

Nitrex nitriding/nitrocarburizing furnaces are equipped with a standard load-cooling system, which draws in ambient air and circulates it around the retort by means of an external cooling fan.

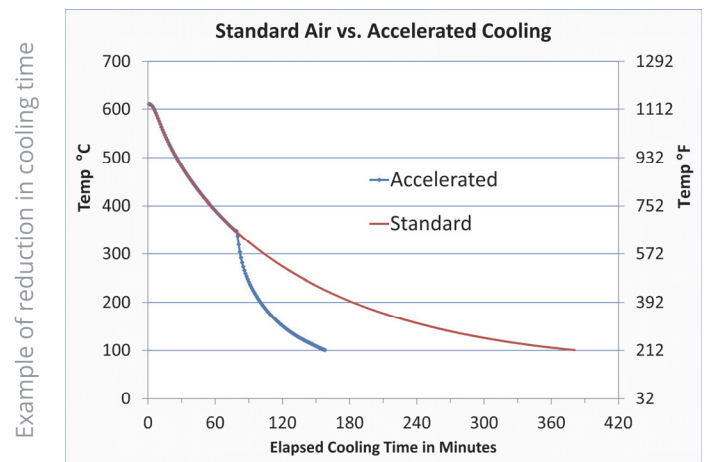
To further reduce cooling time, an **optional Nitrex Accelerated Cooling System** is available. The main component of this system is an internal cooling coil, which forms part of the furnace cover assembly and is directly in the path of the atmosphere circulation generated by the internal turbine. During the cooling stage, the water flowing through the coil cools the furnace atmosphere, and thus the load. The compounded effect of standard and accelerated cooling can significantly shorten the cooling stage.

The shortened cooling time also has the advantage of a faster lead and delivery time, as well as improved furnace utilization, which lead to important cost savings.

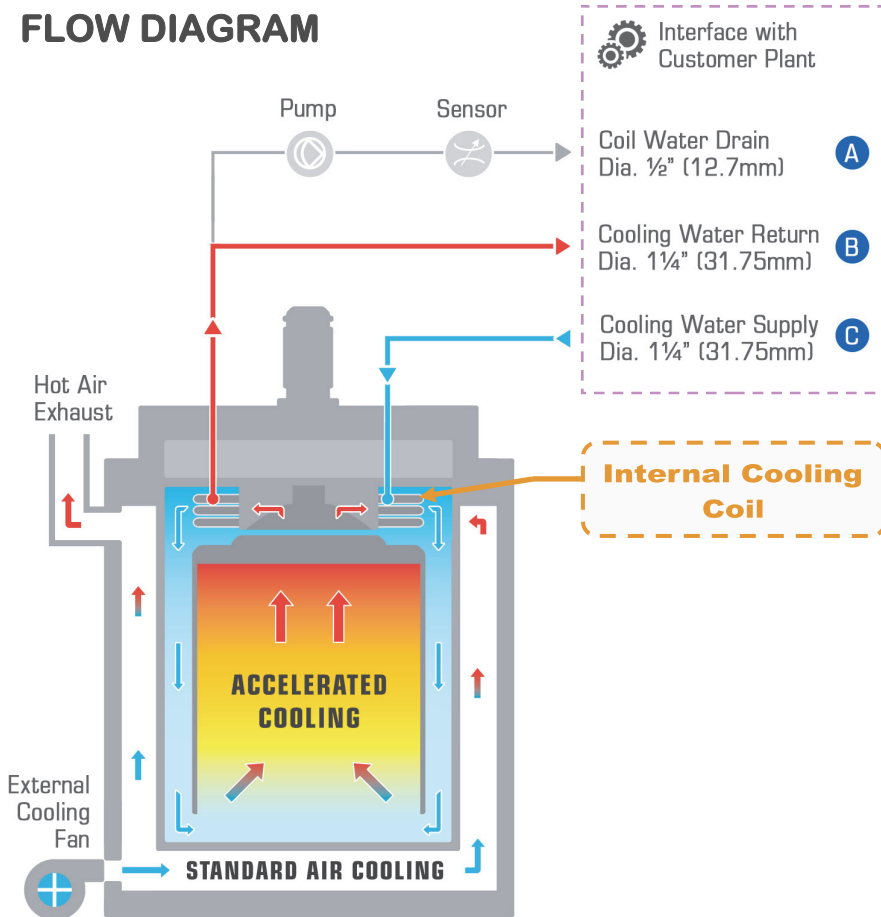
Especially useful for short nitriding and nitrocarburizing processes

COOLING TIME
CAN BE
REDUCED BY
**40%
OR MORE***

* Cooling time varies depending on cooling water inlet temperature, part size/weight, and other variables. Certain conditions can impact the reduction in cooling time.



FLOW DIAGRAM



This scheme is for information purposes only.

Nitrex Accelerated Cooling Package includes:

- Special furnace cover with an integrated internal cooling coil made of refractory alloy
- Pre-piped cooling water circuit with solenoid and pneumatic valves, flow switches and a diaphragm pump with flow confirmation
- Integrated controls comprising of a PLC with I/Os, relays and circuit breakers

Customer Responsibility

- Connections to
 1. Plant cooling water supply (C)
 2. Dedicated self-draining cooling water return line (non-pressurized) (B)
 3. Coil water drain (A)
- Water requirements (see table below)
- Compressed air for pump and pneumatic valves

WATER REQUIREMENTS

Nitrex Furnaces Series

WATER REQUIREMENTS		Nitrex Furnaces Series						
		COMPACT (NXK) & PIT (NX)					HORIZONTAL (NXH)	
		6xx	8xx	10xx	12xx	16xx	66xx	98xx
Cooling Water Flow	gpm @ 120 ft H ₂ O @ 104°F max	15	20	26	33	46	20	26
	m ³ /hr @ 3.5 barg @ 40°C max	3.5	4.5	6.0	7.5	10.5	4.5	6.0

Add-On Accessory



The Nitrex Closed-Loop Cooling Water System is an add-on accessory for Accelerated Cooling. It's an external system that provides a controlled, stable supply of cooling water to the furnace.

NORTH AMERICA
T: +1 514 335 7191
F: +1 514 335 4160
nitrex@nitrex.com

POLAND
T: +48 32 296 66 30
F: +48 32 296 66 20
nitrex.europe@nitrex.com

CHINA
T: +86 (0) 10 6257 3050
F: +86 (0) 10 6252 9914
nitrex.china@nitrex.com

