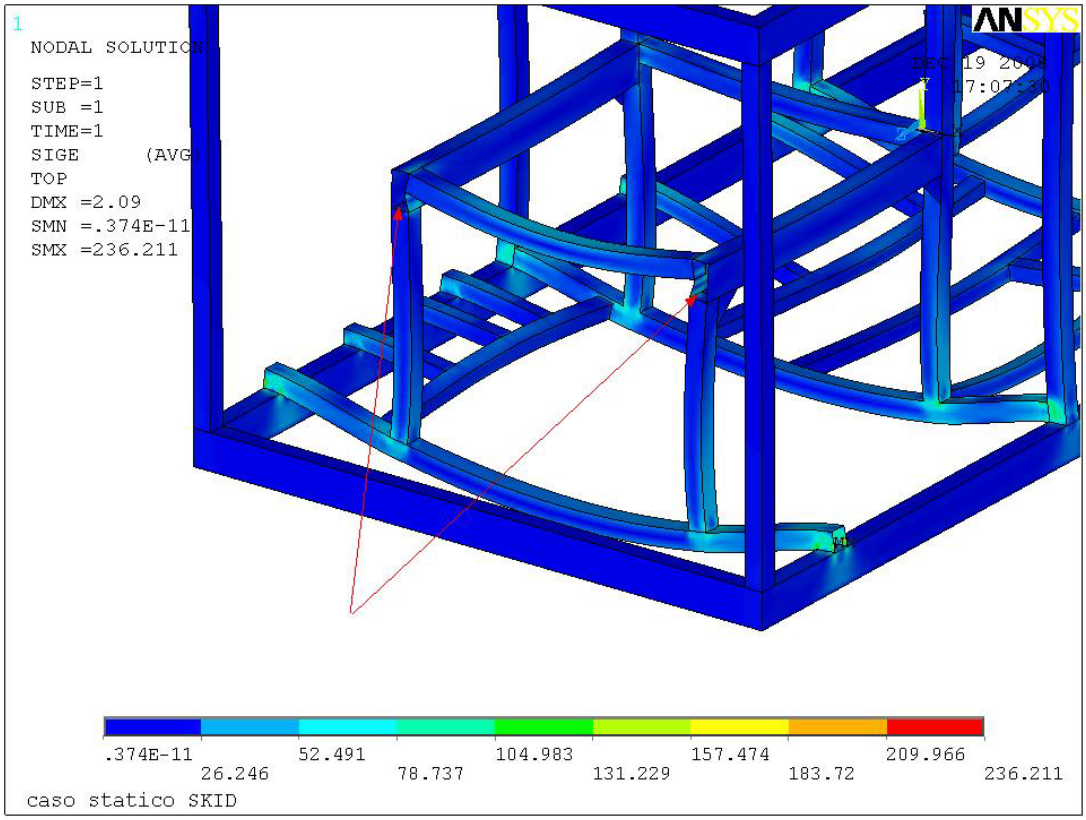
VACUUM EVAPORATORS ME SERIES

APPLICATION SECTORS:

- Galvanic
- Photographic
- Mechanic
- Cosmetic
- Chemical
- Petrolchemical
- Pharmaceutical
- Oenological
- Dairy
- Olive oil



ACCESSORIES AND SERVICES OFFERED:

- Conductivity meter
- Installation on site
- Start-up
- Maintenance
- Fan-speed control
- Distance control
- Measurement of production

C&G Depurazione Industriale – Via I°Maggio, Rosano, Rignano sull'Arno (FI) – Italia –
Tel. +39 055.83.03.450 – Fax +39 055. 83.03.368 - E-mail: info@cgdepur.it

"Your WasteWater, Our Solution"

C&G Depurazione Industriale Srl has been operating since 1971 in the industrial wastewater treatment sector. The Know-how acquired from the design and construction of over 3000 plants, sold both in Italy and abroad, encourages our constant growth, research and innovation, and allows us to propose a complete and personalised service to our customers.

Countries where the C&G logo is already well known and appreciated are: Italy, France, Belgium, Spain, Holland, Slovakia, Slovenia, Poland, Turkey, Greece, Russia, Lebanon, UAE, USA, Mexico, Taiwan, China, India, Indonesia, Malaysia, Japan, Brazil and others.

