IWE Industrial Water Evaporators

HIGH ENERGY EFFICIENCY

ADVANCED VACUUM EVAPORATORS CONCENTRATORS

#costsreduction #savewater #reusewater



- **WASTEWATER VOLUME REDUCTION UP TO 99%**
- **HIGH DISPOSAL COST SAVINGS**
- **SIMPLE AND QUICK MAINTENANCE**
- **TREATMENT OF COMPLEX WASTEWATER**





SINCE 1982, OUR EXPERIENCE AT YOUR SERVICE.

IWE Industrial Waters Evaporators designs and manufactures systems for the evaporation and concentration of water-based solutions, including ATEX versions, and bases its creations on the experience of its technicians, who **have been producing and installing energy-efficient evaporators and vacuum concentrators since 1982**, to be used in a wide range of industrial sectors.

IWE's operational headquarters occupies an area of over 6,000 square metres, characterised by a functional office building to welcome all our guests and the **'IWE LAB' Research & Development area, where test sessions with pilot plants and laboratory studies are carried out**.
We use modern equipment that allows us to build even large-scale plants in complete autonomy.

The result is a wide range of high-performance, low-energy consumption evaporators designed to order, which drastically reduce disposal and maintenance costs.



WASTE WATER VOLUME REDUCTION *even up to* 99%

• for every manufacturing company

Vacuum evaporation systems for industrial wastewater treatment offer significant economic and environmental advantages over traditional physical-chemical or biological treatment systems.

The primary objective is to drastically reduce disposal costs, by up to 99%, as well as, in many cases, to recover raw materials and reuse the distilled water obtained from the treatment.

Vacuum evaporation is an extremely versatile technology that delivers exceptional performance in a wide range of manufacturing sectors.

• for each waste disposal platform

In industrial wastewater treatment activities carried out on behalf of third parties, **vacuum evaporation allows for an increase in the amount of waste that can be treated according to the European Waste Catalogue (EWC).**

In fact, **IWE advanced vacuum evaporation plants can be integrated with traditional physical-chemical and biological purification systems**, which alone cannot achieve satisfactory results in the purification of wastewater with high levels of pollutants 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



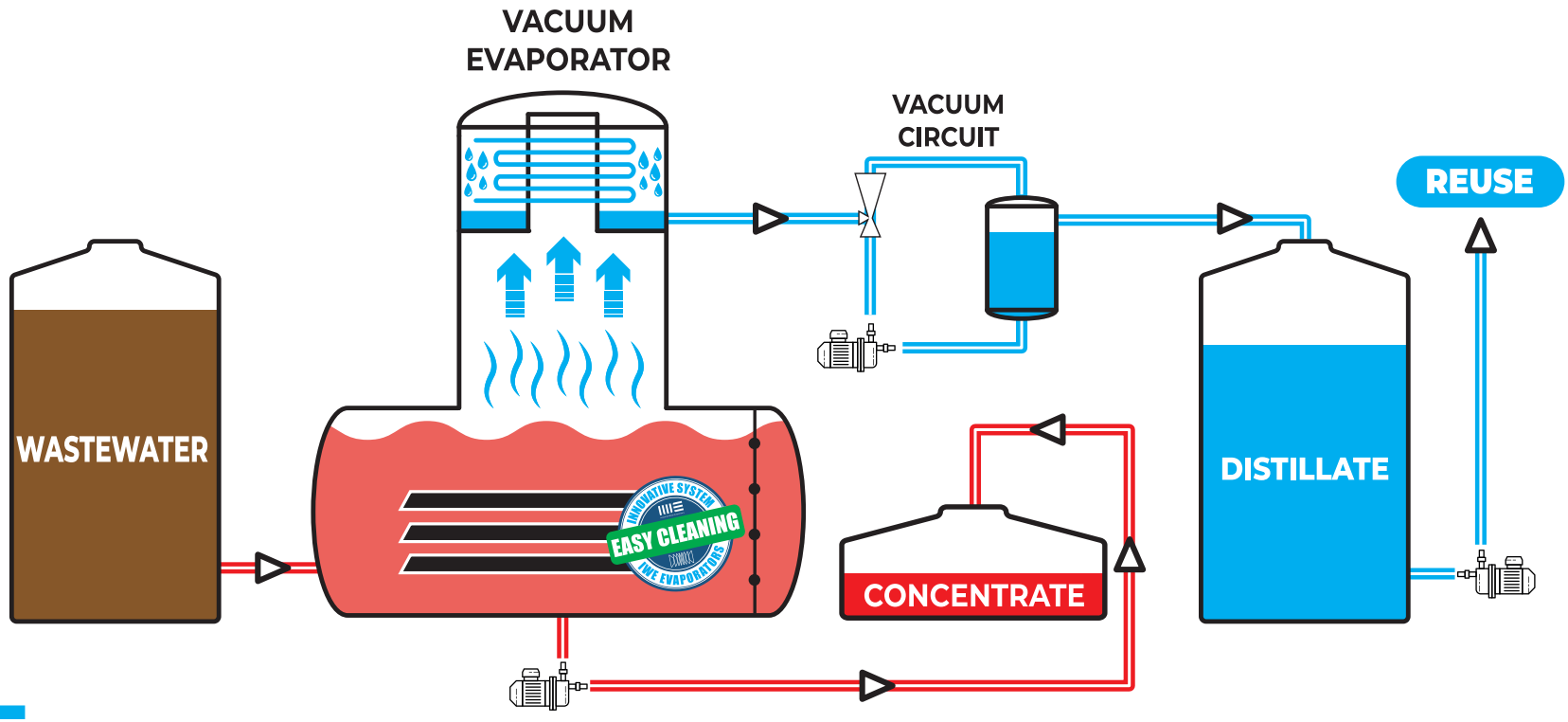
NATURAL FLAVOUR CONCENTRATES AND HERBAL EXTRACTS



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 IS OF FUNDAMENTAL IMPORTANCE FOR THE CONSTRUCTION OF AN EVAPORATOR CAPABLE OF ENSURING MAXIMUM PERFORMANCE WITH MAXIMUM RELIABILITY OVER THE LONG TERM.

IWE, when studying the most suitable system for a specific application, in order to guarantee extreme durability of the systems, **makes the best possible choice among high-quality materials and components**, thanks also to the experience gained from thousands of applications carried out by our technicians.

AISI 316 L

DUPLEX (SAF 2205)

SUPER DUPLEX (SAF 2507)

SILICON CARBIDE

GRAPHITE / TITANIUM

FLUOROCARBON RESINS

RELIABILITY AND LONG-TERM DURABILITY

OUR CUSTOMER SERVICE

IWE CONSIDERS AFTER-SALES TECHNICAL SUPPORT TO BE ONE OF THE KEY FACTORS IN GAINING AND MAINTAINING A COMPETITIVE ADVANTAGE OVER ITS COMPETITORS.

