



Industrial Water Evaporators

HIGH-EFFICIENCY ADVANCED VACUUM EVAPORATORS CONCENTRATORS

#costreduction

#savewater

#reusewater



- WASTEWATER VOLUME REDUCTION UP TO 99%
- WASTEWATER RECYCLE
- HIGH SAVINGS ON DISPOSAL COSTS
- INNOVATIVE HEAT EXCHANGERS
- SIMPLIFIED OPERATION AND MAINTENANCE





Industrial Water **Evaporators**

IWE Industrial Waters Evaporators designs and manufactures systems for the evaporation of water-based solutions, also in the ATEX version, and bases its achievements on the valuable experience of its technicians who since 1982 produce and install **High Energy Efficiency Evaporators and Vacuum Concentrators** in many industrial sectors.

In a vacuum situation, evaporation takes place at a lower temperature than the boiling temperature at atmospheric pressure: this allows **considerable energy savings and system efficiency**.

*Vacuum evaporation **can drastically reduce the amount of wastewater to be discharged up to 99% compared to the original volume, thereby benefiting from very high-cost savings on initial disposal costs.***

WASTEWATER



DISTILLATE



CONCENTRATE



The brand new **IWE headquarters**, opened in 2021, occupies an area of the entire property of over 6,000 square meters and is characterized by a functional office building that welcomes all our guests and by the **Research & Development area "IWE LAB"** where test sessions with pilot plants and laboratory tests are carried out.

Lab
Industrial Water Evaporators
Service & Testing Session



In the production unit located in Pantigliate (Milan • ITALY) in Via Gramsci 44, we have our workshop equipped with a 20-ton overhead crane and **modern equipment that allow the realization of even large plants.**



Industrial Water **Evaporators**

The danger of fouling in heat exchangers is a real and recurrent problem caused by the deposit of substances with limited solubility.

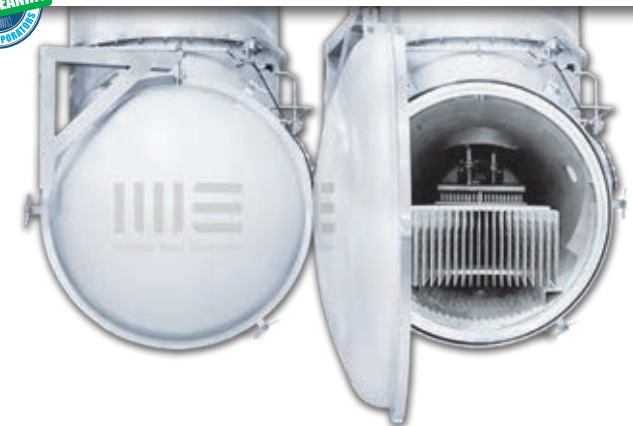
Conventional immersed coil or shell and tube heat exchangers have an extremely small space between the exchange surfaces, do not allow easy removal of deposits and create considerable inconvenience in cleaning and maintenance.

INNOVATIVE HEAT EXCHANGERS

Extremely easy to clean

IWE has designed innovative heat exchangers with an **"immersed plate" system** characterised by large free spaces between the plates and by a special opening of the evaporation boiler through a quick-opening door mechanism instead of the traditional flanged closure.

In this way, cleaning the exchangers is extremely easy and quick, drastically limiting machine downtime to restore maximum efficiency of the exchangers.



COMPANY PROFILE

SINCE 1982, OUR EXPERIENCE
AT YOUR SERVICE.

IWE - Industrial Water **Evaporators** combines technical process and design skills with a long experience in the design and construction of reliable equipment and high-tech plants.

The result is the realisation of a wide range of high performance, **low energy consumption evaporators designed on a "tailor-made" basis that allows the end-user to reduce disposal and maintenance costs.**

Today IWE - Industrial Water **Evaporators** is the ideal partner for the application of concrete solutions of **Circular Economy**, providing industries with unparalleled expertise in resource management to achieve together with its customers' exceptional results to the benefit not only of company budgets but also of the environment.

EXPERIENCE
COMPETENCE
SERIOUSNESS

REDUCE • REUSE • RECYCLE
SAVE WATER • REUSE WATER



OUR VISION

Improving the environmental sustainability of industries by combining a significant economic advantage with more efficient use of water resources.

THE TECHNOLOGY

THE BEST AVAILABLE TECHNOLOGY FOR
EVAPORATION AND CONCENTRATION OF
LIQUID SOLUTIONS.



**WASTEWATER
REDUCTION UP TO 99%**



EASY CLEANING

INNOVATIVE
“IMMERSED PLATES”
HEAT EXCHANGERS
SYSTEM WITH
FAST OPENING OF
THE BOILERS.



COSTS REDUCTION

DRASTIC REDUCTION
OF DISPOSAL
COSTS DUE TO
THE REDUCTION
OF WASTEWATER
VOLUMES



DISTILLATE QUALITY

SAFE AND RELIABLE
PROCESS ABLE
TO OBTAIN A
HIGH QUALITY
EVAPORATED
PRODUCT

“ *Being the first means to have the
courage to make innovative
choices and experience to realize
them, with the utmost reliability,
with the best technology,
without compromise.* ”

IWE directly designs and manufactures vacuum evaporators and concentrators for industrial applications.

Not only traditional evaporators but above all “custom” projects, elaborated to measure for each specific need.

Because efficiency and reliability can only be achieved by paying the utmost attention to detail: designed and manufactured.

IWE proposes innovative systems with immersed plate exchangers to obtain maximum efficiency thanks to direct exchange on high surfaces that are extremely easy to clean.

IWE has devised an innovative boiler opening system with tie rod closure to replace the traditional flanged joint.

Because eliminating downtime by reducing cleaning and operator presence times translates into additional cost-effectiveness.

For each of its projects, **IWE** defines the best possible configuration, to respond perfectly to the specific characteristics of the wastewater to be treated.

The “ad-hoc” solutions proposed by **IWE** maximise performance, drastically reducing disposal costs and simplifying evaporator cleaning and maintenance operations.

MULTIPLE ADVANTAGES



• for manufacturing companies

Vacuum evaporation systems for the purification of industrial wastewater offer considerable economic and environmental advantages over conventional physical-chemical or biological treatment systems.

The primary objective is the drastic reduction of disposal costs, often even more than 99%, as well as, in many cases, the recovery of raw materials and the reuse of the distilled water obtained with the treatment.

Vacuum evaporation is also applicable in the concentration of thermolabile products, from pharmaceutical synthesis or in the sector of food extracts and aromas, musts and vinegar to obtain food glazes.

• for industrial waste disposal companies

In the contract treatment of industrial wastewater, vacuum evaporation makes it possible to increase the EWCS (European Waste Catalogue) that can be treated.

IWE vacuum evaporation plants can be integrated with classic physical-chemical and biological purification systems, which alone cannot achieve satisfactory results in the purification of wastewater with high pollutant content in solution.

THE APPLICATIONS

IN MANY INDUSTRIAL SECTORS, VACUUM EVAPORATION IS THE MOST ADVANCED TECHNICAL CHOICE TO MEET THE NEED TO REDUCE DISPOSAL AND RAW MATERIAL RECOVERY COSTS IN THE TREATMENT OF WASTEWATER WITH A HIGH POLLUTANT CONTENT.

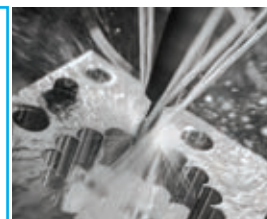
DIGESTATE

FROM BIOGAS GENERATION PROCESSES, FROM LIVESTOCK MANURE, FROM FORSU.



MECHANICAL ENGINEERING

CONCENTRATION OF OIL EMULSIONS, WASHING WASTES, VIBRO TUMBLING WASTES.



GALVANIC

TREATMENT OF REGENERATION ELUATES IN RESIN PLANTS, CONCENTRATION OF SPENT BATHS, RECOVERY OF CHROMIUM, COPPER AND NICKEL PLATING BATHS.



REVERSE OSMOSIS

FURTHER CONCENTRATION OF HIGH-DENSITY SALT SOLUTIONS FROM MEMBRANE PLANTS.



