Second hand **CODERE "Batch Furnace" System 250 - 70/100** ***The patented installation with load transfer from furnace to quench tank by sliding!***

ADVANTAGES OF SYSTEM CODERE

Advantages of the installation:

· **Load transfer** from furnace to quench tank by sliding **(patent)**
· **Gastight retort** with turbine and **gas-convection cylinder** made of refractory alloy
· **No temperature loss** in the load during transfer from furnace to quench tank
· Quenching tank with **mobile cover**
· **Less ground space** necessary due to a very compact construction
· **Autonomous modules** readily piped and wired
· **Short time for set-up and putting into operation**
· Maintenance and repairs possible **by your own staff**
· **Little running costs**

HEAT TREATMENT INSTALLATION IN MODULAR CONSTRUCTION SYSTEM 250 - 70/100 built as autonomous modules, with electric heating

Type: H1 - C10 Technical data

· Useful load diameter : Ø 700 mm
· Useful load height : 1000 mm
· Maximum gross weight of the load : 500 kg
· Total connected power : 170 kW

1 Oil quenching tank, type H1
02) Mobile furnace for heat treatment under protective atmosphere, type C10
Electric control and power cabinet

(01) Oil quenching tank, type H1

Composed of:

1 tank made of sheet steel

· 2 agitators for the forced circulation of oil
· 1 set of immersion heating elements for oil heating
· 1 load elevator with guide system
· 1 air/oil heat exchanger with pump and filter, located outside the bath
· 1 temperature controller
· 1 mobile cover with automatic control
· 1 nitrogen supply to prevent oxidation
· 1 level detector
· 1 electric control and power cabinet

Technical data:

· Maximum temperature : 100 °C
· Connected power : 42 kW
· Heating power : 18.6 kW
· Oil volume : 5000 dm3
· Capacity of cooling fan : 14000 Nm3/h

· Cooling capacity (without additional cooler) : 1 load/h

(02) Mobile furnace for heat treatment under protective atmosphere, type C10
Treatment:
· Austenitizing (hardening)

Composed of:
· 1 rigid steel frame with good thermal insulation
· 1 patented system for transfer to quenching tank, by sliding
· 1 double-wall system for vapours and exhaust gas
· 1 gas-tight retort with gas-convection cylinder made of refractory steel
· 1 turbine with deflector for the forced gas circulation
· 1 set of heating elements made of special alloy, divided into separately controlled heating zones, including thermocouples
· 1 air fan to cool down the retort
· 1 load elevator with guide system
· 1 injection tube for the atmosphere
· 1 cable carrier
· 1 insert tube for metallurgical sampling for carbon analysis and atmosphere control
· 1 CARBOMONITOR controller
· 1 cooling water flow detector with alarm
· 1 austenitizing under nitrogen-methanol
· 1 oxygen probe
· 1 electric control and power cabinet

Technical data:
· Maximum temperature : 1000 °C ± 5
· Number of heating zones : 3
· Connected power : 128 kW
· Heating power : 120 kW
· Consumption of protective gas : 2.5 Nm3/h
· Consumption of cooling water : 100 l/h

(03) OPTIONAL - Fumes extraction system, type ASP
Composed of: Complete, for 1 furnace, including:
· Ventilator with frequency variator
· Cartridge with metal filter
· 1 exhaust nozzle to the furnace
· 1 telescopic tube
· 1 valve with bended connector
· Connectors to the exhaust pipe
· 1 fire-protection valve in suction duct

(04) Electric control and power cabinet

Composed of:
· PLC SIEMENS S7
· PLC for controlling and monitoring the installation, type Beckhoff
· 1 touch screen and modem for regulation
· 1 main disconnect up to 250 A / 173 kW (without main fuses)

Technical data:
· Control voltage : 230 VAC, 50 Hz / 24 VDC
· Electric connection : 3 x 400 Volt, 50 Hz
· Dimensions : according to drawing

Remarks: Electric power connection for CODERE installations is 3 x 400 VAC + PE. This power supply should not be provided via a differential circuit breaker but via a fuse group. CODERE indicates the power value as well as the current value of the installation and PROPOSES AS AN INDICATION the section of the supply cables.
CODERE denies responsibility for sizing of the electric supply cables.