COURTESY
QUALITY
ASSISTANCE
EXPERTISE
SUPPORT
IMMEDIATE
SAFETY
SERVICE



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 EXCHANGERS

IMMERSED COIL • TUBE BUNDLE



INNOVATIVE SYSTEM

QUICK OPENING DOORS + PARALLEL PLATES



ELECTRIC ENERGY

HEAT PUMP

Advanced vacuum evaporation plants with ***exclusively electrical power supply.***

TREATMENT CAPACITY

from 5 to 4.000 litres/hour

ENERGY REQUIREMENTS

Mono-effect	Double-effect
140 Wh_{el}/l	95 Wh_{el}/l

HP ME	• Vacuum Evaporator • Powered by electrical energy • Mono Effect	page 10
HP DE	• Vacuum Evaporator • Powered by electrical energy • Double Effect	page 12
HP DRY	• Vacuum Dry Concentrator • Powered by electrical energy • Mono Effect	page 14
HP ME R	• Vacuum Concentrator with Scraper • Powered by electrical energy • Mono Effect	page 16
HP DE R	• Vacuum Concentrator with Scraper • Powered by electrical energy • Double Effect	page 18

THERMAL ENERGY

HOT WATER or STEAM

Advanced vacuum evaporation plants with ***exclusively thermal power supply*** *(also from heat recovery or cogenerators)*

TREATMENT CAPACITY

from 100 to 12.000 litres/hour

ENERGY REQUIREMENTS

Mono-effect	Doppio-effect	Triplo-effect
600 Kcal/l	300 Kcal/l	200 Kcal/l

HWS ME	• Vacuum Evaporator • Powered by thermal energy • Mono Effect	page 20
HWS DE	• Vacuum Evaporator • Powered by thermal energy • Double Effect	page 22
HWS TE	• Vacuum Evaporator • Powered by thermal energy • Triple Effect	page 24
HWS ME R	• Vacuum Concentrator with Scraper • Powered by thermal energy • Mono Effect	page 26
HWS DE R	• Vacuum Concentrator with Scraper • Powered by thermal energy • Double Effect	page 28

HP ME

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.



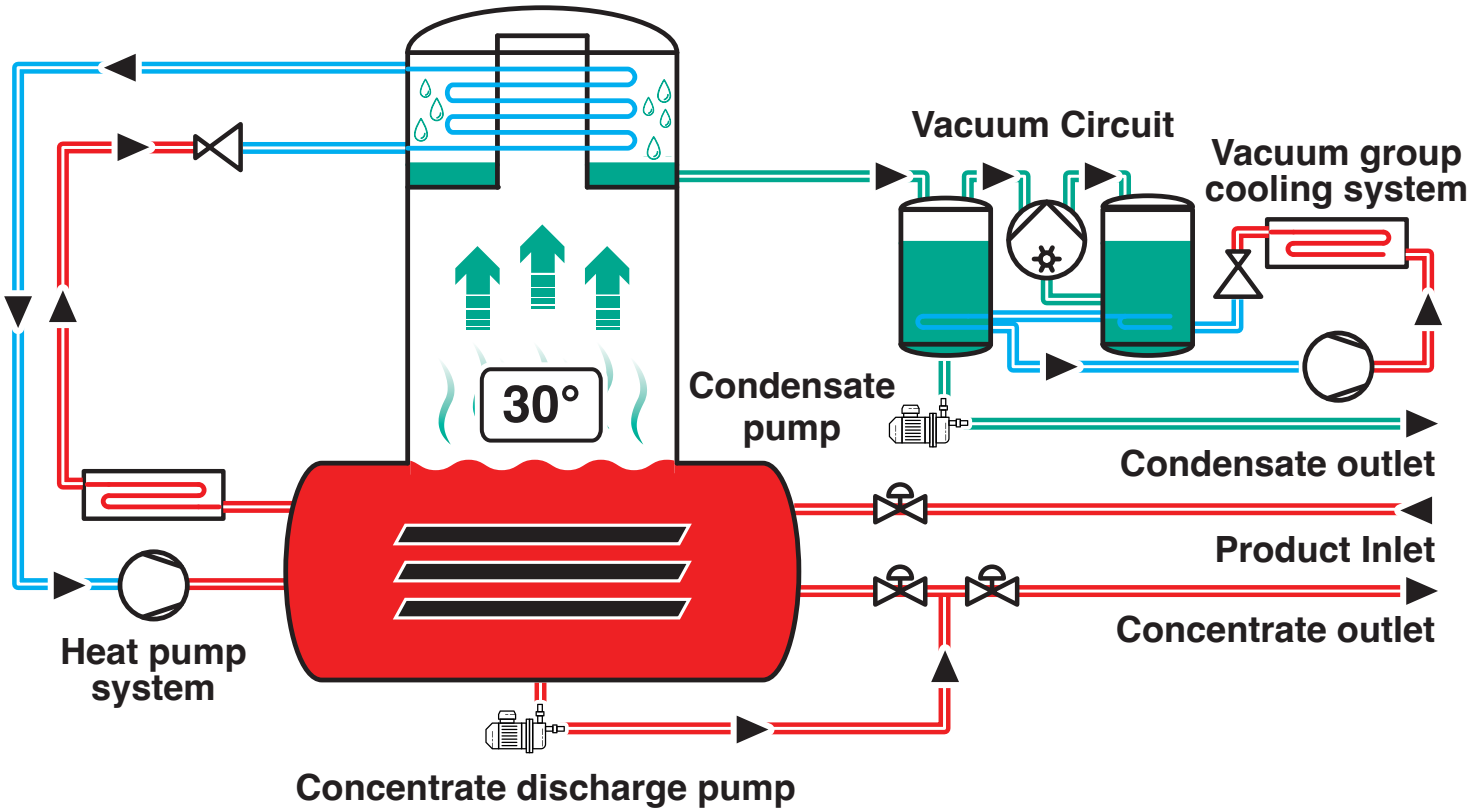
FEATURES COMMON TO ALL HP ME SERIES EVAPORATORS

- 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.

HP ME



	HP 30 ME L	HP 50 ME L	HP 100 ME L	HP 200 ME L	HP 250 ME L	HP 300 ME	HP 400 ME	HP 500 ME	HP 1000 ME
Production with water l/24h	720	1.200	2.400	4.800	6.000	7.200	9.600	12.000	24.000
Indicative electrical power consumption kWh_{el}	4,5	7	14	28	35	42	56	70	140
Indicative dimensions (l x w x h) cm	200 x 130 x 240	250 x 130 x 240	230 x 150 x 260	230 x 300 x 280	230 x 320 x 290	460 x 170 x 370	600 x 170 x 370	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.

REDUCTION OF ENERGY CONSUMPTION
- 33%



FEATURES COMMON TO ALL HP DE SERIES EVAPORATORS

VERSATILITY, EASE OF INSTALLATION AND ENERGY SAVING.

