



Internal diameter	Di2=	272.2 mm
Horizontal separator	D2=	291.5 mm
Compensated horiz. separator	Dc2=	231.5 mm

Generate a drilling template

To generate a drilling template in PDF form, please enter the following extra data:

Vertical support tube diameter:	mm	
Horizontal support tube diameter:	mm	
Select paper size:	A4 (210x297 mm) v	Generate

For more information on the construction technique corresponding to this template, visit [this page](#).

Legend

This calculator generates a lot of data! Take care in the use of the information in order not to make mistakes...

Here's a little explanation:

Design frequency

Evident?

Number of turns (twist)

What's the twist of the antenna? (normally 0.5 (180 degrees))

Length of one turn

A few variations of the antenna exist. Normally the circumference (length of the loop) is 1 wavelength, but 1.5 wavelength and 2 wavelength versions exist.

Bending diameter

As it's impossible to bend the corner abruptly at 90 degrees, this value is needed for the calculations. It's measured from the bending center to the center of the tube.

Conductor diameter

External diameter of the tube or coax cable.

Diameter/height ratio

Most frequently this ratio is 0.44, but slightly lower values (0.3 to 0.4) give better horizon coverage.

Wavelength

Wavelength, corresponding to the selected frequency.

Compensated wavelength

Wavelength, compensated according to the conductor diameter.

Bending correction

Correction value needed according to the bending diameter.

Total length

Total length of the loop, before compensation.

Total loop compensated length

Total length of the loop, compensated for the bending effect, and the fact that the loop must be slightly larger (or smaller). This is the amount of tubing necessary for this loop.

Compensated vertical separation

Vertical separation (without the 'bends').

Compensated horizontal separation

This is in fact the horizontal part without the 'bends', and corresponds to the horizontal pipe necessary to support the cable.

Antenna height

Height of the loop (twisted!).

Internal diameter

The diameter of the (imaginary) cylinder on which the loop would be wound.