C&G supplies equipment and support technologies to a wide range of production sectors, all however with a common objective: to improve the conditions of a particular liquid.

C&G offers a wide range of products, all conforming to existing guidelines of the EEC:

- VACUUM EVAPORATORS
- REVERSE OSMOSIS
- ULTRAFILTRATION
- ION EXCHANGE
- CHEMICAL–PHYSICAL TREATMENT
- WATER-SOFTENERS
- DEMINERALIZRS
- FILTERPRESS
- SPECIAL EQUIPMENT FOR GALVANIC INDUSTRY

The services offered by C&G include:

- Custom made, one-off solutions
- Analysis in our laboratory of your polluted waters
- Design, manufacture and installation
- Maintenance contracts
- On-line and on-site assistance

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General Working Description

The ME series of vacuum evaporators have vertical development with the boiling chamber in the lower part and the condensation chamber in the upper part.
The vacuum system guarantees minimum energy expenditure.
These plants consist of a battery of evaporators in series, called “stages”, each of which possesses a heat exchanger. Steam circulates inside the heat exchangers, heating the solution which has to be treated and causing its evaporation.
Steam (or hot water) is supplied to the first stage, and the steam produced in this is then harnessed as steam to be used for the following stage. In this way it is possible to considerably reduce the energy required.
The distance between the free surface of the effluent being treated and the collection plate guarantees the absence of drag out, and therefore a higher purity in the distillate.

Alimentation circuit

The ME series of evaporators are fed using hot water or steam for evaporation, and cold water (from a cooling tower or chiller) for the condensation of the distillate.

Energy for the distillation is only supplied to the first stage in the plant.

The other stages are fed by the distillate produced in the previous stage in order to significantly reduce energy consumption.

Vacuum Circuit

The system used to create a vacuum inside the boiling chamber includes the use of a liquid ring vacuum pump and ejector.

A correct set-up of the cooling temperatures of the liquid ring vacuum pump allows different degrees of vacuum to be reached, indispensable for a correct functioning of the whole plant.

Distillate circuit

The discharge of the distillate is independent. Each stage has an accumulation tank which is constantly discharged by an apposite centrifuge pump.

Concentrate discharge

The concentrate produced is discharged using an apposite pump that not only allows the discharge to occur, but also permits a continuous recycling of the concentrate, guaranteeing better uniformity and an increase in the thermal exchange coefficient.

Each stage has its own independent discharge pump.

Automation, alarms and control

C&G evaporators can work unattended and continuously 24/24 hours thanks to control through PLC.

The use of simple, logical software allows easy control and immediate set up of the working parameters.

The use of a synoptic (optional on all models) guarantees a rapid and intuitive global control of the working of the machine.

Refrigeration circuit

A small specific refrigeration circuit is used to ensure that the vacuum tank in the last stage has a constant temperature which is lower than the rest of the system,.