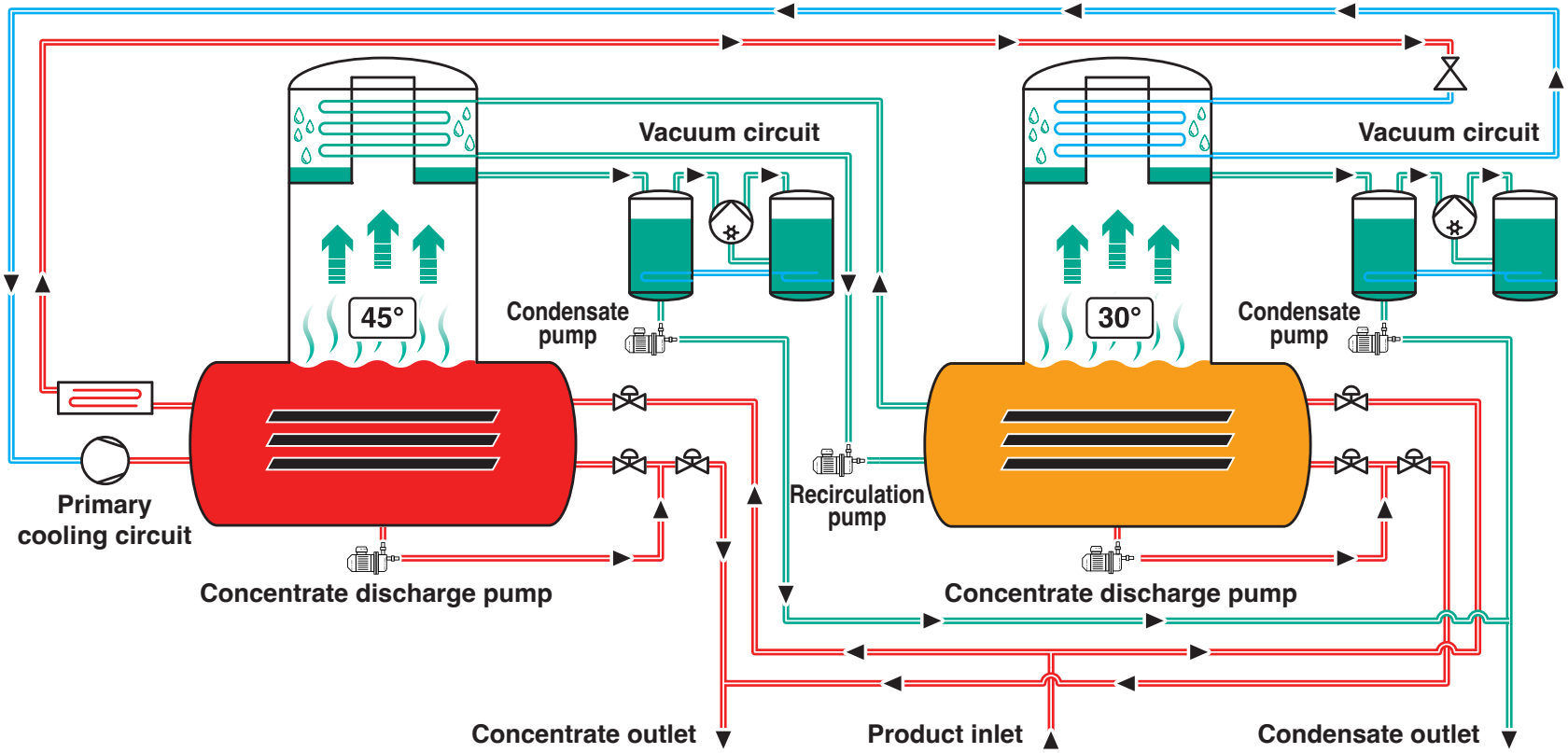
The vacuum evaporation and concentration systems of the **HP DE Double Effect** series are the evolution of the HP ME series and constitute the highest technological expression in terms of energy efficiency with heat pump.

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 33% 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.

HP DE



	HP 400 DE L	HP 500 DE L	HP 800 DE	HP 1000 DE	HP 2000 DE	HP 2500 DE	HP 3000 DE	HP 4000 DE
Production with water l/24h	9.600	12.000	19.200	24.000	48.000	60.000	72.000	96.400
Indicative electrical power consumption kWh_{el}	38	48	76	95	190	238	285	380
Indicative dimensions (l x w x h) cm	320 x 375 x 290	320 x 480 x 330	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

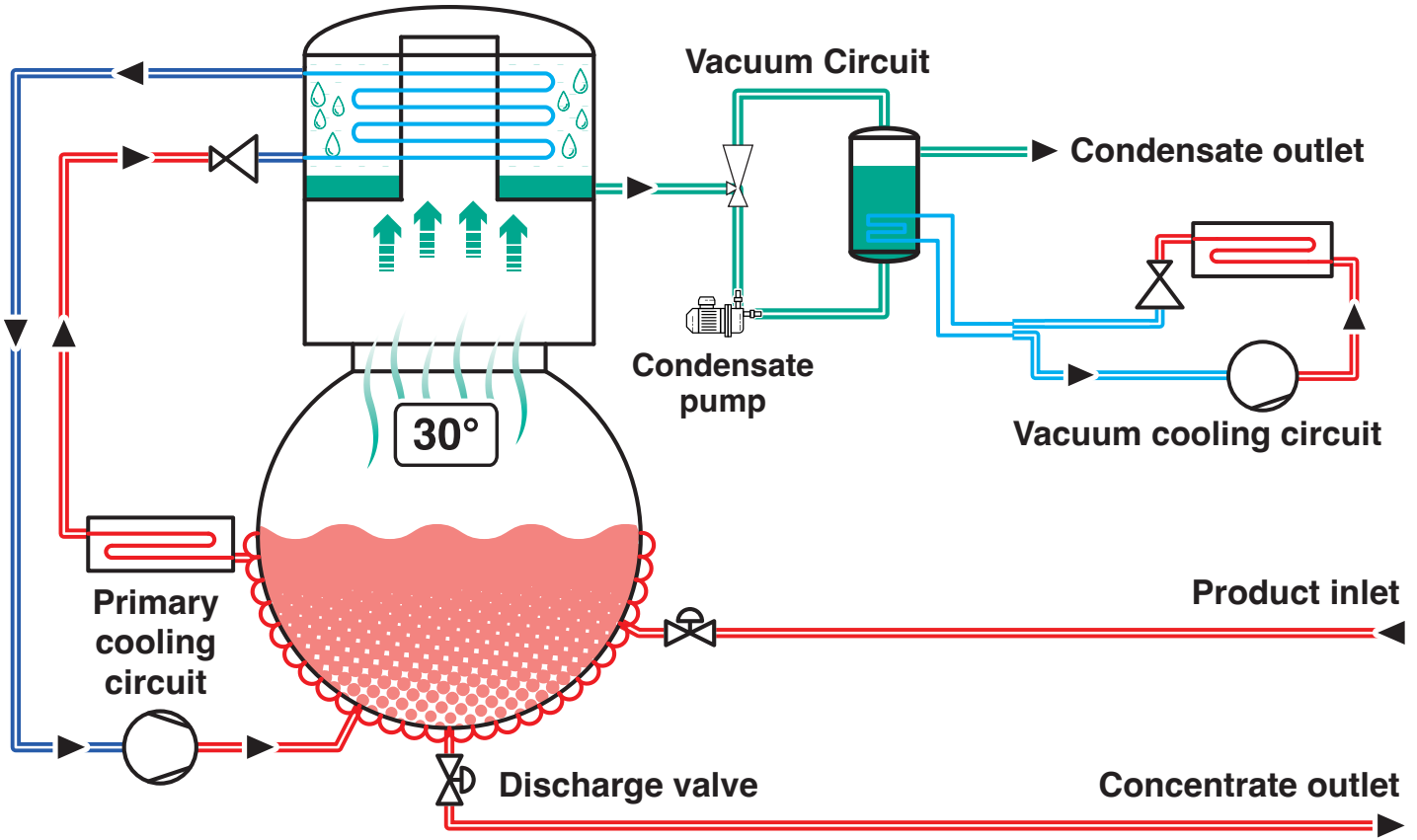
The heat pump evaporators of the **HP DRY** series enable the precipitation of crystals of dissolved salts by increasing the concentration of the solute above the solubility limit.