LANDFILL LEACHATES



THERMAL TREATMENTS

PURIFICATION OF WASHING WATER AFTER THERMAL METALWORKING FURNACES AND RECOVERY OF DISSOLVED SALTS.



RUBBER VULCANISATION

PURIFICATION OF WASHING WATER AFTER CURING OVENS AND RECOVERY OF DISSOLVED SALTS.



DIECASTING

TREATMENT OF WASTEWATER CONTAINING EMULSIONS RELEASE AGENTS, GLYCOLS, COOLANTS.



INDUSTRIAL PAINTING

CONCENTRATION OF WASTEWATER FROM WASHING, PRE-PAINTING AND PHOSPHO-CHROMATISATION.



FOOD CHEMICAL PHARMACEUTICAL

WASTEWATER FROM WASHING REACTORS AND PRODUCTION LINES OR PACKAGING LINES.



GRAPE MUST AND BALSAMIC VINEGAR CONCENTRATES



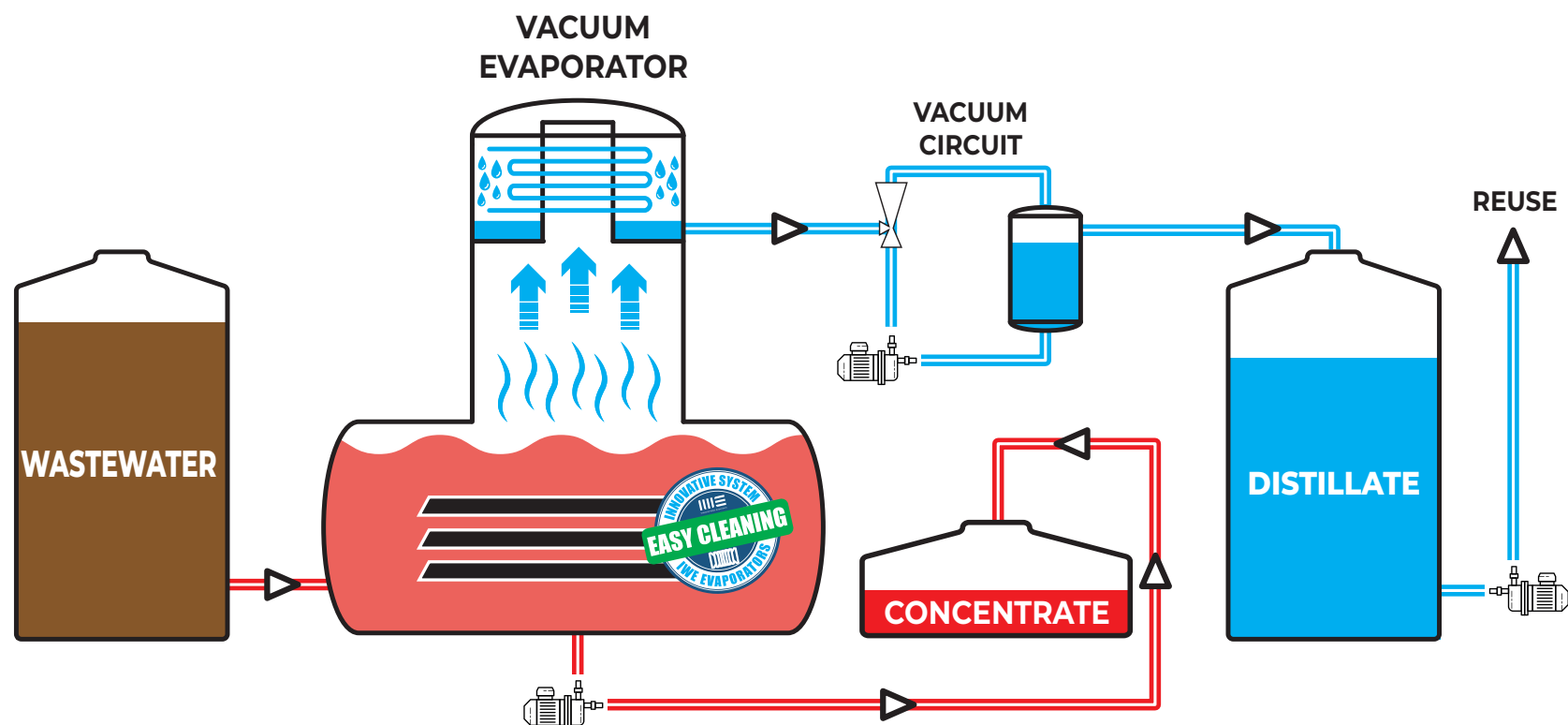
NATURAL FLAVOUR CONCENTRATES AND HERBAL EXTRACTS



THE TECHNICAL PROCESS

THROUGH VACUUM EVAPORATION, IT IS POSSIBLE TO SEPARATE A NON-VOLATILE COMPOUND DISSOLVED IN A SOLUTION INTO DEMINERALISED WATER AND A CONCENTRATED PRODUCT WITH LOW OPERATING COSTS.

- CONCENTRATION •
- SEPARATION BY EVAPORATION •
- PRODUCT VALORISATION •
- RECOVERY OF AQUEOUS SOLUTIONS •
- HIGH CHEMICAL RESISTANCE •
- MAXIMUM RELIABILITY •
- INNOVATIVE INTERNAL CLEANING SYSTEM •
- EASY OPENING •



THE FEATURES

A WIDE RANGE OF CUSTOM-DESIGNED VACUUM EVAPORATORS TO SOLVE ANY WASTE DISPOSAL PROBLEM.

**EASY
OPENING**

**EXCLUSIVE SYSTEM
FOR AUTOMATIC
INTERNAL CLEANING**

**INNOVATIVE
HEAT EXCHANGERS
"IMMERSED PLATES"**

**HIGH RESISTANCE
TO CHEMICALS**

IWE - Industrial Water Evaporators

manufactures vacuum evaporation plants that use the physical principle of boiling and condensing the vapours of treated liquids.

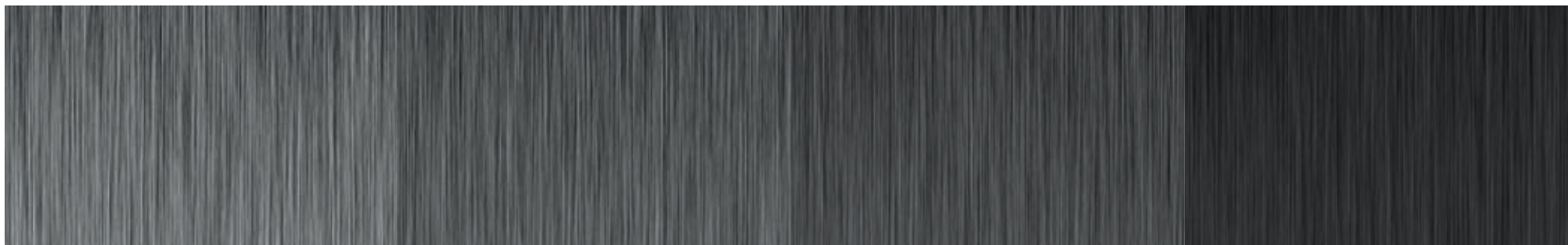
Through the change of state from liquid to aeriform, which in the presence of vacuum occurs at a lower temperature than the boiling temperature at atmospheric pressure, we obtain a considerable saving of energy and efficiency of the system.

In this way, we separate a non-volatile compound dissolved in a solution so that on the one hand we obtain demineralised water and on the other a final product more concentrated in the other components.



THE MATERIALS

THE CHOICE OF THE MOST SUITABLE MATERIALS FOR EACH SPECIFIC APPLICATION IS OF FUNDAMENTAL IMPORTANCE FOR THE CONSTRUCTION OF A PERFECT EVAPORATOR CAPABLE OF ENSURING MAXIMUM PERFORMANCE WITH MAXIMUM RELIABILITY IN THE LONG TERM.



IWE, when studying the most suitable plant for the specific application, to guarantee an extreme duration of the plants, makes the best possible choice of high-quality materials and components, thanks also to the experience of thousands of applications carried out by our technicians.