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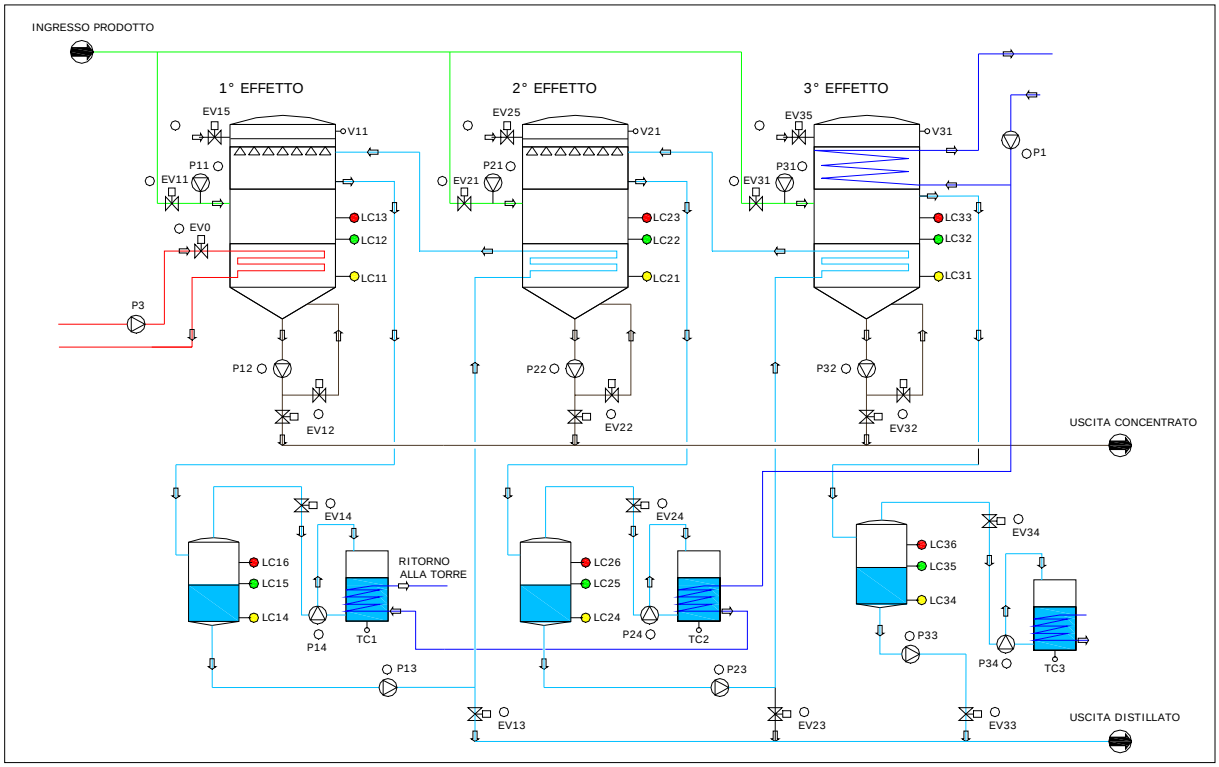

Flow diagram of a three stage ME circuit

C&G ME Series

P1 – condensation cold water feed pump Pompa alimentazione acqua fredda di ricondensazione
P3 – hot water feed pump
P11; P21; P31 – antifoam pump
P12; P22; P32 – recirculation/discharge pump
P14; P24; P34 – vacuum pump
P13; P23; P33 – distillate discharge pump
EV11; EV21; EV31 – product load valve

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ME models

ME MODEL	DISTILLATE l/h	STAGE	DIMENSIONS* LxDxH (mm)
5000	208.33	1	3000x2100x2600
8000	333.33	1	3600x2200x2600
10000	416.66	2	3200x2900x2440
12000	500	2	3400x2980x2440
12000	500	3	5500x3000x2600
15000	625	2	3500x3000x2500
15000	625	3	2000x2000x2300
18000	725	2	3500x3000x2750
18000	725	3	5200x3000x2700
20000	833.33	2	3700x3000x2800
20000	833.33	3	5200x3000x2800
30000	1250	3	5400x3000x2800
45000	1875	3	5600x3200x3000
All units by C & G conforms "Machinery directives "2006/42/CE			

* Dimensions are indicative

Component	**Material**
Boiling chamber[1]	Stainless steel AISI 316L (EN 1.4435)
Condensation chamber	Stainless steel AISI 316L (EN 1.4435)
Boiling chamber heat exchanger[1]	Stainless steel AISI 316L (EN 1.4435)
Condensation chamber heat exchanger	Stainless steel AISI 316L (EN 1.4435)
Vacuum pump liquid ring tank	Stainless steel AISI 316L (EN 1.4435)
Distillate tank	Stainless steel AISI 316L (EN 1.4435)
Subcooler heat exchanger	Pipes in Cu / Casing in Al
Vacuum pump	Ghisa UNI 5007-69
Concentrate discharge pump	Stainless steel AISI 316L (EN 1.4435)
Antifoam dosing foam	PP
Distillate discharge pump	Stainless steel AISI 304 (EN 1.4301)
Skid	Stainless steel AISI 304 (EN 1.4301)
Piping	Copper / PVC-C/PVC-U[2]

1 - Possible to use special stainless steels

2 – Possible to use pipes in stainless steel or alternative plastic materials