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.



HP DRY



	HP 5 DRY	HP 10 DRY	HP 15 DRY	HP 20 DRY	HP 30 DRY	HP 40 DRY	HP 50 DRY	HP 70 DRY
Production with water l/24h	120	240	360	480	720	960	1.200	1.680
Indicative electrical power consumption kWh_{el}	1,6	2,7	3,8	5,0	7,8	10,5	12,5	17,5
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	160 x 320 x 280

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

HP ME R

HEAT PUMP MONO EFFECT EVAPORATORS WITH EXTERNALLY JACKETED EXCHANGERS AND INTERNAL SCRAPER.







FEATURES COMMON TO ALL HP ME R SERIES EVAPORATORS

The heat pump evaporators of the **HP ME 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.

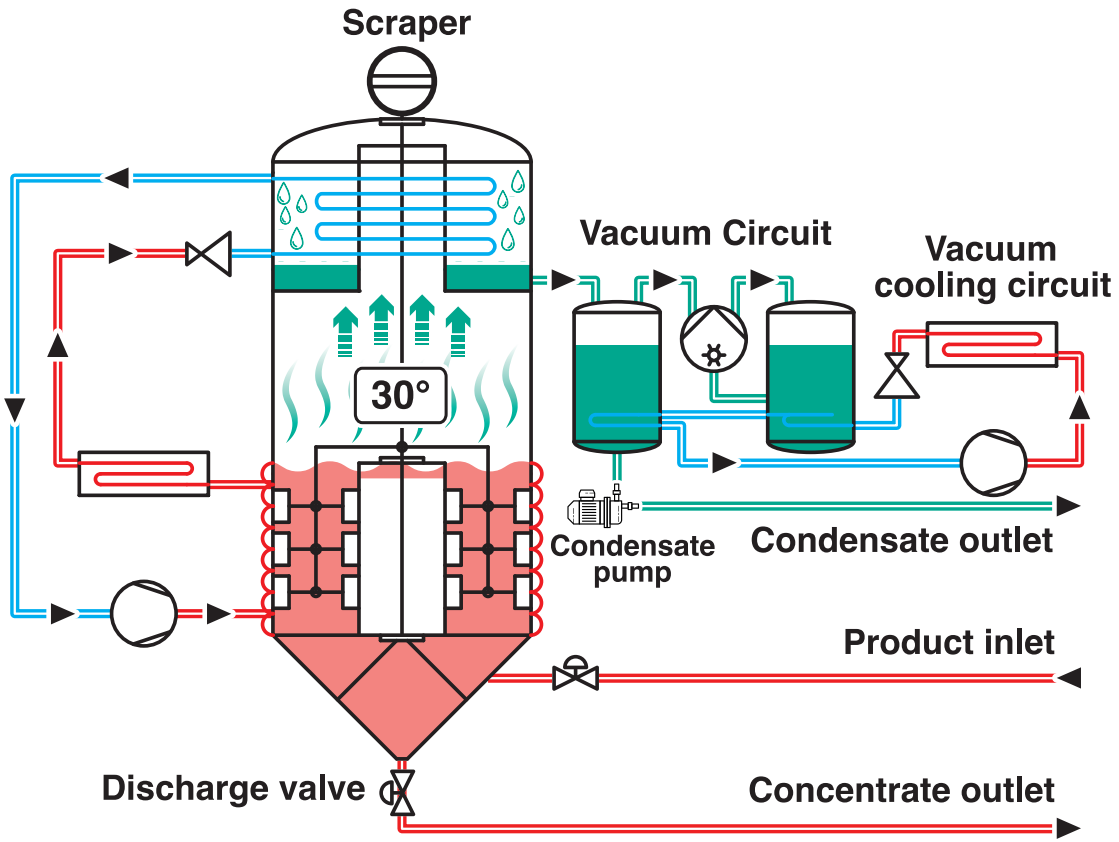
Using an automatic motor-driven scraper, which continuously keeps the exchange surfaces of the boiling boiler clean, higher concentrations are obtained compared to other evaporative systems, while avoiding deposits on the exchange walls.

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.

HIGHEST CONCENTRATION FOR EXTREMELY ENCRUSTING PRODUCTS

HP ME R



	HP 10 ME R	HP 20 ME R	HP 30 ME R	HP 40 ME R	HP 60 ME R	HP 80 ME R	HP 125 ME R	HP 150 ME R	HP 200 ME R
Production with water l/24h	240	480	720	960	1.440	1.920	3.000	3.600	4.800
Indicative electrical power consumption kWh_{el}	2,5	5	7,5	10	15	20	31	37	50
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 350 x 350

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

HP DE R

HEAT PUMP DOUBLE EFFECT EVAPORATORS WITH EXTERNALLY JACKETED EXCHANGERS AND INTERNAL SCRAPER.

REDUCTION OF ENERGY CONSUMPTION
- 45%



FEATURES COMMON TO ALL HP DE R SERIES EVAPORATORS

The **HP DE R** series consists of double-acting heat pump evaporators that not only achieve very high concentration levels, but also **reduce energy requirements by 45% compared to the corresponding single-acting version.**

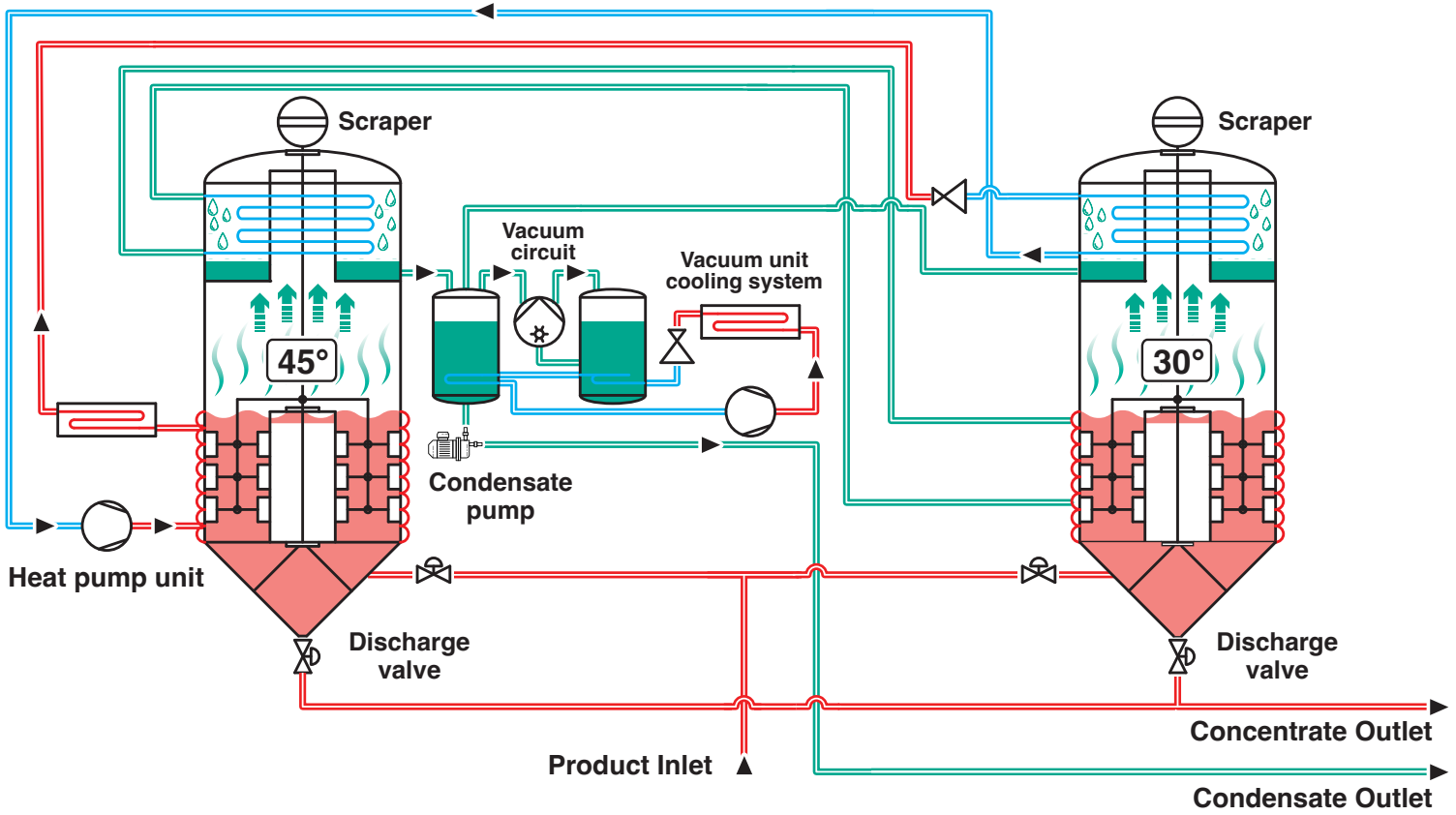
The **HP DE R** evaporators are also equipped with automatic scraper motors that, acting in continuous rotation, guarantee maximum cleanliness of the exchange surfaces inside the boiling boilers.