The basic construction standard envisages systems made using AISI 316 L stainless steel for applications with less corrosive possibilities, while special materials such as DUPLEX (SAF 2205), SUPER DUPLEX (SAF 2507), SILICON CARBIDE, GRAPHITE, TITANIUM and thick anti-corrosive coatings with special FLUOROCARBONIC RESINS are used.

AISI 316 L
DUPLEX (SAF 2205)
SUPER DUPLEX (SAF 2507)

SILICON CARBIDE
GRAPHITE / TITANIUM
FLUOROCARBONIC RESINS

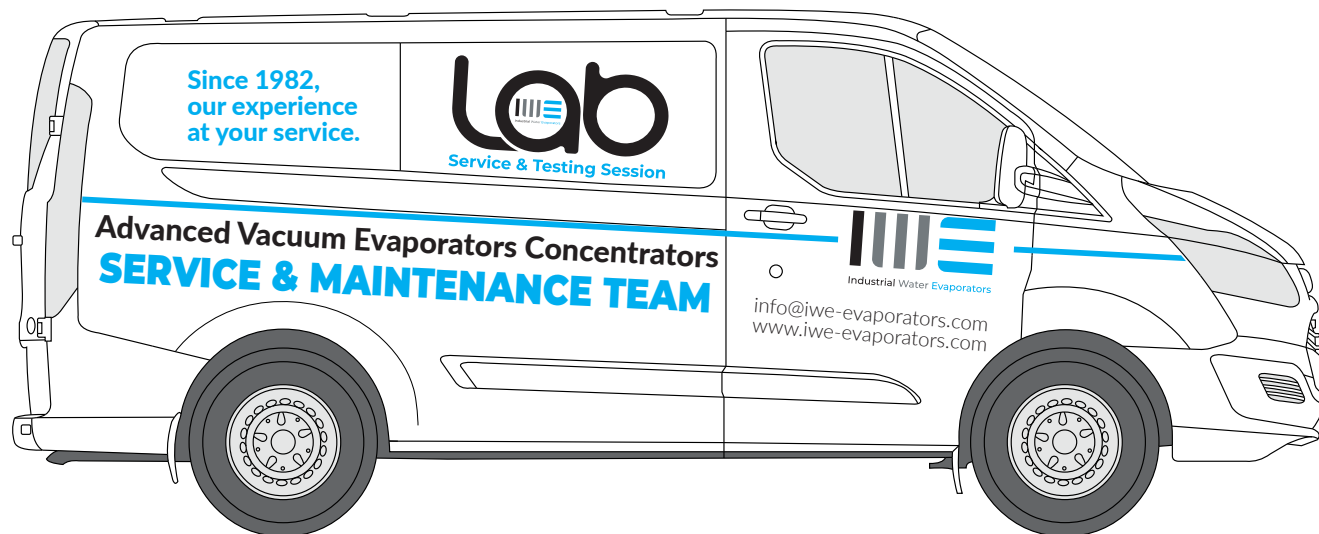
OUR CUSTOMER SERVICE

THE RELATIONSHIP WE WANT TO ESTABLISH WITH OUR CUSTOMERS DOES NOT END WITH THE SIMPLE PURCHASE OF ONE OF OUR PRODUCTS. WE AIM TO SUPPORT THE CUSTOMER EVEN IN THE YEARS FOLLOWING THE PURCHASE, USING OUR SPECIALISED TECHNICIANS TO PROVIDE INSTALLATION, START-UP, AFTER-SALES ASSISTANCE, SPARE PARTS AND F-GAS BOOKING SERVICES.

The after-sales technical assistance service is considered for **IWE** as one of the main keys to acquire and maintain a competitive advantage against the competition.

The importance of this service is fundamental, because the satisfaction of our customers, who can benefit from a product corresponding to their expectations and keeping it in perfect working order over the years, has rewarded **IWE** with the highest level of loyalty and references.

For **IWE**, proposing its after-sales service is also important to carry out the collection of feedback from its customers, collecting and documenting reports and changes to specific standard features of the various models, aimed at the constant improvement of the products.



**EXCLUSIVE
PLUS
ASSISTANCE
AFTERSALES
PROOF
IMMEDIATE
FEEDBACK
CARE**

INNOVATIVE HEAT EXCHANGER

A SENSITIVE ISSUE IN EVAPORATION SYSTEMS IS THE DANGER OF FOULING OF THE HEAT EXCHANGERS, WHICH ARE SUBJECT TO THE DEPOSITION OF SUBSTANCES WITH LIMITED SOLUBILITY.

The attention that **IWE** pays in designing the heat exchangers, choosing the best possible conformation, adapted to the specific characteristics of the product to be treated, reduces the frequency and simplifies the cleaning operations to restore the optimal operating conditions.

The traditional heat exchangers used in evaporation systems, whether immersed coil or tube bundle, have the limitation of having an extremely small space between the different exchange surfaces, not allowing easy removal of deposits.

IWE has chosen to use heat exchangers that are easy to clean, making them in the “immersed plate” version, which allows considerable free space between the plates to restore heat exchange efficiency using simple washing or to carry out any necessary disassembly and extraction in a short time.

STANDARD HEAT EXCHANGER

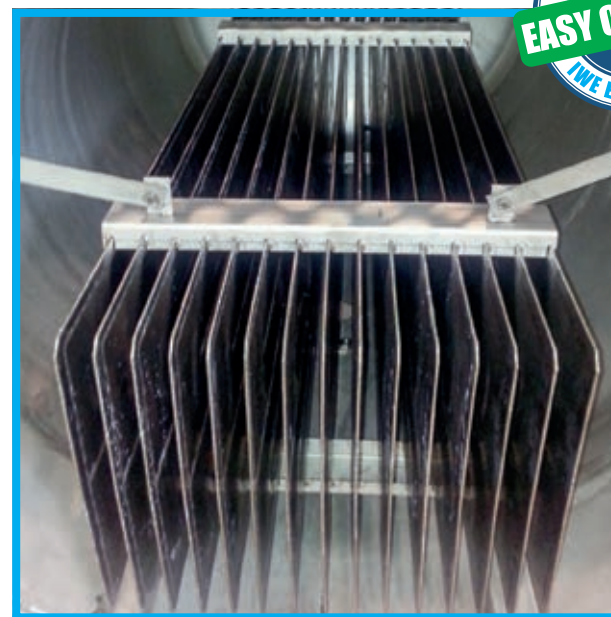
Immersed Coil or Tube Bundle



IWE HEAT EXCHANGER

Industrial Water Evaporators

IMMERSED PLATES



THE EVAPORATORS RANGE

IWE BUILDS EACH EVAPORATION PLANT BY STUDYING THE BEST POSSIBLE ENERGY SOLUTION, CONSIDERING THE MOST APPROPRIATE CHOICE FOR THE SPECIFIC NEEDS AND TREATMENT OF PRODUCTS OF DIFFERENT NATURE AND QUANTITY.



ELECTRIC ENERGY

Heat Pump

Vacuum evaporation plants with exclusively electrical power supply.

TREATMENT CAPACITY

from **5 to 4.000 l/h**
(from **120 to 100.000 l/d**)

ENERGY REQUIREMENTS

SINGLE EFFECT

160 Wh_{el}/l

DOUBLE EFFECT

100 Wh_{el}/l



THERMAL ENERGY

Hot Water / Steam

Vacuum evaporation plants with hot water or steam supply (also from heat recovery or cogenerators).

TREATMENT CAPACITY

from **100 to 15.000 l/h**
(from **2.400 to 360.000 l/d**)

ENERGY REQUIREMENTS

SINGLE EFFECT

600 Wh_{ther}/l

DOUBLE EFFECT

300 Wh_{ther}/l

TRIPLE EFFECT

200 Wh_{ther}/l



Industrial Water Evaporators

OUR RANGE OF ADVANCED VACUUM EVAPORATORS and CONCENTRATORS



Service & Testing Session





Industrial Water Evaporators

ELECTRIC ENERGY



HP ME



HP DE



HP DRY



HP R

THERMAL ENERGY



HWS ME



HWS DE



HWS TE



HWS R

HEAT PUMP EVAPORATORS IN MONO EFFECT VERSION WITH IMMERSED PLATE EXCHANGERS.

The vacuum evaporation and concentration plants of the **HP ME Single Effect** series are equipped with special heat exchangers, made with special electro-welded plates directly immersed in the product to be treated and positioned in the boiling chamber.

