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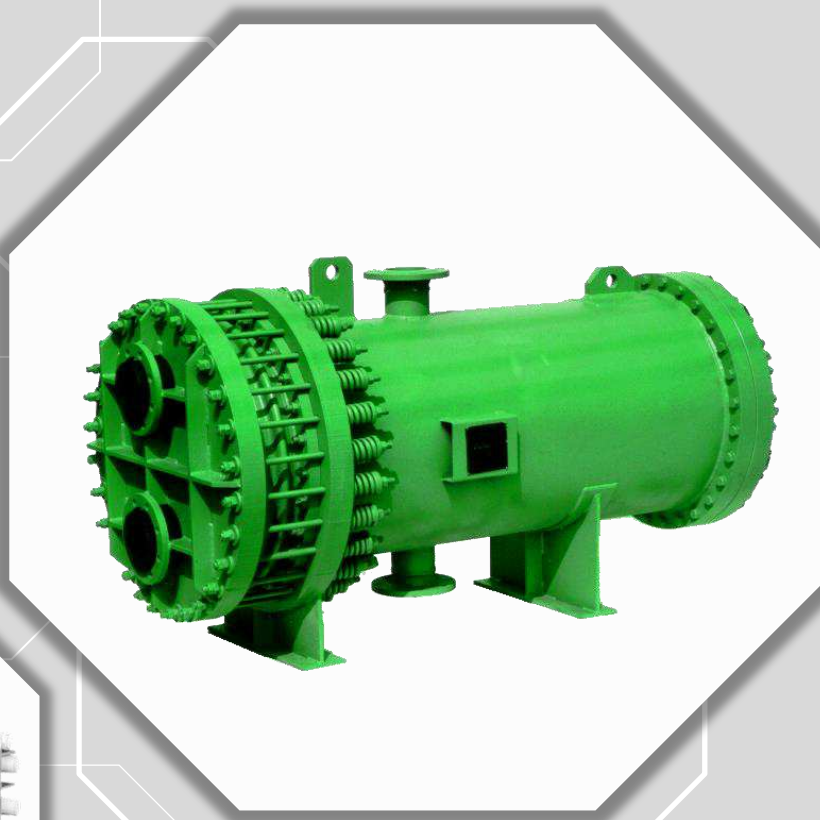
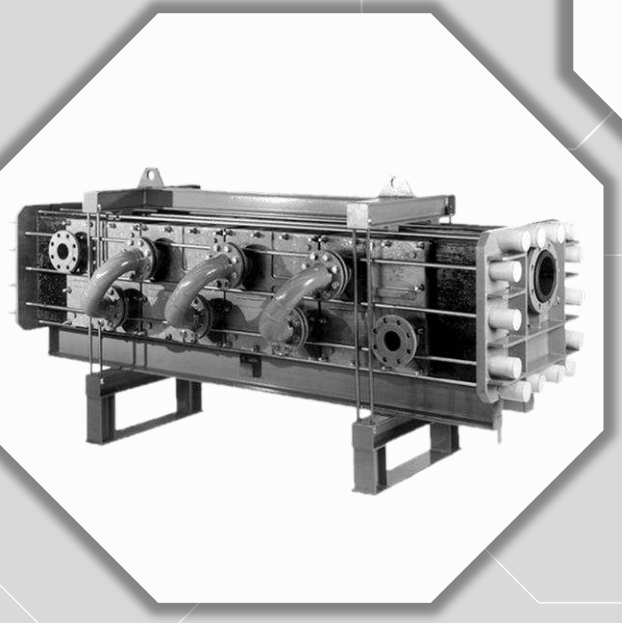
CEPIC

Anticorrosion since 1958

Carbonite®Heat Exchangers





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CEPIC

Anticorrosion since 1958

CONTENT

CEPIC, specialist in graphite heat exchangers

EXPERIENCE

Specialist since 1958 in the manufacture of anticorrosion chemical engineering equipment, CEPIC offers its customers a wide range of products:

- ✓ Centrifugal pumps in graphite and plastics
- ✓ Systems and skids (dilution of H2SO4, treatment of HCl, ejectors, vacuum units
- ✓ Made-to-specification machined parts in graphite
- ✓ Graphite rupture discs
- ✓ Heat exchangers in impregnated artificial graphite, Carbonite®

EXPERTISE

Through our close collaboration with our clients, we have developed an incomparable amount of know-how in the field of hydraulic, thermal and mechanical sizing.
Our knowledge of the current regulations allows us to provide you with safe solutions for heating, cooling, condensing… your most corrosive fluids.
Our engineers are always available to provide advice and suggestions for heat exchangers that are adapted to your applications and your sector of activity.

CEPIC, specialist in graphite heat exchangers

SOLIDITY

Our exchangers are manufactured in Normandy, in St. Etienne du Rouvray, 120 km north-west of Paris.
Our recently-built factory has the highest-level technology for impregnating and machining, and our teams have extensive experience.
This combination of know-how and state-of-the-art technology allows us to produce robust heat exchangers with particularly low carrying costs.

REACTIVITY

Our Engineers are always available to help you in sizing the heat exchangers that will respond to your needs.
As part of our full service offer, our new exchangers include high-level after-sales service (repairs carried out on our premises and genuine spare parts.)
Our specific technical follow-up of the exchangers we install guarantees fast service when it comes to supplying spare parts, even several dozen years after the initial implementation.

APPLICATIONS

CEPIC's Carbonite® heat exchangers are used on all 5 continents, in the most demanding applications:

- Waste management
- Chemicals
- Iron & Steel
- Surface treatments
- Fetrilizers
- Pharmaceuticals

Carbonite®, the material for high-performance heat exchangers

Due to its remarkable qualities, the impregnated artificial graphite, Carbonite®, is an ideal material for the manufacture of heat exchangers:

- Excellent resistance to corrosive fluids
- Thermal conductivity that is 3 to 10 times greater than metals
- Electrical conductivity that is secured for use in an ATEX area
- Low linear dilatation coefficient
- Resistant to temperatures up to 170°C

All parts of CEPIC heat exchangers that are in contact with corrosive fluids are made of Carbonite®, or in other corrosion-resistant materials (PTFE, PP, PDVF, coated steel)

Our know-how allows us to produce Carbonite® bloc exchangers of the following types:

- Cylindrical vertical (EV range)
- Cylindrical horizontal (EH range)
- Cubic Section (ESC range)
- Horizontal channel (EHC)

GUIDE TO SELECTION

Type	EV Vertical Exchangers	EH Horizontal Exchangers	ESC Cubic Section Exchangers	EHC Horizontal Channel Exchangers
Heating unit (vapor service side)	+++	+++	-	-
Heating unit (liquid service side)	+++	+++	+++	+++
Cooling unit (liquid service side)	+++	+++	+++	+++
Process pressure (max barg)	10	10	6	5
Service pressure (max barg)	15	15	6	5
Corrosive process fluid	+++	+++	+++	+++
Corrosive service fluid	+	+	+	+++
Type of process fluid	Liquid/vapor	Liquid/vapor	Liquid/vapor	Liquid
Type of service fluid	Liquid/vapor	Liquid/vapor	Liquid/vapor	Liquid
Process liquid flow (m3/h)	5-1000	5-250	1-1000	1-100
Service liquid flow (m3/h)	20-500	10-100	10-250	1-100

+++ perfectly adapted *++ adapted* *+ adapted in function of options* *- can be suitable o unsuitable*

VERTICAL GRAPHITE HEAT EXCHANGER, TYPE EV

Construction

Cylindrical bloc Carbonite® heat exchangers
Vertical fitting
Steel or specific metals service envelope
Design and construction in conformity with PED 97/23/EC

Capacities

Max service pressure	15 bars eff.
Max process pressure	10 bars eff.
Max temp service	170°C
Thermal exchange area	0,8 - 144 m²
Number of blocs	1 - 12
Product flow diameter	8 - 24 mm

