

Induction Heating Systems

IT Spring-Wire Line

Radyne Induction Tempered Spring Wire Lines offer the efficient technology of induction heating plus a safe and environmentally clean water quenching system. The modular induction harden and temper lines produce material to a highly consistent specification, which producers continually strive to achieve. Radyne Spring Wire Lines are manufactured to exacting mechanical standards, using precision-built modules that are designed and produced for ease of installation, maintenance and operation.

Radyne Spring Wire Lines heat-treat a single wire at high speed as part of a continuous in-line process. They have proven to be a success throughout the world, consistently providing quality wire for cold coiling. This is used in a wide variety of wire-based products including automotive suspension springs, overhead garage door springs and general mechanical springs. Induction hardening and tempering of spring wire is becoming the sought-after approach for processing of wire, routinely demonstrating its benefits over other production methods.

At the forefront of induction hardening and tempering is the Radyne Spring Wire Line, designed and manufactured by Inductotherm Heating & Welding Limited in the UK.

Parameter	Specification
Wire Diameter Range	5 mm to 18 mm
Materials	AISI 9254, AISI 1025 AISI 1045, AISI 4140
Process Temperatures	Hardening: 1100 °C (max) Tempering: 600 °C (max)
Hardness (UTS)	1860 to 2010 N/mm ² Depending on diameter and/or material
Input Coil Diameter	ID: 920 mm to 1067 mm
Pay-Off & Take-Up Coil Size	Maximum Weight: 2.5 Tonnes

Diameter	Throughput	Velocity
5 mm	1643 kg/hr	180 m/min
6 mm	2365 kg/hr	180 m/min
7 mm	3000 kg/hr	168 m/min
8 mm	3000 kg/hr	128 m/min
9 mm	3000 kg/hr	102 m/min
10 mm	3000 kg/hr	82 m/min
11 mm	3000 kg/hr	68 m/min
12 mm	3000 kg/hr	57 m/min
13 mm	3000 kg/hr	49 m/min
14 mm	3000 kg/hr	42 m/min
15 mm	3000 kg/hr	36 m/min
16 mm	3000 kg/hr	32 m/min
17 mm	3000 kg/hr	28 m/min
18 mm	3000 kg/hr	25 m/min

Wire diameters outside of this range will be considered, please contact Inductotherm Heating & Welding.

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For Wire Processing

- Hot Drawing
- Hot Profiling
- Low-Relaxation
- Cladding
- Extrusion Jacketing
- Annealing
- Coating

Inductotherm Heating & Welding are experts in a variety of wire processing applications with proven technology providing exceptional results for all facets of the wire industry.



Induction Heating Systems

For the **Wire** Processing Industry





Pay-Off & Dancer

Ensures smooth pay-off while maintaining wire speed. Capacity of two coils to allow for continuous operation



Hardening Quench

Rapid water quenching of heated wire to a hardened state using high-pressure water jets to mitigate steam-jacketing



Looper and Shear

Weld cut-out during continuous operation is achieved by shearing the wire and diverting to take-up, with the looper allowing slack build-up during the cut



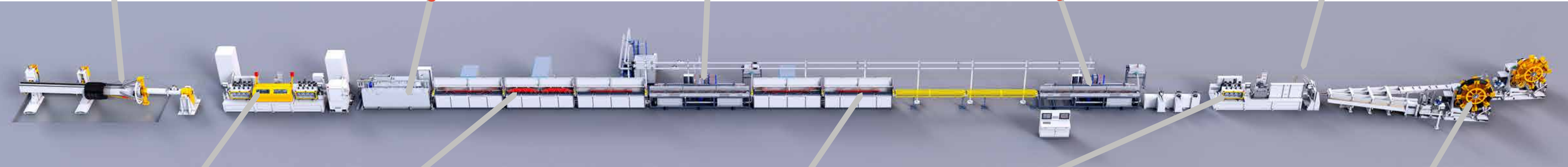
Brushing & Washing Unit

Removes excess impurities from the exterior of the wire using a multi-stage process including mechanical brushing, hot-washing, rinsing and drying



Tempering Quench

Water quenching of wire to specific tempering specification using high-pressure water jets to mitigate steam-jacketing



Straightener

Keeps wire tension to the defined level and maintains wire alignment for processing



Induction Hardening

Consisting of a pre-cure, post-cure and heated soak sections for wire heating to hardening temperature



Induction Tempering

Consisting of a heating section combined with heated and unheated soak sections for wire heating at tempering temperature



Pinch Roll 3, Protection and NDT

Keeps wire tension to the defined level and provides oil coating for wire protection and provision for customer-specific Non-Destructive Testing



Take-Up Windmill

Dual windmill configuration allows wire take-up on the first windmill while a full coil on the second windmill is made ready for onwards transport