The energy required for evaporation and condensation of the vapours is obtained through the use of Heat Pump technology which, combined with the vacuum present in the boiling chamber, allows considerable energy savings to be achieved.



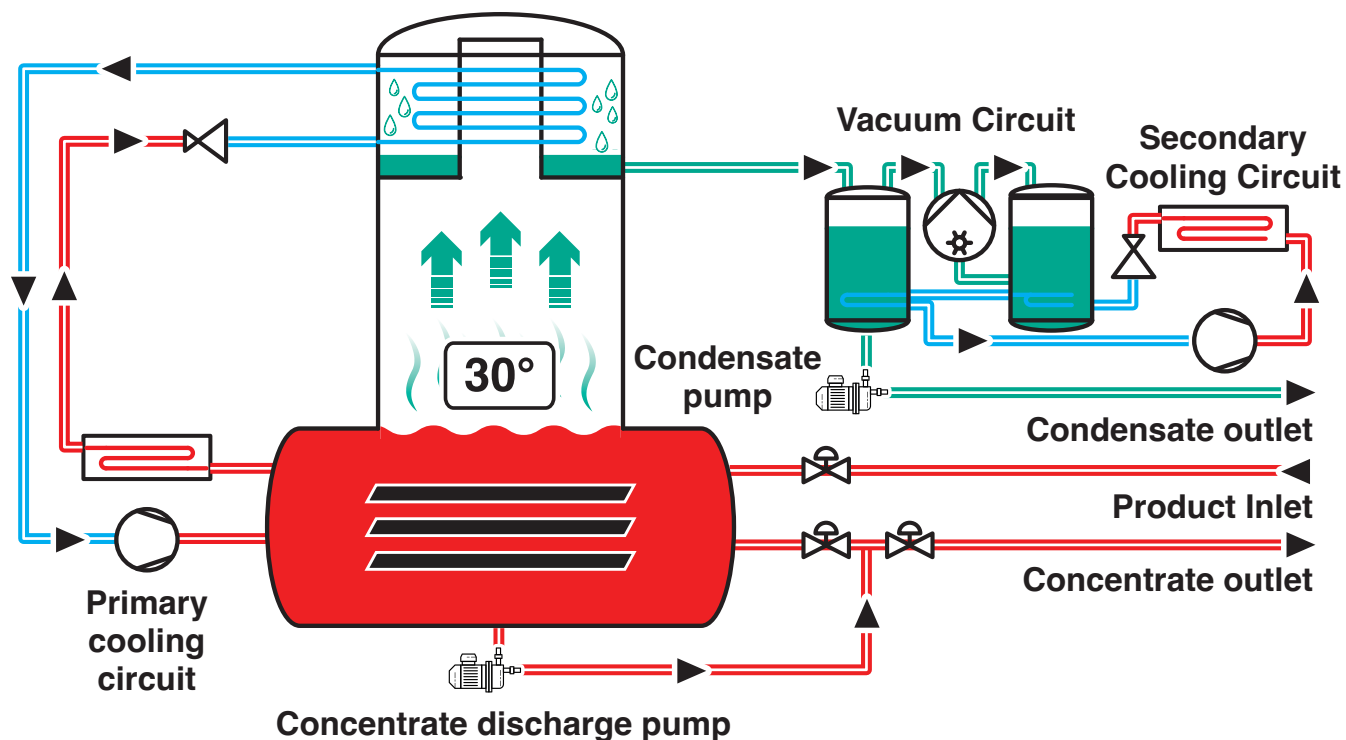
FEATURES COMMON TO ALL HP ME SERIES EVAPORATORS

- Made of AISI 316 L or special materials for corrosive applications (refer to previous section describing the materials used).
- Automatic 24-hour operation and valve for sampling of distillate and concentrate without stopping the plant.
- Automatic discharge of the concentrate, without losing vacuum, by means of a pump controlled by the PLC installed on the plant, with timed operation or by means of the consent provided by the densimeter with which the evaporator can be equipped.
- Operation with recycling of the treated product in the boiler and possibility of automatic anti-foaming dosage.
- Visual porthole (equipped with automatic glass washing) to control the internal conditions of the boiling boiler.

HP ME CR SERIES

The HP ME CR series is designed to treat particularly corrosive liquids, as in the case of applications aimed at concentrating chromic washes in chromium plating processes. The HP CR plants are similar, in terms of operation, to the HP ME series, but are made with all parts in contact with the effluent using special anti-acid materials, such as exchangers in TITANIUM, SILICON CARBIDE, GRAPHITE and boiling boilers coated with special anti-corrosive resins such as HALAR or BLUE ARMOR.

Operating diagram for MONO EFFECT heat pump vacuum evaporator



	HP 25 ME	HP 50 ME	HP 100 ME	HP 150 ME	HP 200 ME	HP 300 ME	HP 400 ME	HP 500 ME	HP 1000 ME
Production with water l/24h	600	1.200	2.400	3.600	4.800	7.200	9.600	12.000	24.000
Electrical power consumption kWh _{el}	4	8	16	24	32	48	64	80	160
Indicative dimensions (l x w x h) cm	200 x 80 x 220	250 x 110 x 220	270 x 125 x 260	300 x 200 x 280	460 x 200 x 280	460 x 170 x 370	450 x 170 x 400	500 x 250 x 440	600 x 240 x 450

Indicative table of some of the available models. Other sizes are available and can be realized custom-made.

HP DE

HEAT PUMP EVAPORATORS IN DOUBLE EFFECT VERSION WITH IMMERSED PLATE EXCHANGERS.



-40%
ENERGY CONSUMPTION

FEATURES COMMON TO ALL HP DE SERIES EVAPORATORS

**VERSATILITY,
EASE OF INSTALLATION
AND ENERGY SAVING.**

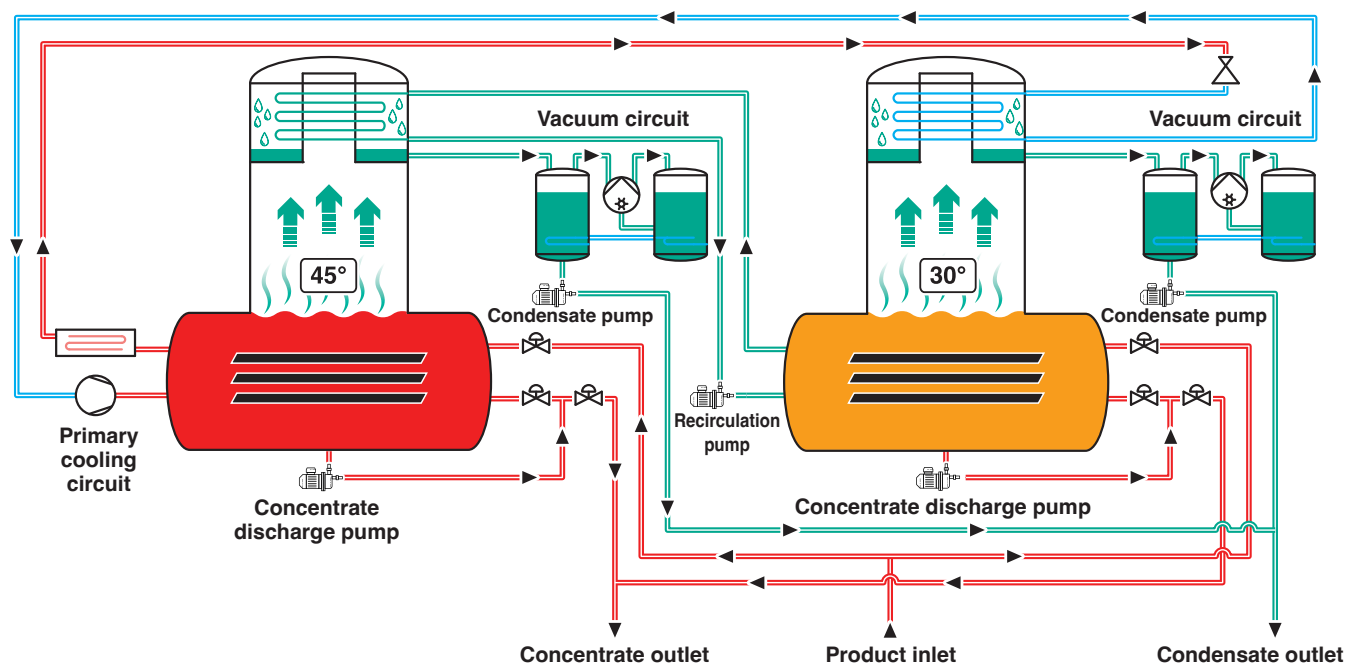
The vacuum evaporation and concentration systems of the **HP DE Double Effect** series are the evolution of the HP ME series and constitute the highest technological expression in terms of energy efficiency with heat pump.