For this reason, the **HP DE R** evaporators are perfect for the treatment of particularly encrusting products.

These models can be positioned at the top of a skid structure, so that the concentrate can be conveniently discharged by dropping it into big-bag-type containers.

HIGHEST CONCENTRATION FOR EXTREMELY ENCRUSTING PRODUCTS

HP DE R



	HP 200 DE R	HP 250 DE R	HP 300 DE R
Production with water l/24h	4.800	6.000	7.200
Indicative electrical power consumption kWh_{el}	28	30	32
Indicative dimensions (l x w x h) cm	500 x 240 x 300	500 x 240 x 300	500 x 240 x 300

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.



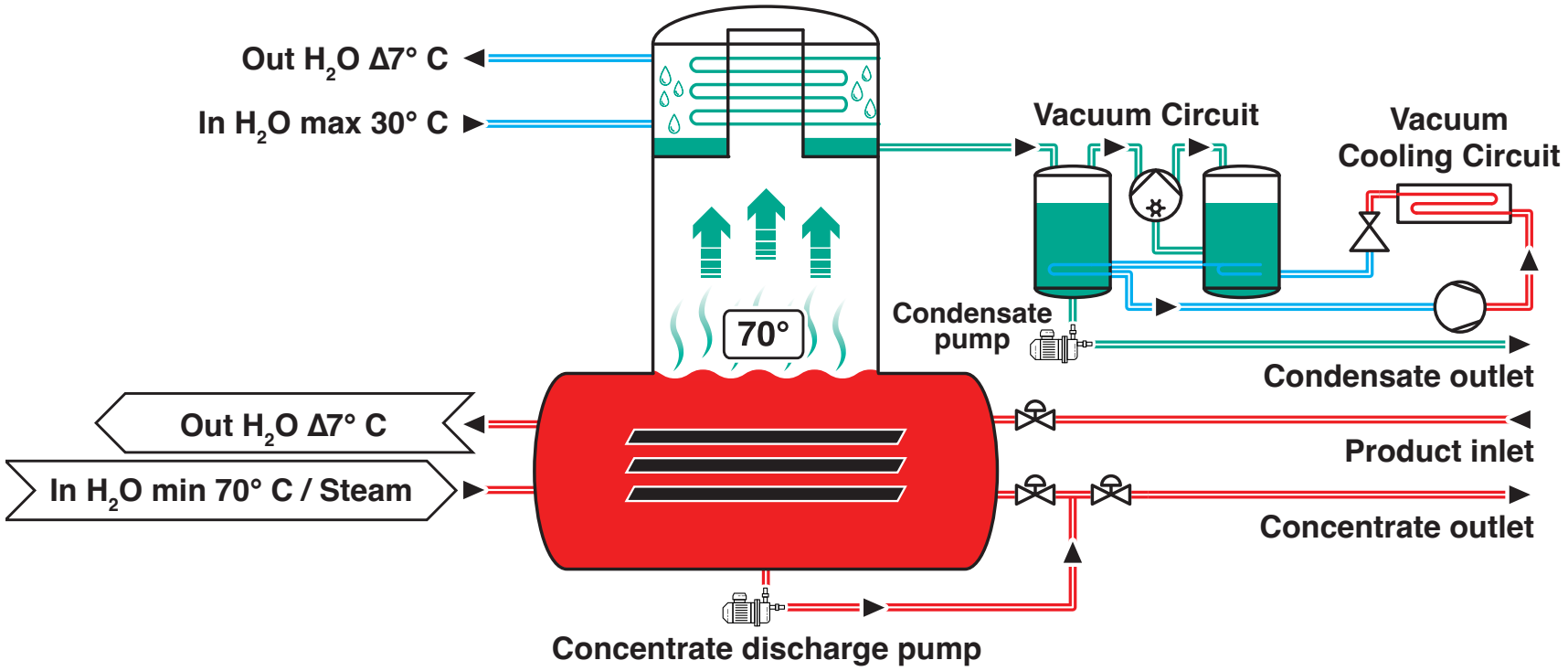
FEATURES COMMON TO ALL HWS ME SERIES EVAPORATORS

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.

HWS ME



	HWS 250 ME L	HWS 500 ME L	HWS 800 ME L	HWS 1000 ME	HWS 1500 ME	HWS 2000 ME	HWS 3000 ME
Production with water l/24h	6.000	12.000	19.000	24.000	36.000	48.000	72.000
Indicative electrical power consumption kWh_{el}	3	3	8	18	27	30	35
Thermal power consumption kWh_{therm} (kcal/h)	175 (150.000)	350 (300.000)	560 (480.000)	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	180 x 230 x 340	240 x 300 x 380	240 x 350 x 380	200 x 450 x 430	240 x 650 x 590	240 x 680 x 550	480 x 600 x 550

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

HWS DE

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

THERMAL ENERGY

REDUCTION OF ENERGY CONSUMPTION
- 50%



FEATURES COMMON TO ALL HWS DE SERIES EVAPORATORS

HIGH CAPACITY, LIMITED INVESTMENTS.

