

Technical data system 250

Load	Units	15/15	30/35	42/60	42/100	70/60	70/100	90/60	90/100	90/150	120/100	120/150	200/200	200/330	200/450
Maximum charge (gross weight)	lbs kg	13 6	66 30	330 150	550 250	770 350	1100 500	1320 600	2200 1000	3300 1500	3080 1400	4400 2000	5500 2500	6600 3000	11000 5000
Outside diameter of load	in mm	6,5 170	12 310	17 430	17 430	30 710	30 710	36 930	36 930	36 930	47 1200	49 1250	80 2050	80 2050	80 2050
Useful diameter of load	in mm	5,5 140	12 300	16 420	16 420	27 700	27 700	35 900	35 900	35 900	47 1200	47 1200	80 2000	80 2000	80 2000
Load height	in mm	10 250	16 400	25 650	41 1050	27 690	42 1090	27 690	42 1090	62 1590	47 1200	66 1700	91 2330	142 3630	190 4850
Effective height of load	in mm	6 150	14 350	23 600	39 1000	23 600	39 1000	23 600	39 1000	59 1500	39 1000	59 1500	78 2000	129 3300	177 4500



Industrial ovens and furnaces
Web converting equipment

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BATCH FURNACE LINE

> Modular construction



> Austenizing (hardening)

> Carburising

> Carbonitriding

> Nitriding

> Nitrocarburising

> Sintering

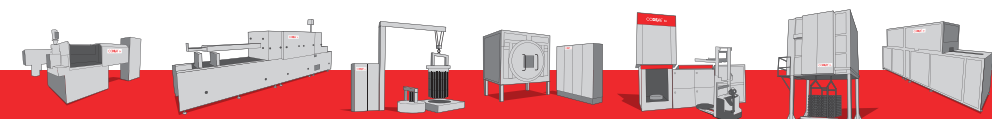
> Oxynitriding

> Annealing

> Tempering

> Brazing

> Solution heat treatment
and ageing



BATCH FURNACE LINE

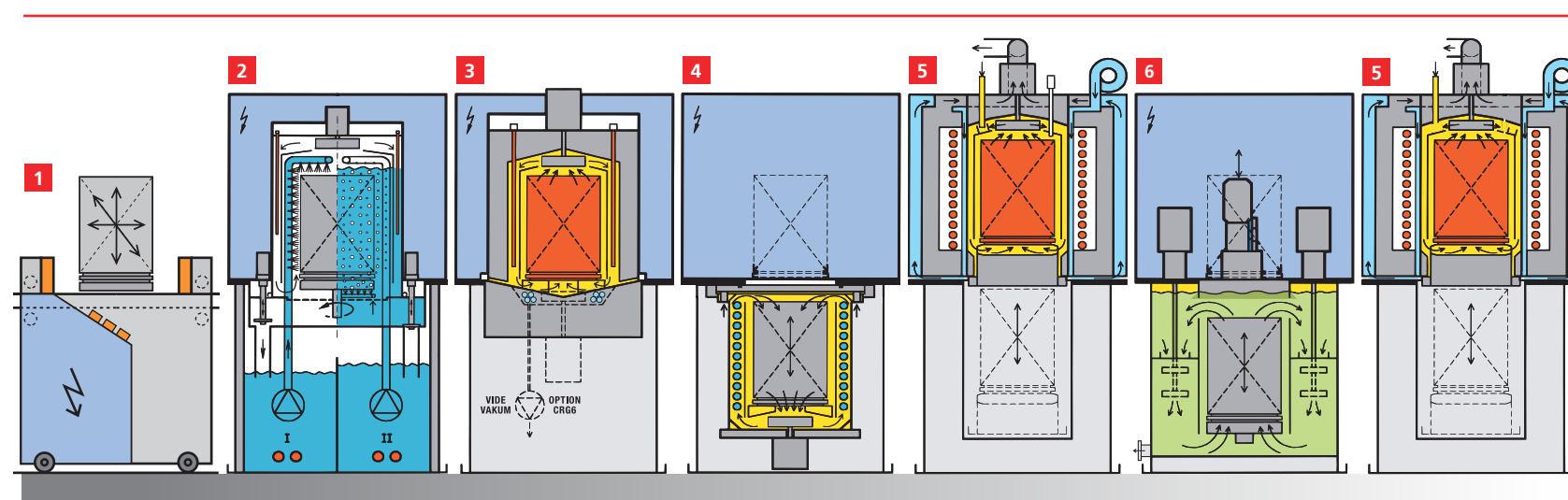
Modular construction

> HOW DOES SYSTEM 250 FUNCTION ?

System 250 is an innovative modular process heat treating line. Payload is moved without removing it from the furnace. Load stays under process atmosphere and at the desired uniform PV temperature. This line can also be updated to meet your growing production needs and varying process requirements. The modular design also permits you to feed your high value quenching modules using multiple retort heat treatment furnaces.

- Pyradia/Codere offers remote diagnostic services
- System 250 includes a fully integrated recipe & operating management system (HMI)
- Data logging & trending is easily exported and formatted to any desired report template

CODERE offers process & metallurgical support to clients of system 250 lines



1

M - MM - MMM

Manipulator: manually operated, motorized or automatic mode handling by integrated manipulator

2

LA2

Alkaline washing
1-2 tanks / 2-3 tanks
spraying
immersion (flotation)
drying (under vacuum)

3

CR6 - CRG6 - CRG6Ni

Furnace: with or without protective gas
pre-heating, tempering, annealing, nitriding nitrocarburising, oxynitriding
1202°F (650°C)
with or without cooler
sub0 : -184°F (-120°C)

4

N2BP - N2HP

Cooling/Quenching
under gas (or air),
14.5- 87 psi (1-6 bar) abs

5

CH8 - C10 - C11

Furnace: pre-heating, annealing, austenitising, carburising, carbonitriding, brazing
1920°F – 2015°F
(1050°C – 1100°C)

6

E - H1 - H2 - S4

Quenching bath:
water
polymers
oil : max. 212°F (100°C)
oil : max. 392°F (200°C)
salt : max. 842°F (450°C)

> Description

- Modular Line Retort Chamber Furnaces
- Modular bell type furnace with fully automated process integration and direct quenching load transfer.
- Simple proprietary sliding load transfer method no complex hooking mechanism
- Furnace-quench tank transfer time is less than 15 seconds
- Available maximum working temperature: 2015°F (1100°C)
- Available maximum gross load with loading fixtures: 11,000 lbs (5 mton)
- Available maximum useful load height: 180 in (4500 mm)

> Main properties

- Integration of various quenching options providing you with process flexibility
- Modular design permits you to scale production or modify your process by adding additional modules
- Particularly suitable for production of parts in medium and small production runs requiring flexibility of heat treatment parameters (temperature and atmosphere)
- Suitable for thin and long parts prone to distortion
- Load transfer during quenching sequence is done while keeping valuable part under process atmosphere and without losing temperature uniformity
- System 250 can be fitted with various degree of automated or manual load handling systems

> Fields of application (under protective gas)

- Austenizing (hardening)
- Carburizing
- Carbonitriding
- Nitriding, nitrocarburizing, oxynitriding
- Annealing, tempering and brazing
- Solution heat treatment and ageing
- Working under argon is possible for titanium alloys

> Fields of activity

- Aerospace
- Automobile & Transport
- Aluminum & Steel
- Defense & Nuclear
- Advance materials

> Quenching medium with suitable washing

- Water
- Oil
- Molten salt
- Nitrogen
- Alkaline washing
- Washing with solvents

Parts completed in Codere's modular System 250 retort batch furnaces