Energy is supplied by a heat pump that uses a special refrigerant gas and uses the thermal energy of the evaporate produced in the first evaporation effect to heat the second evaporation effect free of charge.

This development allows electricity savings of 40% compared to the HP ME single effect series.

Also for this series, the construction in AISI 316L is foreseen, with the possible use of special materials for applications in corrosive environments to satisfy a wide range of applications.

Operating diagram for DOUBLE EFFECT heat pump vacuum evaporator



	HP 300 DE	HP 400 DE	HP 500 DE	HP 600 DE	HP 800 DE	HP 1000 DE	HP 2000 DE	HP 2500 DE	HP 3000 DE	HP 4000 DE
Production with water l/24h	7.200	9.600	12.000	14.400	19.200	24.000	48.000	60.000	72.000	96.400
Electrical power consumption kWh _{el}	30	40	50	60	80	100	200	250	300	400
Indicative dimensions (l x w x h) cm	170 x 500 x 270	240 x 500 x 320	240 x 500 x 320	240 x 600 x 350	240 x 700 x 350	240 x 700 x 380	240 x 1100 x 500	240 x 1100 x 500	900 x 600 x 550	900 x 600 x 550

Indicative table of some of the available models. Other sizes are available and can be realized custom-made.

HP DRY

HEAT PUMP EVAPORATORS WITH EXTERNALLY JACKETED EXCHANGERS.



HP DRY, FOR SHOVELABLE CONCENTRATES

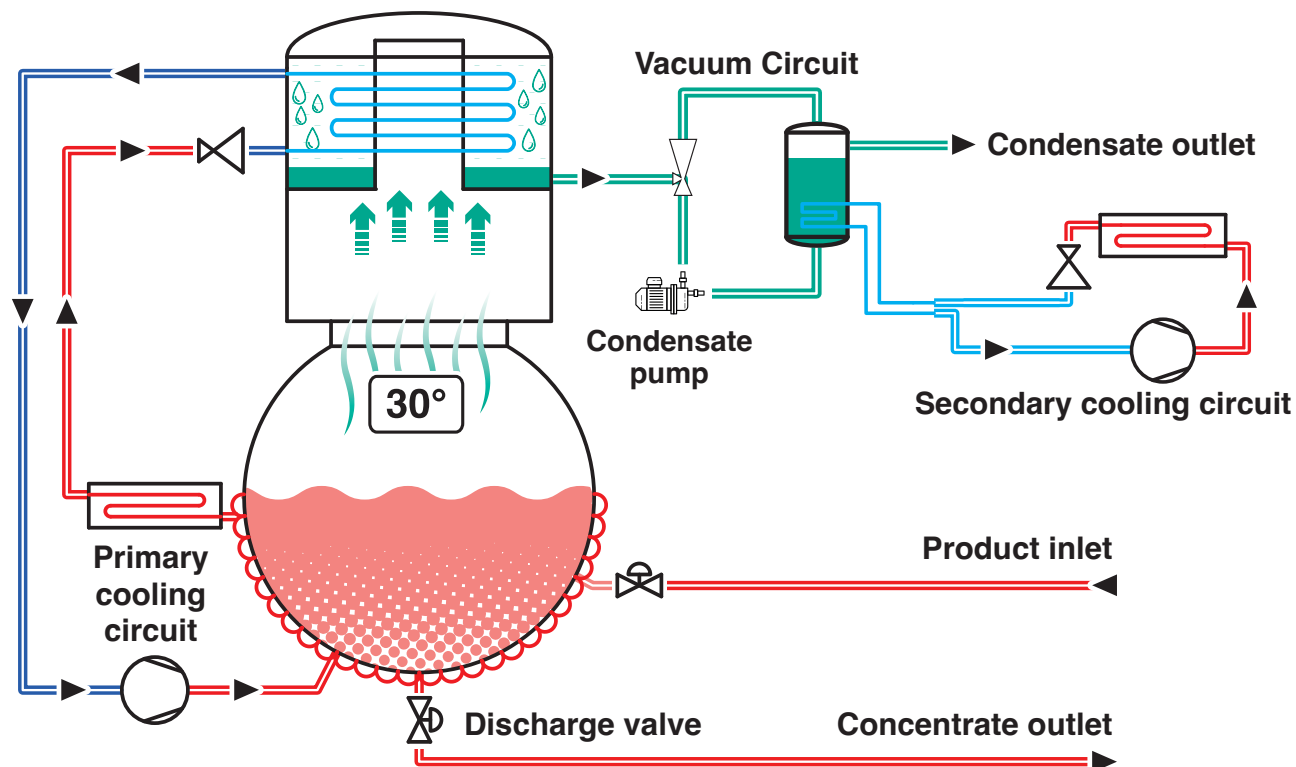
The heat pump evaporators of the **HP DRY** series enable the precipitation of crystals of dissolved salts by increasing the concentration of the solute above the solubility limit.

To obtain a final concentrate with the consistency of a “shovelable” sludge, the evaporator is constructed with a horizontal boiling boiler and a heat exchanger made using an interposed jacket.

The final discharge of the concentrate is done manually through the hatch at the front of the boiling boiler.



Operating diagram for heat pump vacuum evaporator of SHOVELABLE CONCENTRATE



	HP 5 DRY	HP 10 DRY	HP 15 DRY	HP 20 DRY	HP 30 DRY	HP 40 DRY	HP 50 DRY
Production with water l/24h	120	240	360	480	720	960	1.200
Electrical power consumption kWh _{el}	1,6	2,7	3,8	5,0	7,8	10,5	12,5
Indicative dimensions (l x w x h) cm	70 x 120 x 170	80 x 150 x 180	80 x 220 x 200	120 x 220 x 220	180 x 260 x 245	150 x 260 x 260	160 x 300 x 300

Indicative table of some of the available models. Other sizes are available and can be realized custom-made.

HP R

HEAT PUMP EVAPORATORS WITH EXTERNALLY JACKETED EXCHANGERS AND INTERNAL SCRAPER.



FEATURES COMMON TO ALL HP R SERIES EVAPORATORS



The heat pump evaporators of the **HP R** series are ideally suited to meet the need for very high density concentrates and for the evaporation of products that are extremely encrusting to heat exchangers.

Using an automatic motor-driven scraper, which continuously keeps the exchange surfaces of the boiling boiler clean, higher concentrations are obtained compared to other evaporative systems, while avoiding deposits on the exchange walls.