Additional costs (Assembly, commissioning & training)
The cost for assembling and/or commissioning includes travelling expenses, hotel accommodation and meals, travelling and working time of our staff. Duration: - Assembling : 1 technician during 2 weeks - Commissioning and training of user : 1 engineer during 1.5 weeks The assistance of electricians, mechanics, handling staff is to be provided by the user.
Remarks about gas distribution: The panel is integrated into the installation elements. Each installation element requiring atmosphere gas supply has its own flowmeter system. It is provided with the flowmeters, the valves and the safety equipment necessary to supply every element with a gaseous atmosphere in order to execute the applications mentioned previously under "treatments". The connection of the different gases on the gas-panel is made by the user, in accordance to the values given on our gas-distribution diagram. Hereafter the required specifications on process gases & fluids: **Type Purity (%) Pressure (bar)** N2 ≥ 99.995 2 CH3OH ≥ 99.8 0,8 C3H8 ≥ 95 0,5 NH3 ≥ 99.98 0,8 Air dry 4-6 Cooling water 6 - 12°dH 3-4 Natural gas < 0,4 g/Nm3 sulphur 0,5 N.B.: The pressure reducers are to be supplied by the user.

SPECIFICATIONS OF OPTIONAL ELEMENTS
(05) Manipulator, type ME
For handling the loads on the installation
· Ground movements: by operator
· Vertical movement: by operator

Composed of:
· Rechargeable battery
· Load-adaptor device (fork-lift)
· Device for precise load positioning in front of each element

· Collection plate for quenching medium

(06) Supervision process "CARBOMANAGEMENT"
Composed of:
· Hardware (PC, screen and printer)
· Licences
· Modem for assistance (1 analogue line for PLC connection and 1 ADSL-line for PC connection to be provided by customer)

Interconnected with the controllers "CARBOMONITOR" **Synoptic of complete installation viewing all mechanical operations active**

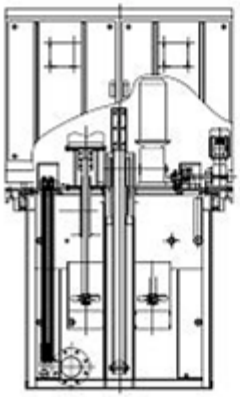
Describing the possible change in atmosphere during a cycle
Functions:
· Programming of recipes and treatment cycles
· Simulation and follow-up of carbon profiles of different types of steels
· Programming of work-pieces to treat, by lot and by load
· Backup and storage of cycles
· Storage of all events, alarms, measures
· Synoptic of the installation, by module or global
· Prints of protocols
· Historic of different criteria, date, client, reference piece, lot, furnace
· Controllers "CARBOMONITOR" have a communication interface and are interconnected.

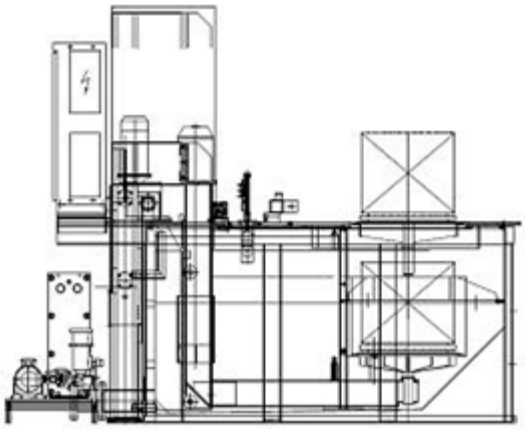
(07). LOADING TOOLS
The loading tools are NOT included; to be determined accordingly.

