Air Cored Inductor Calculator

This calculator is useful when making antenna matching units, low pass filters, crystal sets, antenna traps, resonant circuits or anywhere where an air cored single layer inductor is required.

Diameter and length of inductor are entered in millimetres along with the number of turns. Frequency can be entered to find the Q of the inductor at a specific frequency, but is not required. Inductance values are calculated to 3 decimal places and are given in nH, µH, mH and even to 5 decimal places, H! An example of a T-match inductor for 1.8MHz is already inputted, click calculate, or clear fields to enter your own values.

Input coil diameter, length & number of turns			
Coil Diameter	7.13	mm	
Coil length	19	mm	
Number of turns	19	t	
			Calculate
Frequency (Not required, but used for calculating Q)	12	MHz	Clear Fields

Calculated inductance, Q and wire length		
Nano H	817.972	nH
Micro H	0.818	µH
Milli H	0.001	mH
Henry	0.00000	H
Inductor Q	156	Q
Wire Length	0.43	m

Wire length is calculated by (diameter x π x turns). π is taken to be 3.14159265358979323846264338327950288419716939937510 which is a little over the top I know! As 39 decimal places is sufficient to estimate the circumference of any circle that fits in the observable universe with precision comparable to the radius of a hydrogen atom, the 50 decimal places I have used should be OK for your inductor. Just remember to cut a bit longer for some tails!