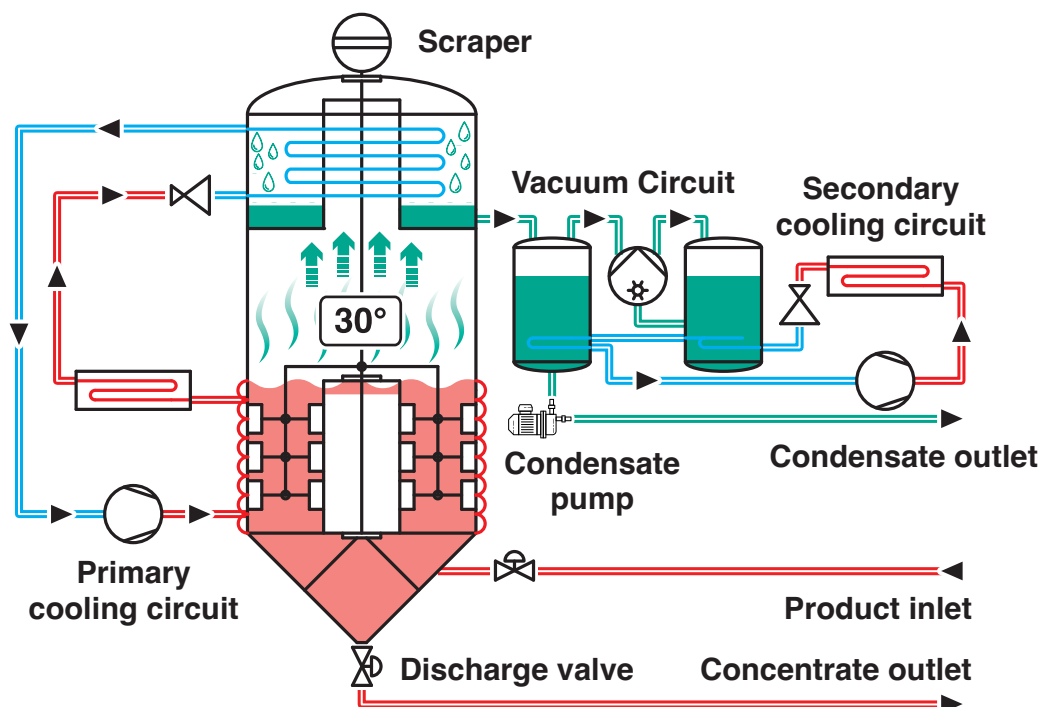
The final concentrate is finally discharged using a pneumatic diaphragm or progressive cavity pumps.

It is also possible to position the system above a lifting frame, to discharge through the bottom discharge valve directly into a crystal separation system.



**FOR MERGERS THRUST
FOR PRODUCTS
EXTREMELY ENCRUSTING**

Operating diagram for heat pump vacuum evaporator of MERGERS THRUST



	HP 10 R	HP 20 R	HP 30 R	HP 40 R	HP 60 R	HP 80 R	HP 125 R	HP 150 R	HP 300 R
Production with water l/24h	240	480	720	960	1.440	1.920	3.000	3.600	7.200
Electrical power consumption kWh _{el}	2,5	5	7,5	10	15	20	31	37	75
Indicative dimensions (l x w x h) cm	70 x 220 x 250	80 x 250 x 280	80 x 250 x 300	110 x 270 x 300	120 x 300 x 320	120 x 300 x 320	200 x 350 x 350	240 x 350 x 350	240 x 600 x 400

Indicative table of some of the available models. Other sizes are available and can be realized custom-made.

HWS ME

EVAPORATORS SUPPLIED WITH HOT WATER OR STEAM, IN MONO EFFECT VERSION WITH IMMERSED PLATE EXCHANGERS.



FEATURES COMMON TO ALL HWS ME SERIES EVAPORATORS

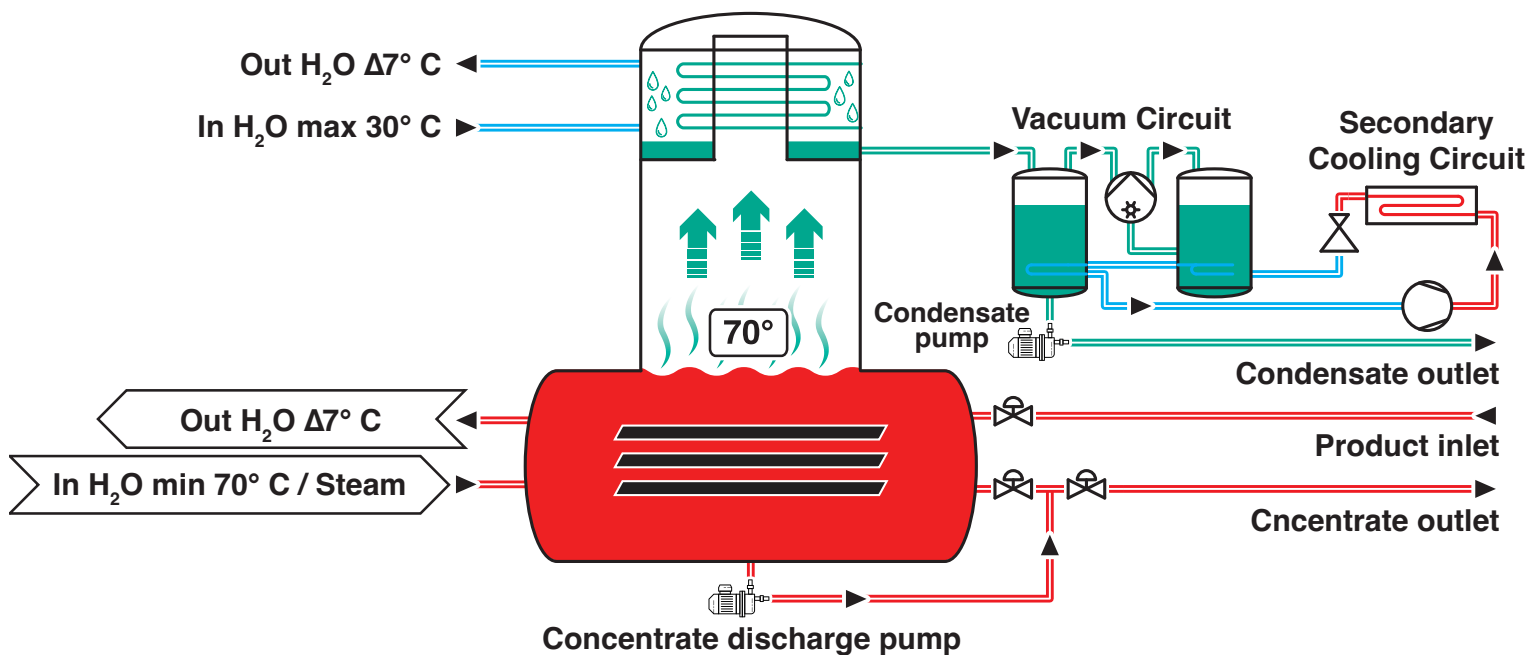
**HIGH CAPACITY,
LIMITED INVESTMENTS.**

The **HWS ME** series of evaporators powered by thermal energy already available in the factory, in the form of hot water or steam, is a vacuum evaporation/concentration plant with plate heat exchangers placed directly inside the boiling boilers and immersed in the liquid to be treated.

These vacuum evaporators/concentrators use, for the condensation phase of the vapours, the cold water available in the company, usually coming from closed-circuit dry-coolers or evaporative towers, which can be supplied as a complement to the evaporation plant.



Vacuum Evaporator with MONO EFFECT thermal power supply



	HWS 250 ME L	HWS 500 ME L	HWS 1000 ME	HWS 1500 ME	HWS 2000 ME	HWS 3000 ME	HWS 4000 ME
Production with water l/24h	6.000	12.000	24.000	36.000	48.000	72.000	96.000
Electrical power consumption kWh _{el}	2,5	2,5	18	20	22	28	35
Thermal power consumption kWh _{therm} (kcal/h)	175 (150.000)	350 (300.000)	700 (600.000)	1.050 (900.000)	1.400 (1.200.000)	2.100 (1.800.000)	2.910 (2.400.000)
Indicative dimensions (l x w x h) cm	180 x 230 x 340	240 x 300 x 380	200 x 450 x 430	240 x 650 x 590	240 x 680 x 550	480 x 600 x 550	500 x 710 x 550

Indicative table of some of the available models. Other sizes are available and can be realized custom-made.



-50%
ENERGY CONSUMPTION

FEATURES COMMON TO ALL HWS DE SERIES EVAPORATORS

HIGH CAPACITY, LIMITED INVESTMENTS.