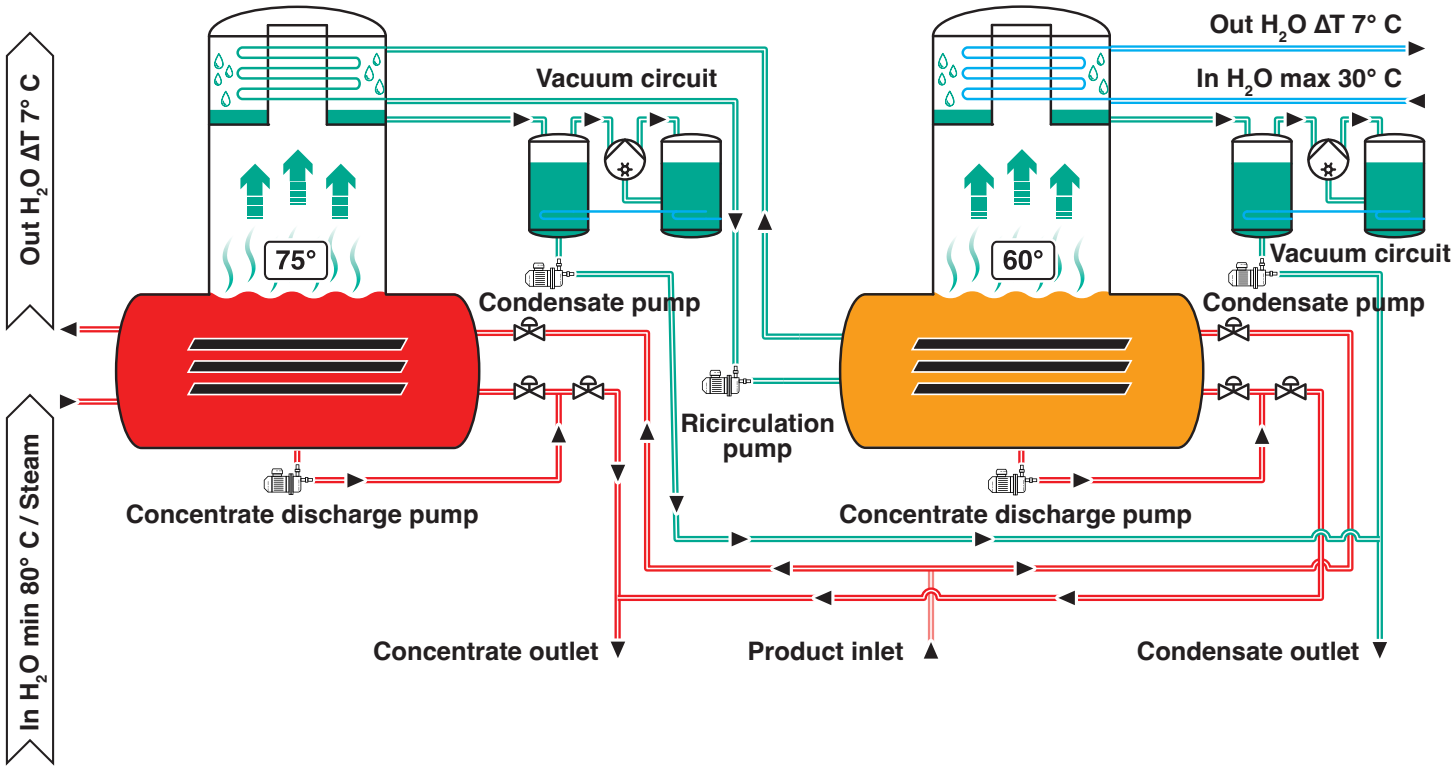
The **HWS DE** series evaporators are energy-efficient systems.

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.

HWS DE



	HWS 500 DE L	HWS 1000 DE L	HWS 1600 DE L	HWS 2000 DE	HWS 3000 DE	HWS 4000 DE	HWS 6000 DE
Production with water l/24h	12.000	24.000	38.000	48.000	72.000	96.000	144.000
Indicative electrical power consumption kWh_{el}	6,5	6,5	15	40	60	70	80
Thermal power consumption kWh_{therm} (kcal/h)	175 (150.000)	350 (300.000)	560 (480.000)	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	350 x 480 x 440	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.

REDUCTION OF ENERGY CONSUMPTION
- 66%



FEATURES COMMON TO ALL HWS TE SERIES EVAPORATORS

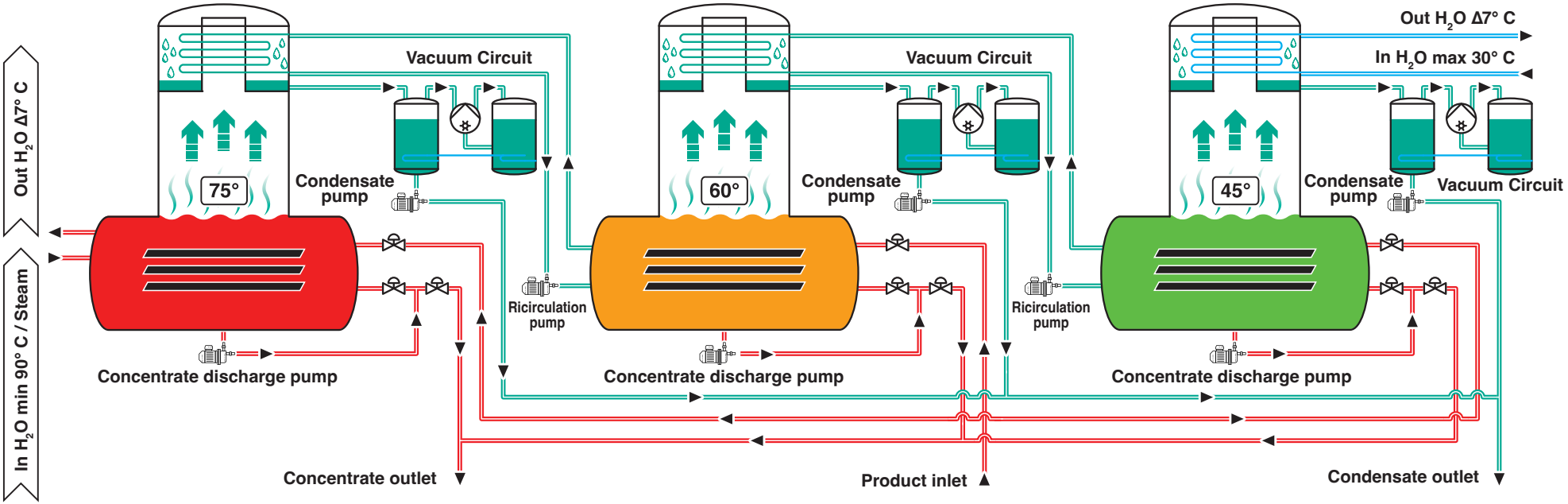
HIGH CAPACITY, MORE LIMITED CONSUMPTION.

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.