Other specifications available upon request

Sulfuric acid heating unit
Type EV 40 3 blocs

Uses

Condensing
Cooling
Heating
Evaporation
Absorbing

Advantages

Robust Carbonite® blocs
Greater available floor space
Large surface area possible by bloc stacking
Possibility of multiple passes
Adapted to high flow rates

Main options

Construction with cable glands or dilatation compensator
Internal anticorrosion coating of the service envelope
Thermal insulation of the outer envelope
Specific construction for use in ATEX zones

Cylindrical exchange bloc

Applications

HORIZONTAL GRAPHITE HEAT EXCHANGER, TYPE EH

Construction

Cylindrical bloc Carbonite® heat exchangers
Horizontal fitting
Steel service envelope
Design and construction in conformity with PED 97/23/EC)

Uses

Cooling with liquid

Heating with vapor

Heating with liquid

Capacities

Max service pressure	15 bars eff.
Max process pressure	10 bars eff.
Max temp service	170°C
Thermal exchange area	De 1 à 21 m²
Number of blocs	1
Product flow diameter	De 8 à 20 mm

Other specifications available upon request

Advantages

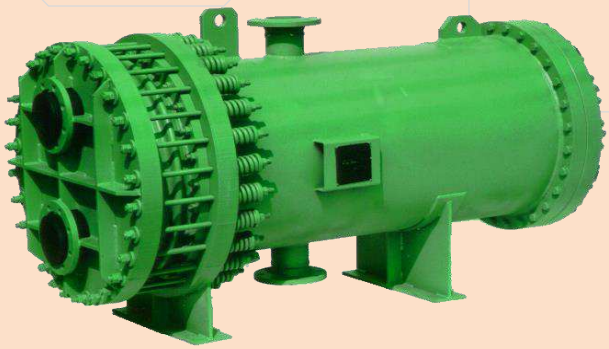
Heavy-duty Carbonite® bloc

Greater available vertical space

Single bloc thus limited number of joints

Multiple passes

Natural condensate draining on the service side



Hydrochloric acid (HCl) heating unit, type EH 70-200

Main options

Construction with cable glands or dilatation compensator

Internal anticorrosion coating of the service envelope

Thermal insulation of the outer envelope

Specific construction for use in ATEX zones

Applications

CUBIC SECTION GRAPHITE HEAT EXCHANGER, TYPE ESC

Construction

Cubic bloc Carbonite® heat exchangers
Horizontal or vertical fitting
Steel or cast iron service plates
Design and construction in conformity with PED 97/23/EC

Uses

Condensing

Cooling with liquid

Heating with liquid

Main options

Graphite collectors with vertical or horizontal taps. (phases separation).

Stainless steel service plates

Inclined supporting structure

Specific construction for use in ATEX zones

Advantages

Heavy-duty Carbonite® blocs

Easy separation of two phases fluids at the exit of the heat exchanger

Bloc length from 200 to 610 mm

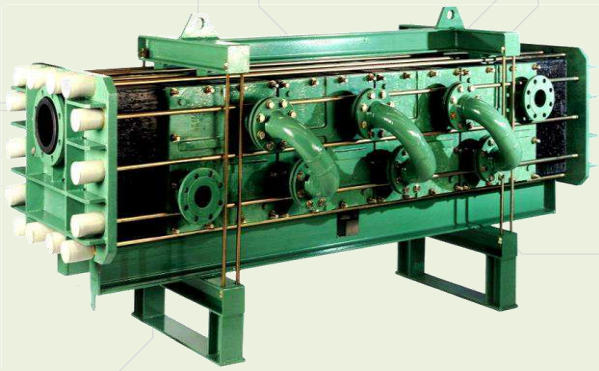
Modular, single or multi-bloc designs

Multiple passes

Capacities

Max service pressure	6 bars eff.
Max process pressure	6 bars eff.
Max temp service	170°C
Thermal exchange area	De 1 à 120 m²
Number of blocs	De 1 à 10
Product flow diameter	De 8 à 20 mm

Other specifications available upon request.