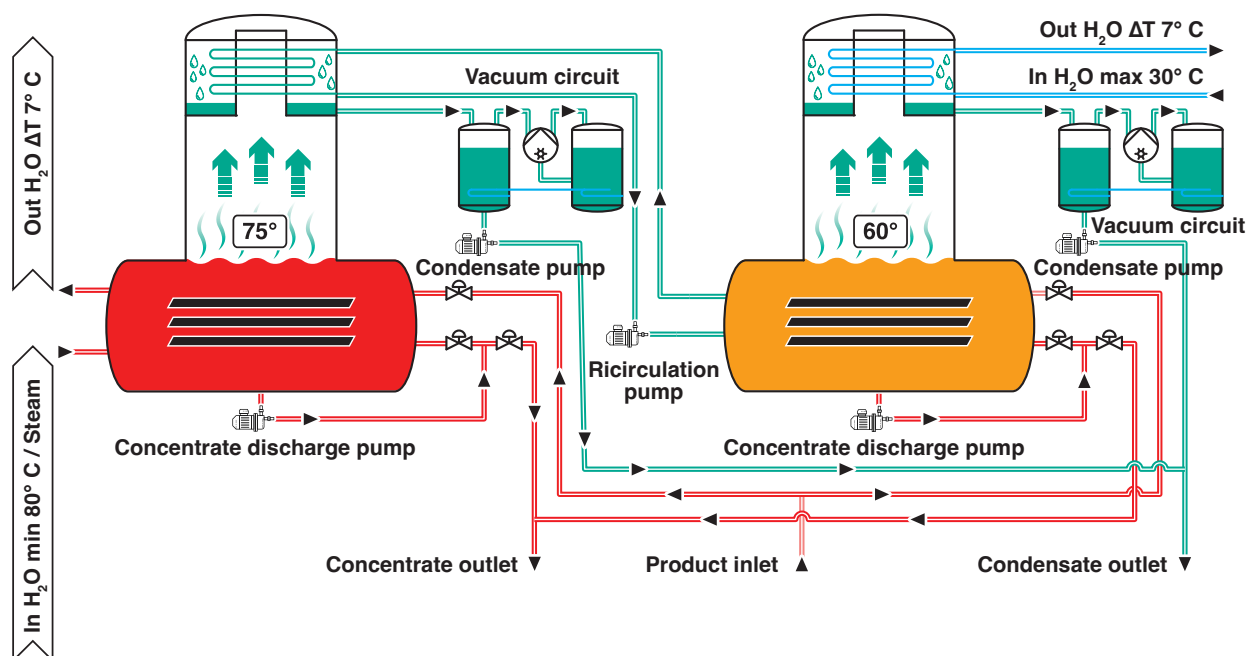
The **HWS DE** series evaporators are energy-efficient systems.

Similar to the HWS ME series, these vacuum evaporators/concentrators require thermal energy, but only to power the first evaporative stage.

The second stage, due to a higher vacuum value than the previous stage, allows to operate with a lower boiling temperature and it is, therefore, possible to use the thermal energy of the evaporate produced in the first evaporation stage to feed the second evaporation stage for free.

Thanks to this technique, the Double Effect model achieves reductions in thermal energy consumption of 50% compared to the single effect version.

Vacuum Evaporator with DOUBLE EFFECT thermal power supply



	HWS 500 DE L	HWS 1000 DE L	HWS 2000 DE	HWS 3000 DE	HWS 4000 DE	HWS 6000 DE
Production with water l/24h	12.000	24.000	48.000	72.000	96.000	144.000
Electrical power consumption kWh _{el}	5	5	30	45	60	80
Thermal power consumption kWh _{therm} (kcal/h)	175 (150.000)	350 (300.000)	700 (600.000)	1.050 (900.000)	1.400 (1.200.000)	2.100 (1.800.000)
Indicative dimensions (l x w x h) cm	230 x 320 x 340	300 x 420 x 380	500 x 480 x 500	600 x 480 x 500	680 x 480 x 550	600 x 720 x 550

Indicative table of some of the available models. Other sizes are available and can be realized custom-made.

HWS TE

EVAPORATORS SUPPLIED WITH HOT WATER OR STEAM, IN TRIPLE EFFECT VERSION WITH IMMERSED PLATE EXCHANGERS.



-66%
ENERGY CONSUMPTION

FEATURES COMMON TO ALL HWS TE SERIES EVAPORATORS

**HIGH CAPACITY,
MORE LIMITED CONSUMPTION.**

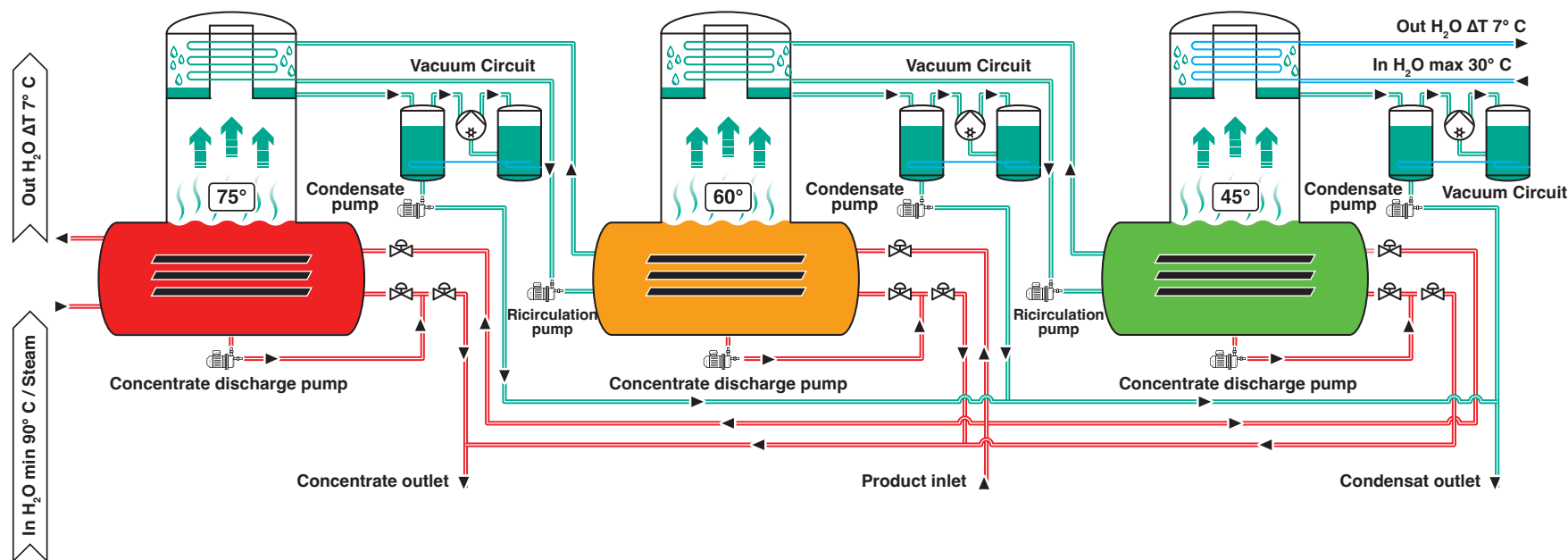
The **HWS TE** series evaporators are even more energy-efficient systems.

As in the previous Double Effect version, the HWS TE series uses the thermal energy of the evaporate produced by the previous evaporation stage to feed the third evaporation stage free of charge, thus further improving the energy efficiency of the system.

Thanks to this technique, the Triple Effect model achieves reductions in thermal energy consumption of more than 66% compared to the single effect version.



Vacuum Evaporator with TRIPLE EFFECT thermal power supply



	HWS 750 TE L	HWS 1500 TE L	HWS 3000 TE	HWS 4500 TE	HWS 6250 TE	HWS 7500 TE	HWS 9000 TE
Production with water l/24h	18.000	36.000	72.000	108.000	150.000	180.000	216.000
Electrical power consumption kWh _{el}	7,5	7,5	68	90	130	140	150
Thermal power consumption kWh _{therm} (kcal/h)	175 (150.000)	350 (300.000)	700 (600.000)	1050 (900.000)	1460 (1.250.000)	1750 (1.500.000)	2100 (1.800.000)
Indicative dimensions (l x w x h) cm	230 x 540 x 340	300 x 600 x 380	720 x 700 x 500	720 x 700 x 600	1400 x 700 x 550	1400 x 700 x 550	1500 x 700 x 650

Indicative table of some of the available models. Other sizes are available and can be realized custom-made.

HWS R

EVAPORATORS FED BY HOT WATER OR STEAM WITH EXTERNALLY JACKETED EXCHANGERS AND INTERNAL SCRAPER.