HWS TE



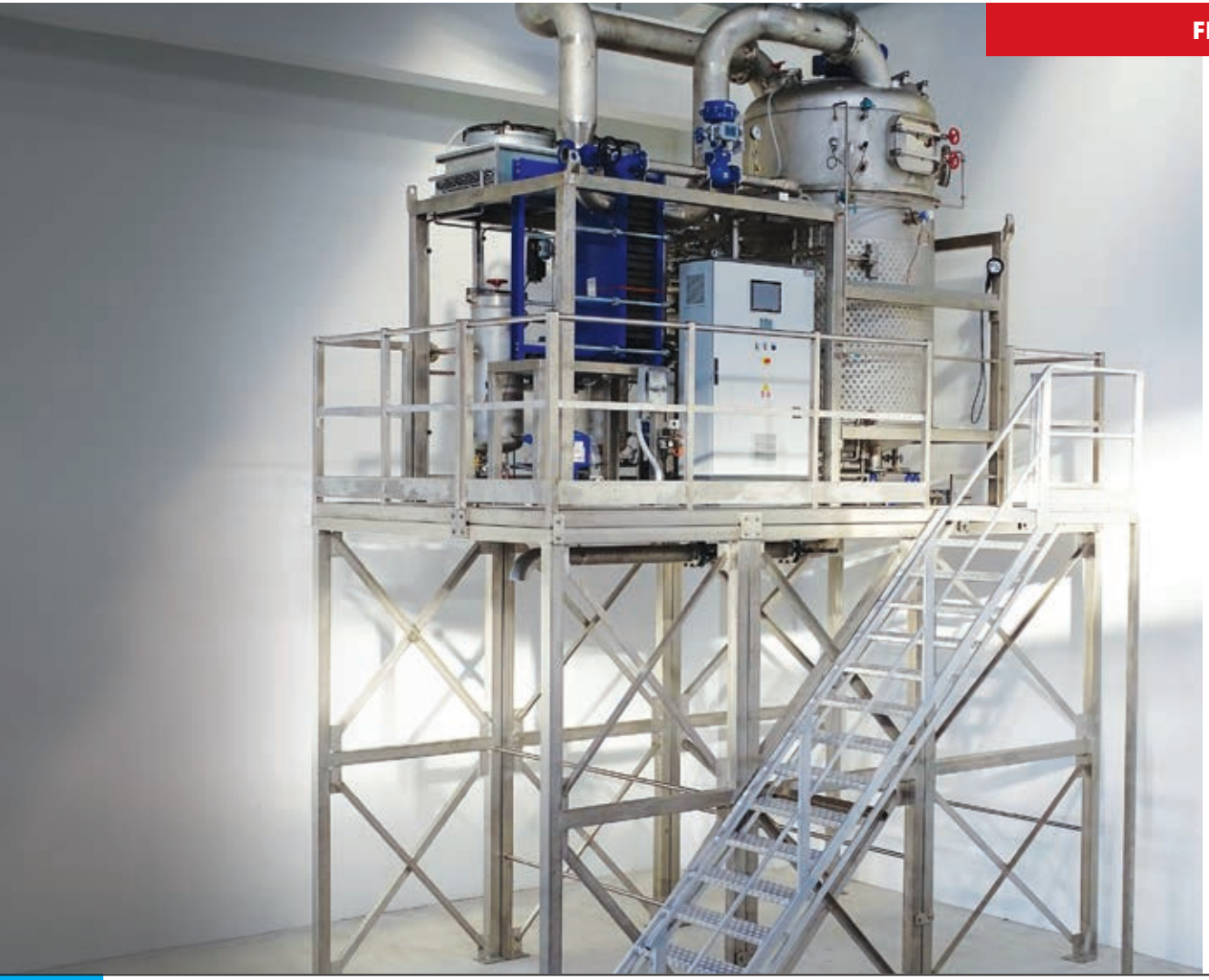
	HWS 750 TE L	HWS 1500 TE L	HWS 2400 TE L	HWS 3000 TE	HWS 4500 TE	HWS 6250 TE	HWS 7500 TE	HWS 9000 TE
Production with water l/24h	18.000	36.000	57.000	72.000	108.000	150.000	180.000	216.000
Indicative electrical power consumption kWh_{el}	10	10	23	77	90	130	140	190
Thermal power consumption kWh_{therm} (kcal/h)	175 (150.000)	350 (300.000)	560 (480.000)	700 (600.000)	1.050 (900.000)	1.460 (1.250.000)	1.750 (1.500.000)	2.095 (1.800.000)
Indicative dimensions (l x w x h) cm	260 x 540 x 340	350 x 600 x 380	350 x 720 x 440	720 x 700 x 540	720 x 700 x 600	1260 x 650 x 560	1260 x 650 x 560	1300 x 650 x 560

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

HWS ME R

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

THERMAL ENERGY



FEATURES COMMON TO ALL HWS ME R SERIES EVAPORATORS

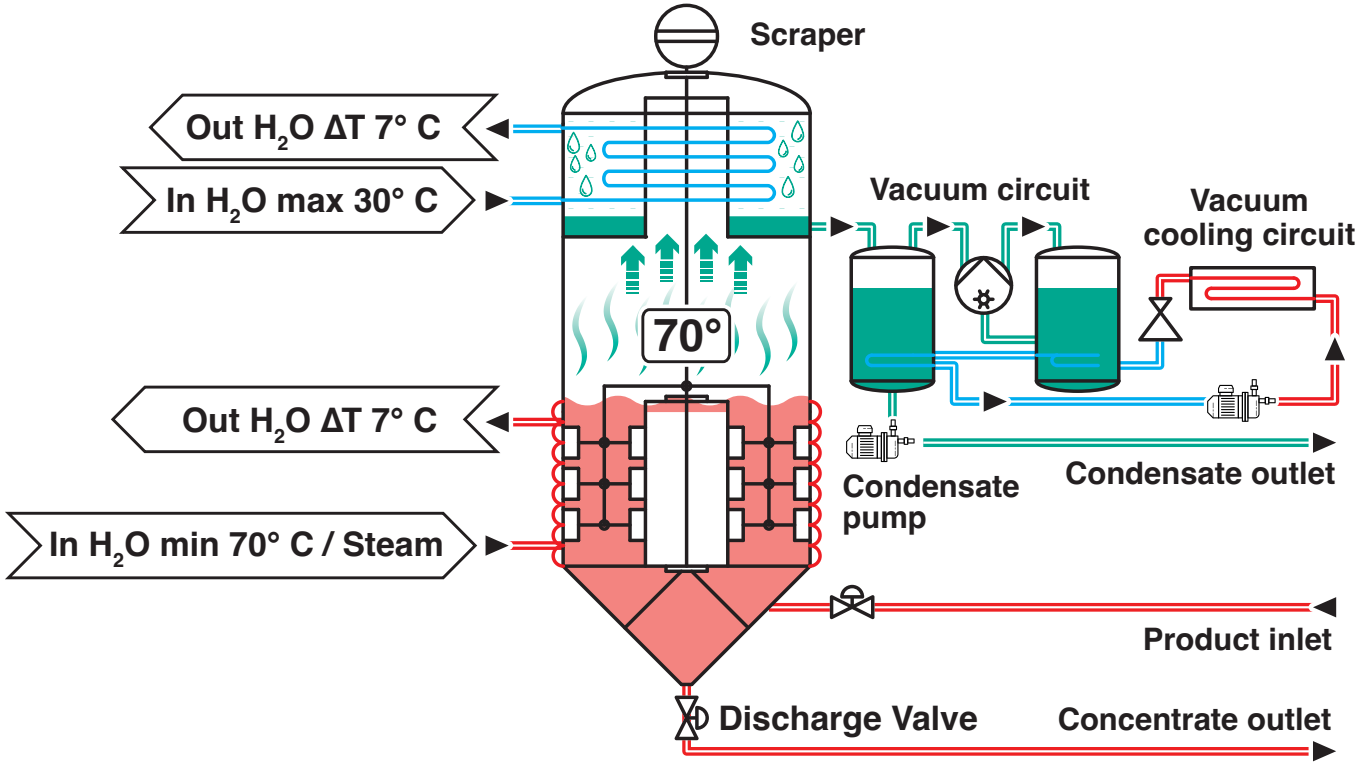
HIGHEST CONCENTRATION FOR EXTREMELY ENCRUSTING PRODUCTS

In the range of evaporation systems powered by thermal energy, the **HWS ME 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.