Acid vapor condensing unit, type ESC 50 48 horizontal

Applications

HORIZONTAL CHANNEL HEAT EXCHANGER, TYPE EHC

Construction

Cubic bloc Carbonite® heat exchangers

Vertical fitting

Graphite, steel, PP or PVDF service plates

Design and construction in conformity with PED 97/23/EC)

Capacities

Max service pressure	5 bars eff.
Max process pressure	5 bars eff.
Max temp service	170°C
Thermal exchange area	De 1 à 28 m²
Number of blocs	1
Product flow diameter	De 8 à 20 mm

Other specifications available upon request

Uses

Cooling
Heating

Avantages

Robust Carbonite® blocs
High thermal efficiency even with small flows thanks to multipass design
Bloc length from 200 to 600 mm
Allows for thermal exchange between two corrosive fluids
Multiple passes
Adapted to large and small temperature variations

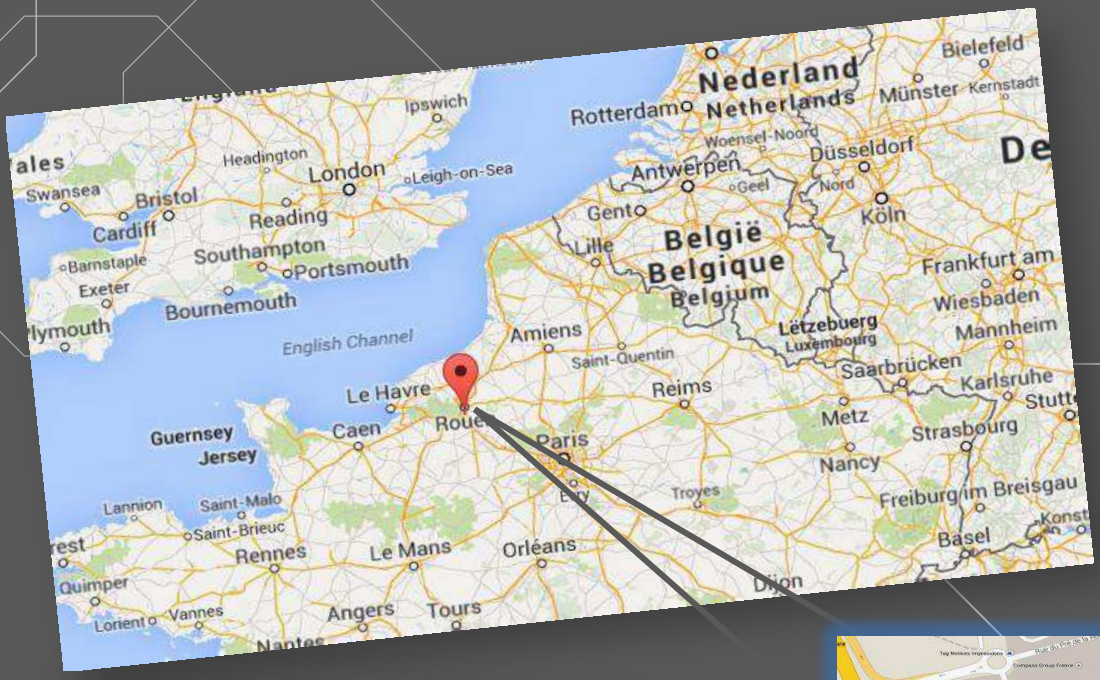
Main options

Specific construction for use in ATEX zones

$FeCl_2$ cooler, EHC 28 type

Applications

445 rue Noyer des Bouttières Saint Etienne du Rouvray



By car Paris, Highway A13, exit 22.
By train from St Lazare -> Oissel

Other CEPIC equipment available:

- Anticorrosion centrifugal pumps in Carbonite® or plastics,
- Systems and skids (dilution of H2SO4, treatment of HCl, ejectors, vacuums
- Standard or made-to-specifications stirrers and shakers
- Machined to specification graphite parts
- Carbonite® rupture discs

CEPIC

Anticorrosion equipment since 1958

Agent/Distributor :

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