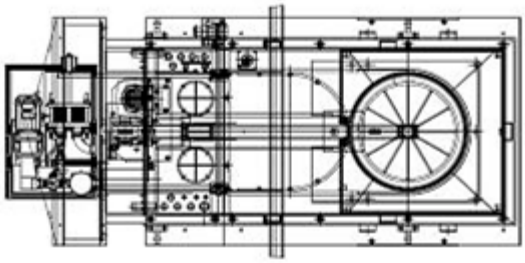
SAFETY, ENVIRONMENT AND QUALITY
Company CODERE SA is certified ISO 9001, ISO 14001 and OHSAS 18001. Our manufacturing process integrates the environmental protection from designing to realization. Our collaborators are aware of environmental problems and our production endeavours to minimize its environmental impacts. When methanol (CH3OH), propane (C3H8) or ammonia (NH3) is used, the system prevents their introduction into the furnace, if the temperature in the treating chamber is below 750°C! Below that temperature the chamber is automatically purged with nitrogen (N2).
Conditions of delivery
In the delivery are not included:
1. Preparation of the place where the installation will be mounted: pit, foundation, levelling of the floor to ± 5 mm / 4 m, laying of the main channels and conduits leading to the installation, electric cables and cable conduits;
2. Main fuses and electric cables for the connection to the general power supply (the power supply must not go through an earth-leakage breaker);
3. All connecting lines and channels for the supply with water, compressed air and

gases as well as their laying up to the installation;
4. The fumes extraction system, its assembly and the treatment of off-gases;
5. Covering of the risks in connection with unloading and handling of the installation between the truck to the place where the installation will be mounted;
6. Assistance of electricians, mechanics, handling personnel and handling equipment, which our specialists need for mounting the installation;
7. Costs which result from putting the installation in conformity with buyer's special regulations or country regulations, if they were not known at the moment when the offer was established;
8. Consumables i.e. oil, salt, detergents, gases, water, loading tools for the pieces to be treated;
9. Packing, transport and transport insurance to the place where the installation will be mounted;

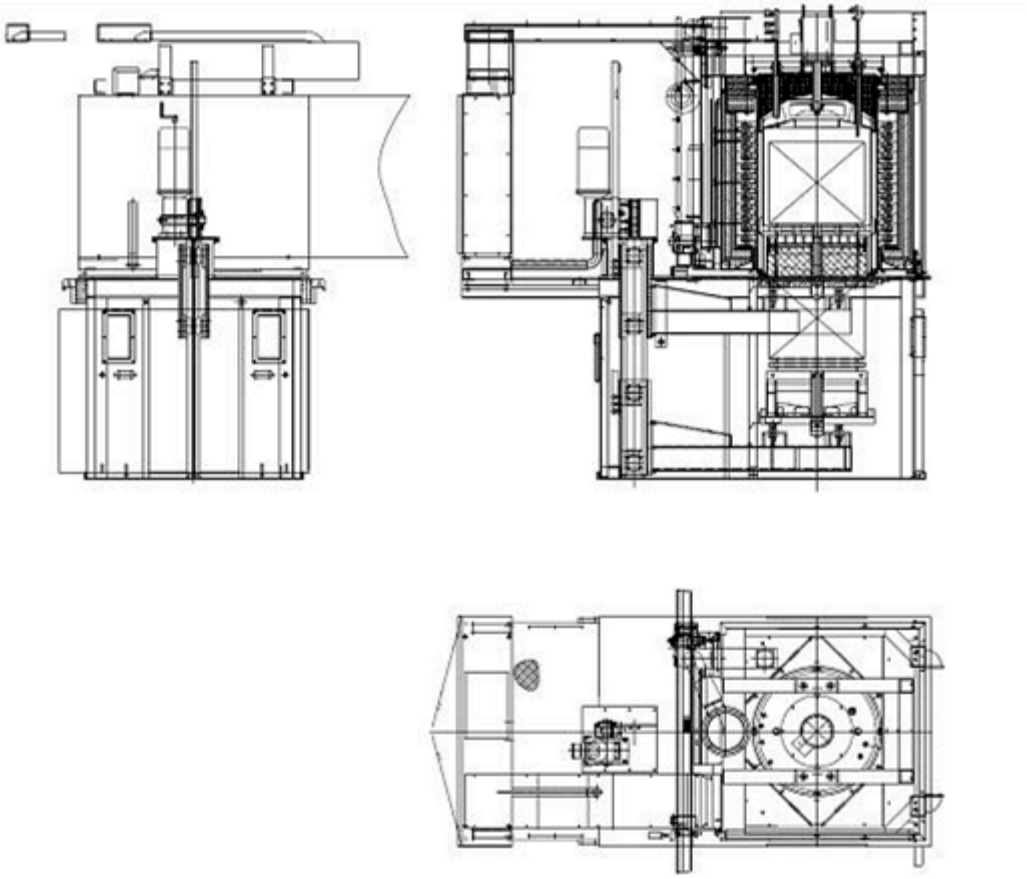
NOTE: The approximate costs for packing, transportation, transport insurance, set-up, putting into operation and training shall be calculated precisely when the final offer is submitted.



