

# How to design an optimal induction coil

United Induction Heating Machine Limited

We are experienced in producing Induction Heating Equipment or induction heating machine or Induction Heating Power Supply, they are widely used in induction heating service, induction heat treatment, induction brazing, induction hardening, induction welding, induction forging, induction quenching, induction soldering induction melting and induction surface treatment applications  
<http://www.uihm.com>

Typically, when the total length of the induction coil is shorter, the output frequency of induction coil will be higher, and the heating speed will be faster.

But each type of induction heating machine has an optimal frequency value, only when the frequency of induction coil match the machine's frequency, the machine can achieve a max output power. If the induction coil is too long or too short, the output power of the machine can't be optimal.

1, When induction coil is too short (such as too many parallel pipes or too few rounds), induction heating machine may not working and will alarm with "low load", or the machine will heating in beginning time, but after some time the machine will not heat or work.

Solution: you can increase numbers of induction coils or reduce laps of parallel pipes, then frequency of induction coil and machine will achieve the best match results.

4 copper pipes of parallel induction coil

2, When induction coil is too long (such as too few parallel pipes or too many rounds), induction heating machine may can't start work, or the machine can't heating at beginning time but after some time it can heat or work.

Solution: you can reduce numbers of induction coils or increase laps of parallel pipes, then frequency of induction coil and machine will achieve the best match results.

induction coil of 6 turns with 3 parallel pipes 1

induction coil of 6 turns with 3 parallel pipes 2

induction coil of 6 turns with 3 parallel pipes

8 rounds with 2 parallel induction coil

dia 15mm of 8 rounds with 2 parallel induction coil 1

dia 15mm of 8 rounds with 2 parallel induction coil