FEATURES COMMON TO ALL HWS R SERIES EVAPORATORS



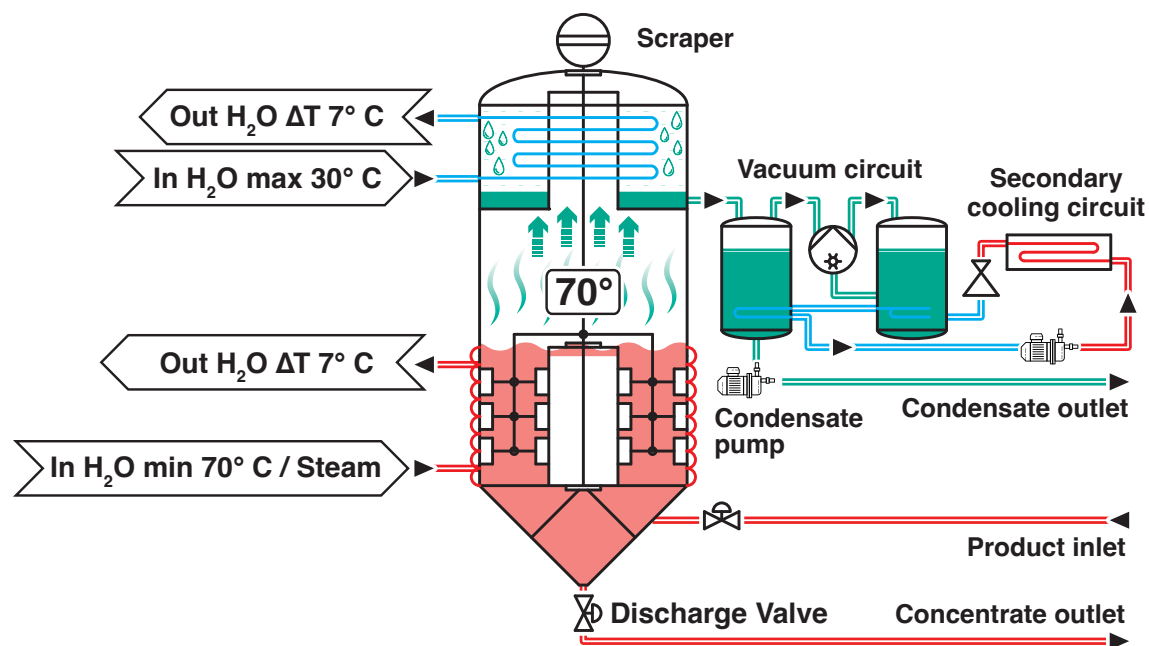
**FOR MERGER THRUST
FOR PRODUCTS
EXTREMELY ENCRUSTING**

In the range of evaporation systems powered by thermal energy, the **HWS R** series is designed to meet the need for very high density concentrates and for the evaporation of products that are extremely encrusting to heat exchangers.

Utilizing a motorised automatic scraper, which continuously keeps the heat exchanger surfaces clean, higher concentrations are achieved than with other evaporative systems. The final concentrate will eventually be discharged through a diaphragm pump or a progressive cavity pump, or by placing the system on top of a lifting frame so that the discharge can be made through the bottom discharge valve directly into a crystal separation system.



Vacuum Evaporator with SCRAPED thermal feeding



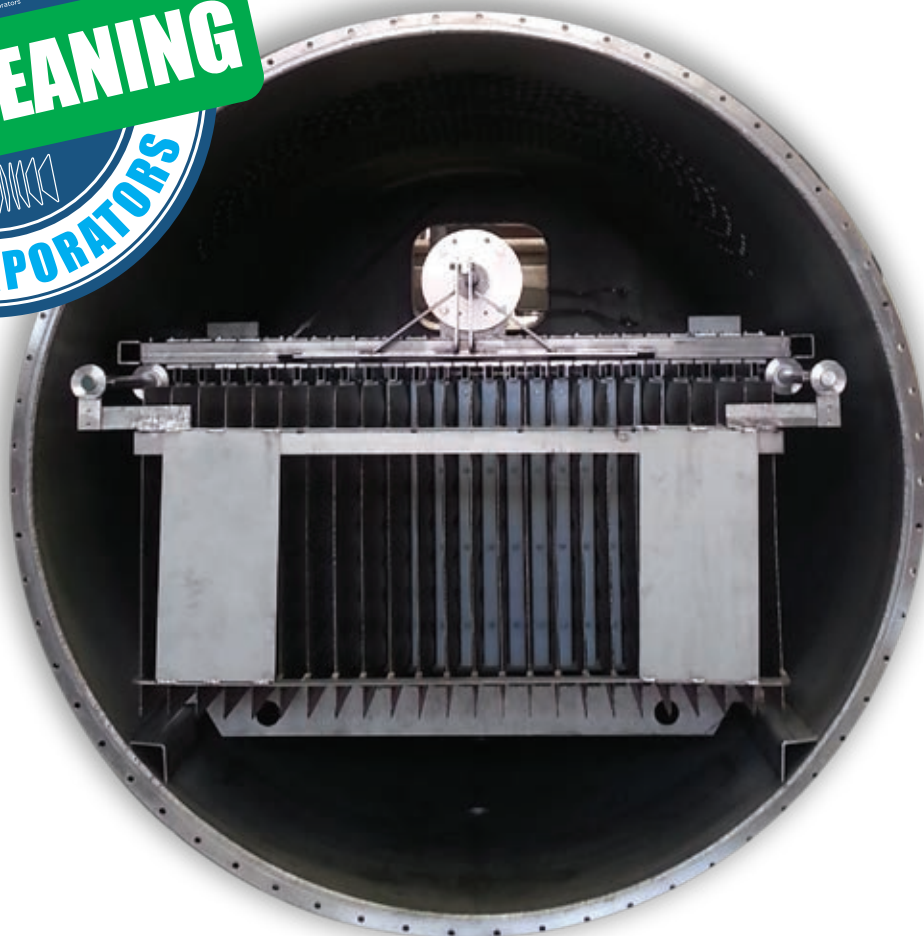
	HWS 100 R	HWS 200 R	HWS 300 R	HWS 500 R	HWS 840 R
Production with water l/24h	2.400	4.800	7.200	12.000	19.200
Electrical power consumption kWh _{el}	7	8	10	12	12,5
Thermal power consumption kWh _{therm} (kcal/h)	70 (60.000)	140 (120.000)	210 (180.000)	350 (300.000)	590 (504.000)
Indicative dimensions (l x w x h) cm	140 x 270 x 320	200 x 350 x 380	170 x 400 x 370	200 x 550 x 350	530 x 230 x 400

Indicative table of some of the available models. Other sizes are available and can be realized custom-made.

SPECIAL VERSIONS



EVAPORATORS EQUIPPED WITH AUTOMATIC REMOVAL OF DEPOSITS FROM HEAT EXCHANGERS



IWE's standard use of immersed plate heat exchangers offers the advantage of reduced cleaning requirements.

Further development in the search for systems with even less need for periodic maintenance has enabled **IWE** to develop a special system for the automatic removal of deposits from heat exchangers.

The system is based on a robust, pneumatically-driven structure that moves special brushes with a timed frequency, thus automatically cleaning the heat exchange surface.

SPECIAL VERSIONS

EVAPORATORS WITH COMPLETE CASING FOR OUTDOOR INSTALLATION

Thanks to this particular version, it is possible to install the system outside the building.

The evaporator is made with a special frame equipped with insulating panels and a cover with plastic material for perfect acoustic and thermal insulation that ensures full protection in the event of external installation.

The panels used for the cladding are of high thickness, removable and equipped with hinges and handles for opening the access doors, and guarantee resistance to frost (down to -15°C) by means of an integrated automatic heating system.



SPECIAL VERSIONS

EVAPORATORS WITH SILICON CARBIDE EXCHANGERS FOR HIGHLY CORROSIVE LIQUID APPLICATIONS



For the concentration of solutions containing substances with high corrosive potential, such as hydrochloric acid or hydrofluoric acid, which are not compatible with the special materials (e.g. SUPER DUPLEX SAF 2507) used in the construction of our plants, **IWE** can produce vacuum evaporators with heat exchangers in **GRAPHITE** or **SILICON CARBIDE** and with **BOILING BOILERS ENAMELLED OR INTERNALLY COATED WITH FLUOROCARBON RESIN (HALAR® ECTFE)**.





Industrial Water **Evaporators**

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