HWS ME R



	HWS 100 ME R	HWS 200 ME R	HWS 300 ME R	HWS 500 ME R	HWS 840 ME R	HWS 1000 ME R
Production with water l/24h	2.400	4.800	7.200	12.000	20.000	24.000
Indicative electrical power consumption kWh_{el}	7	8	10	12	12,5	15
Thermal power consumption kWh_{therm} (kcal/h)	70 (60.000)	140 (120.000)	210 (180.000)	350 (300.000)	590 (504.000)	698 (600.000)
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	530 x 230 x 400

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

HWS DE R

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

THERMAL ENERGY

REDUCTION OF ENERGY CONSUMPTION
- 50%

FEATURES COMMON TO ALL HWS DE R SERIES EVAPORATORS



HIGHEST CONCENTRATION FOR EXTREMELY ENCRUSTING PRODUCTS

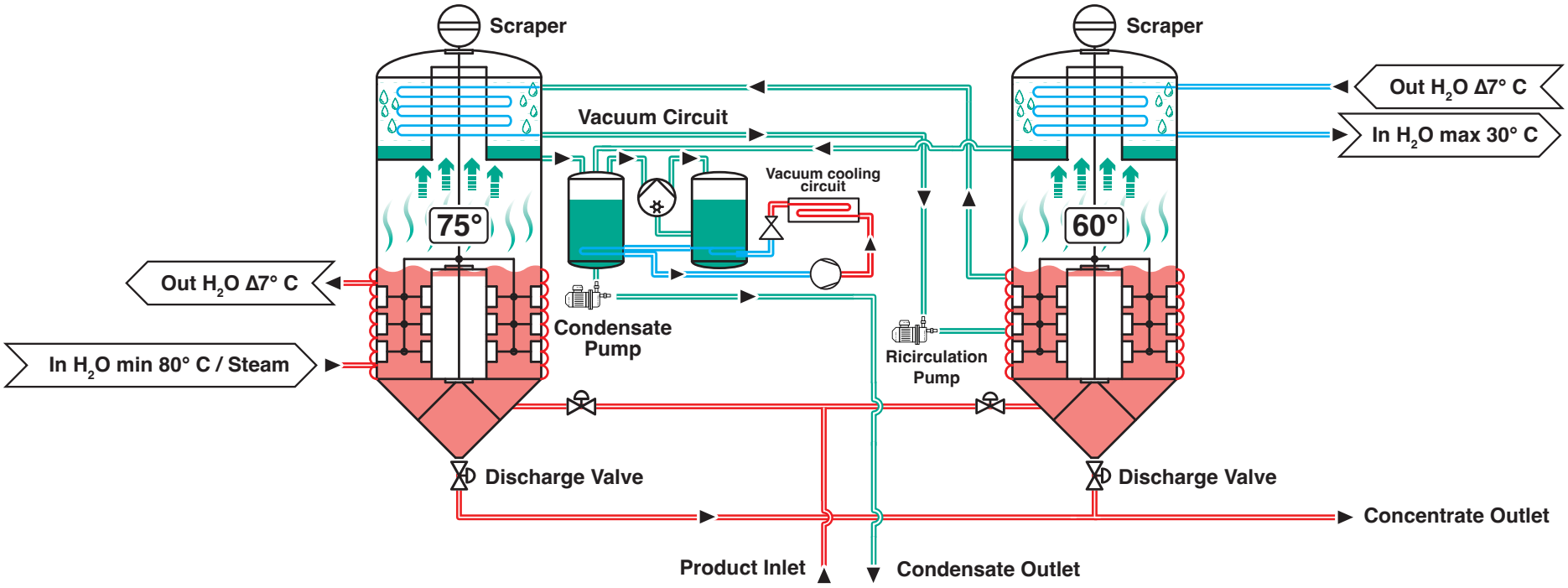
The **HWS DE R** series evaporators achieve a very high density concentrate **with a 50% reduction in energy requirements compared to the corresponding single-acting version.**

Each of the two units is equipped with an automatic scraper motor that keeps the internal surfaces of the boiling boiler clean.

This is a perfect solution for the treatment of effluents characterised by a high degree of fouling capacity.

The final concentrate can be discharged by means of a diaphragm or single screw type pump, or with a skid design in which the evaporators are placed in an elevated position in order to collect the effluent through the bottom discharge valve directly into a crystal separation system.

HWS DE R



	HWS 300 DE R	HWS 500 DE R	HWS 650 DE R	HWS 800 DE R	HWS 1000 DE R	HWS 1500 DE R	HWS 2000 DE R
Production with water l/24h	7.200	12.000	15.600	19.200	24.000	36.000	48.000
Indicative electrical power consumption kWh_{el}	12	15	15	20	22	26	30
Thermal power consumption kWh_{therm} (kcal/h)	105 (90.000)	175 (150.000)	230 (195.000)	280 (240.000)	350 (300.000)	523 (450.000)	700 (600.000)
Indicative dimensions (l x w x h) cm	500 x 400 x 300	500 x 500 x 310	500 x 500 x 370	500 x 500 x 380	500 x 500 x 380	800 x 400 x 350	800 x 400 x 370

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

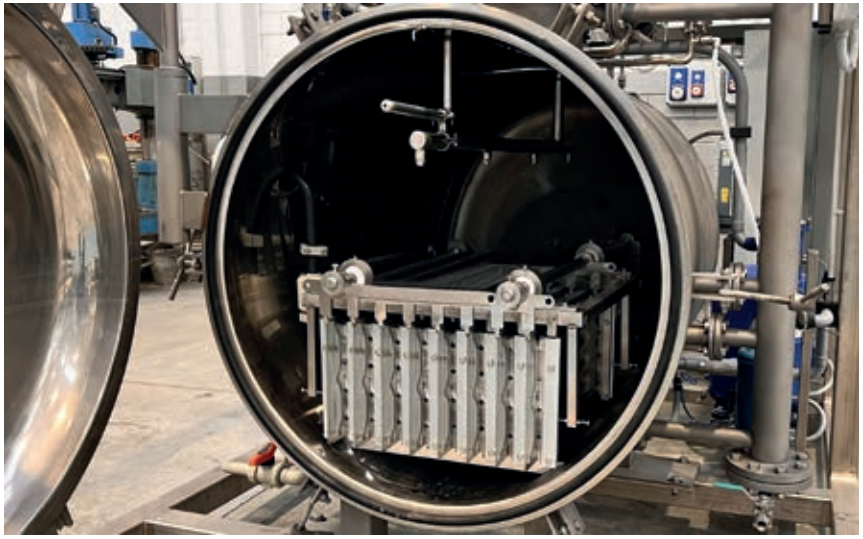
VERSIONI SPECIALI

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.





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.**







EVAPORATORS WITH SILICON CARBIDE FOR HIGHLY CORROSIVE LIQUIDS

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).**









IWE Industrial Water Evaporators

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