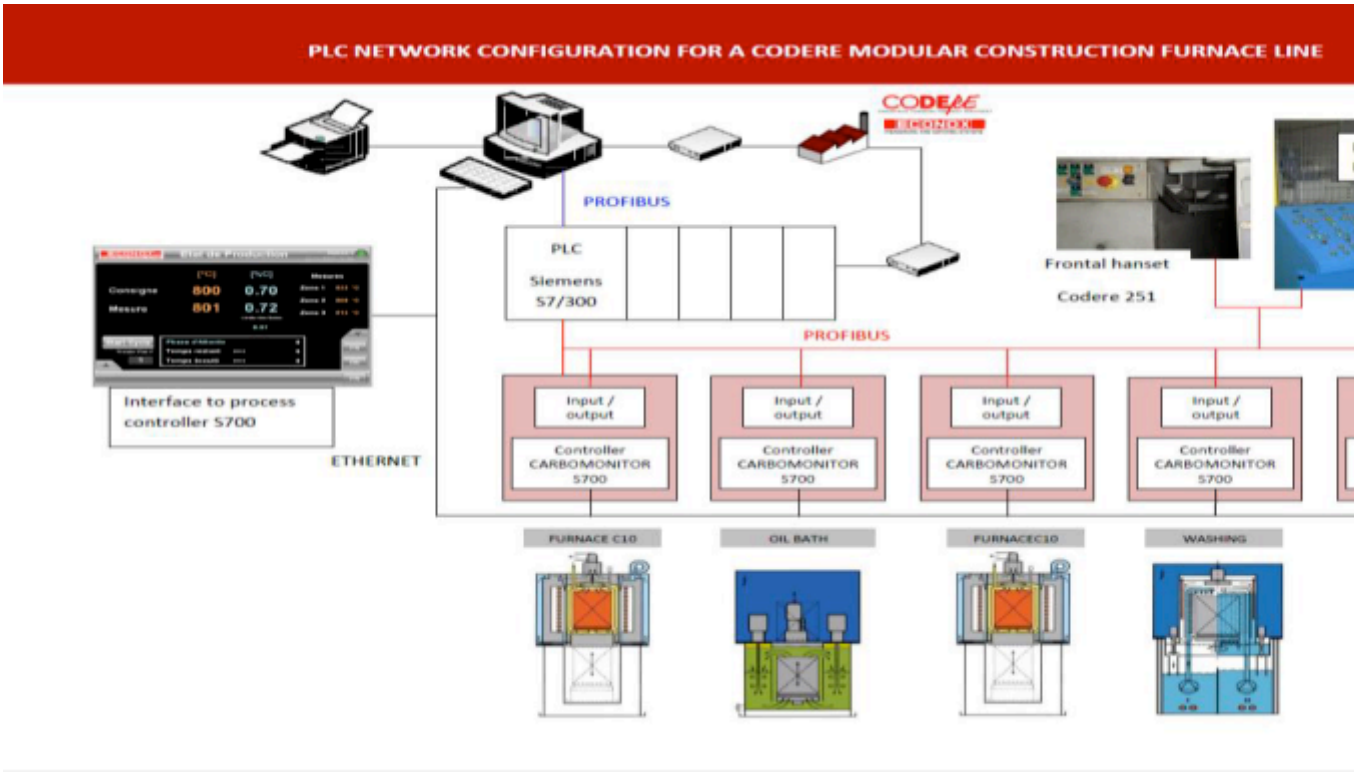


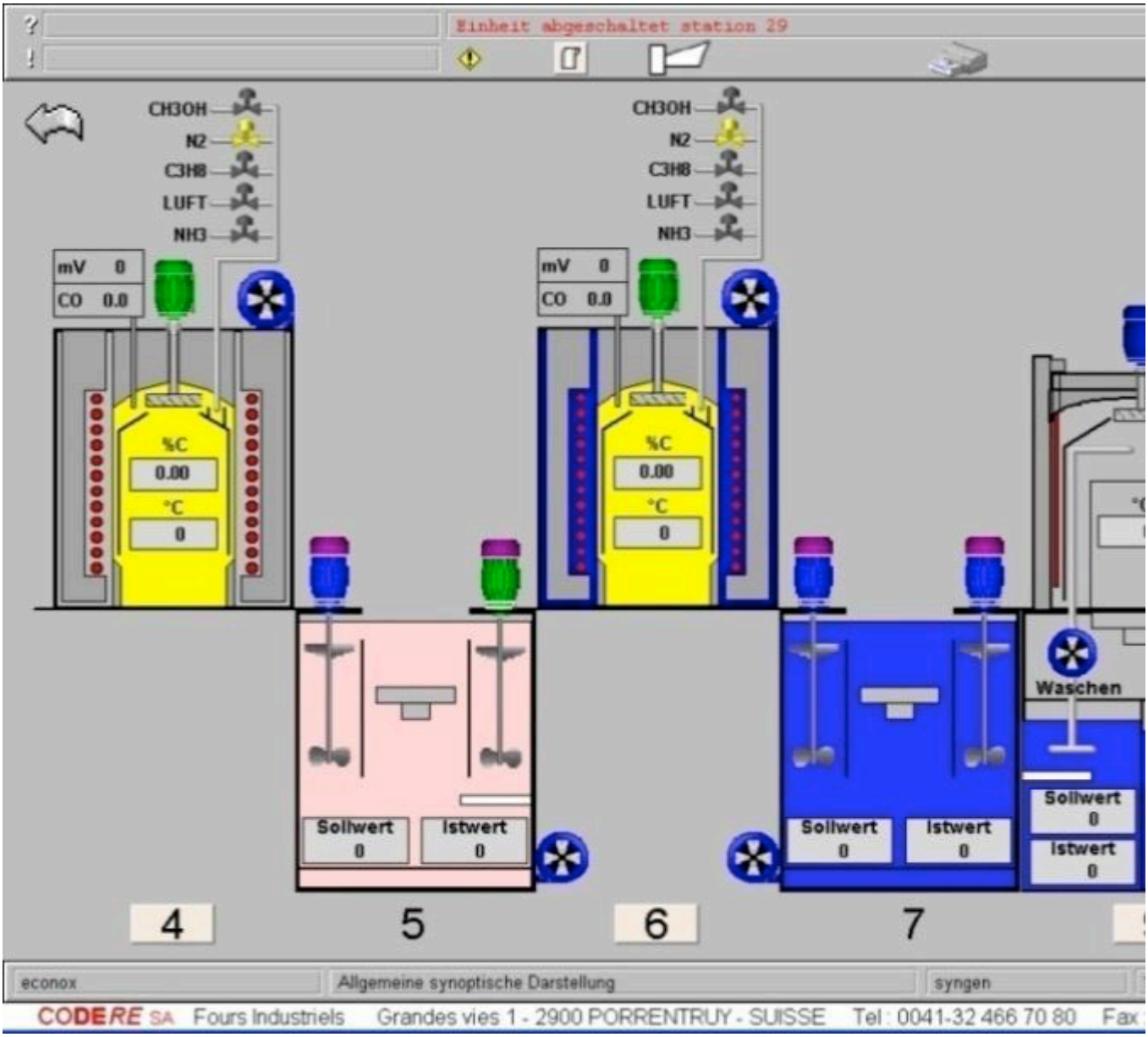


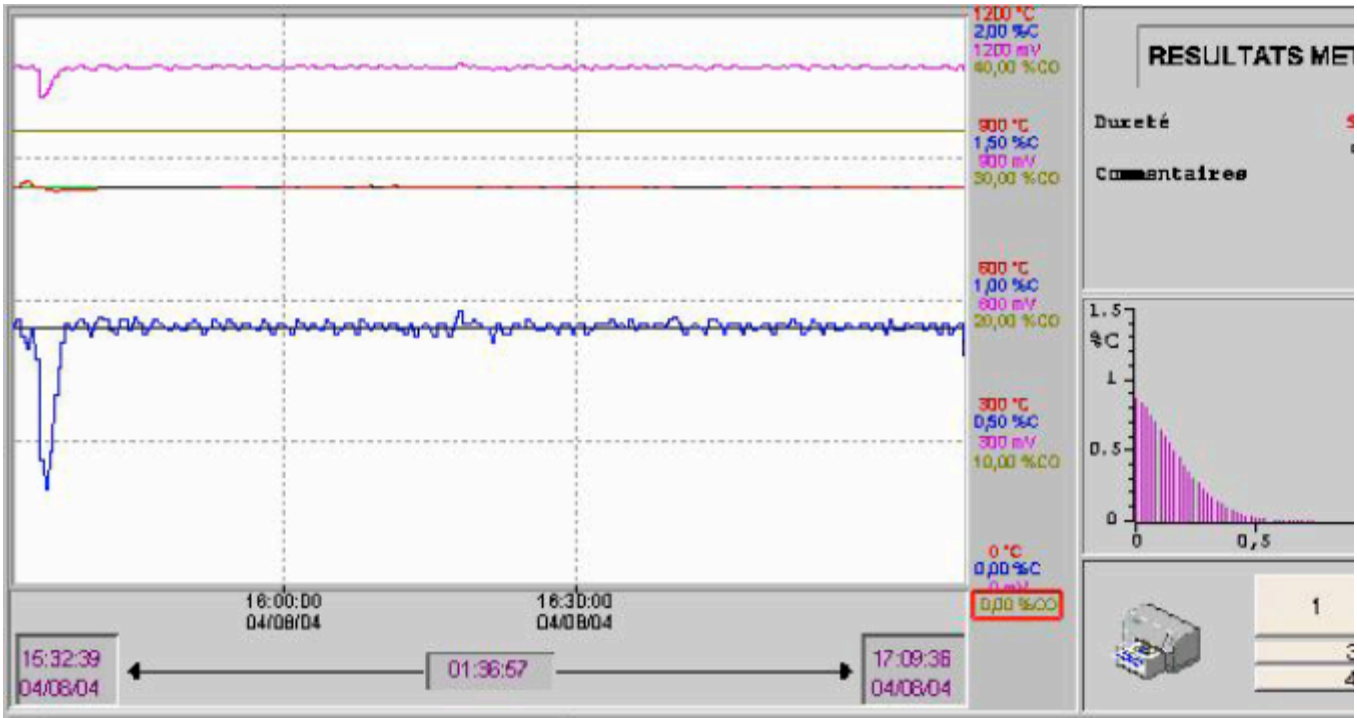





CODERE
INDUSTRIAL FURNACES


PLC NETWORK CONFIGURATION FOR A CODERE MODULAR CONSTRUCTION FURNACE LINE
PROFIBUS
PLC
Siemens
S7/300
Frontal hanset
Codere 251
PROFIBUS
Interface to process
controller S700
ETHERNET
Input /
output
Controller
CARBOMONITOR
5700
FURNACE C10
OIL BATH
FURNACEC10
WASHING


Einheit abgeschaltet station 29
CH3OH
N2
C3H8
LUFT
NH3
mV 0
CO 0.0
%C
0.00
°C
0
Sollwert
0
Istwert
0
Waschen
4
5
6
7
econox
Allgemeine synoptische Darstellung
syngen
CODERE SA Fours Industriels Grandes vies 1 - 2900 PORRENTRUY - SUISSE Tel : 0041-32 466 70 80 Fax



COMPOSITION DE L'OF

Client :	Poids unitaire [kg]	Nuance
WAFIOS	0,000	105WCR6

Numéro d'OF	Num de charge :	Numéro de pièce :	Nombre de pièces :	Poids d
Einzugswalze	WAFIOS-2	Einzugswalze	0	0,000

CYCLE DE CEMENTATION

Num du cycle

840°C-60mn-0,9C

	1	2	3	4	5	6	7	8	9
Durée hh:mn	1 :00	0 :00	0 :00	0 :00	0 :00	0 :00	0 :00	0 :00	0 :00
Température	840	0	0	0	0	0	0	0	0
Rampe °C/mn	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0
%C	0,90	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
NZ	OUI	NON	NON	NON	NON	NON	NON	NON	NON
NH3	NON	NON	NON	NON	NON	NON	NON	NON	NON
%C Saturation	0,98	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00

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