FORMECO®
A CLEANTECH COMPANY



VACUUM EVAPORATORS WITH HEAT PUMP

Professional Industrial Ergonomic

Series:
HP-S
HP-R
HP-Cf
HP-Cf 2E

Evaporators - Series HP-S

The HP-S series uses a heat pump system, designed to treat water that does not contain substances that could scale on the surface of the evaporation chamber.
Fully automatic operation controlled by a PLC with a touch screen panel.

IDEAL FOR:
· Oil/water emulsions
· Die-casting
· Industrial degreasing processes

Technical Data Series HP-S

MODEL	10 Opentop	13 Opentop	20	30	50	90	110
kW Installed	4	4	7	7	12,3	29	31
kW Absorbed	1,5	2	3	4,5	7,5	13,5	16,5
Flowrate i/d	240	312	480	720	1200	2160	2640
Dimension i/d	150x85x181h	150x85x181h	183x102x198h	183x102x198h	255x140x215h	270x150x220h	280x150x224h
Weight kg.	500	500	940	950	980	1150	1400

MODEL	130	160	220	250	300	350	500
kW Installed	24	36,6	45,6	50	59,5	69	104
kW Absorbed	19,5	24	33	37,5	45	52,5	75
Flowrate L/d	3120	3840	5280	6000	7200	8400	12000
Dimension cm	280x150x224h	300x200x227h	330x220x247h	330x220x247h	400x200x255h	450x230x260h	520x230x288h
Weight kg	1400	1600	1950	2150	3500	3900	4200

Evaporators - Series HP-R

The HP-R series is extremely versatile and suitable for a wide range of process liquids, particularly those that cause scaling.
Evaporation chamber with internal scraper that prevents residue buildup on its surfaces.

IDEAL FOR:
· Scaling liquids such as paints, inks, salts, etc.
· Requirement for high concentration of process residue

Technical Data Series HP-R

MODEL	10 Opentop	15 Opentop	20 Opentop	30	55	100 Opentop	150 Opentop	200 Opentop	250 Opentop
kW Installed	5	5	7	8	14	31	38	47	57
kW Absorbed	2,2	3,3	3,6	5,4	9,9	18	27	36	45
Flowrate L/d	240	360	480	720	1320	2400	3600	4800	6000
Dimension cm	188x100x210h	188x100x210h	183x84x205h	140x252x220h	255x140x230h	370x150x260h	420x190x290h	500x220x290h	500x220x290h
Weight kg	450	450	450	850	950	2300	3000	3200	3600

Evaporators - Series HP-Cf

The HP-Cf series is a range of heat pump evaporators designed for high daily flow rates. The product under treatment circulates continuously within a high-efficiency expansion chamber.
When higher concentrations are required, these units can be combined with the evaporators of the HP-R series.

IDEAL FOR:
· Die-casting
· Industrial degreasing processes
· High daily quantities

Technical Data Series HP-Cf

MODEL	100	150	200	250	300
kW Installed	23	38	49	54,4	66
kW Absorbed	17	26	34	43	51
Flowrate L/d	2400	3600	4800	6000	7200
Dimension cm	250x175x225h	260x200x225h	260x200x225h	370x210x225h	370x210x225h
Weight kg	1900	2000	2300	2400	2700

MODEL	350	400	500	700	850
kW Installed	72	90	112	150	180
kW Absorbed	60	68	85	119	145
Flowrate L/d	8400	9600	12000	16800	20400
Dimension cm	450x220x225h	450x220x225h	510x220x225h	510x230x240h	520x230x350h
Weight kg	2800	2900	3000	3400	4000

Evaporators - Series HP-Cf 2E

The HP-Cf 2E series is a range of heat pump evaporators designed for high flow rates. The product under treatment circulates continuously within a high-efficiency expansion chamber. These units are equipped with two evaporation chambers (effects) that operate in series. Different vacuum levels in each chamber allow for different evaporation temperatures.
This results in energy savings of up to 40% compared to a single-effect unit. When higher concentrations are required, these units can be combined with the units of the HP-R series.

IDEAL FOR:
· Die-casting
· Industrial degreasing processes
· High daily quantities

Technical Data Series HP-Cf 2E

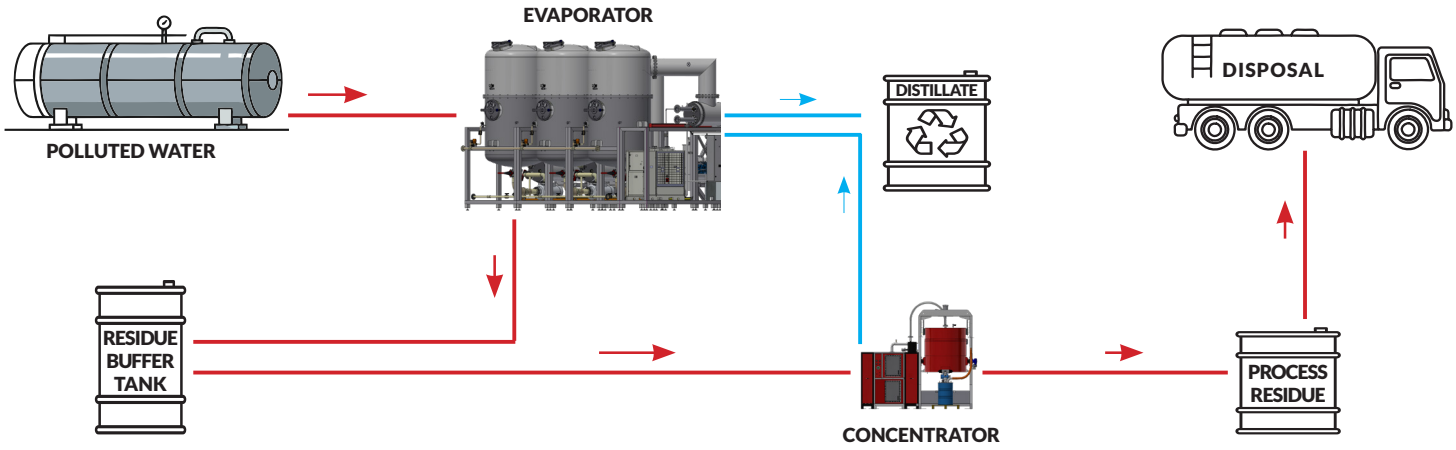
MODEL	280	350	500	850
kW Installed	47	55	72	132
kW Absorbed	30,8	38,5	55	93,5
Flowrate L/d	6720	8400	12000	20400
Dimension cm	380x240x240h	400x240x249h	480x238x270h	542x240x293h
Weight kg	3050	3200	5700	6500

MODEL	1100	1250	1400	1800	2200
kW Installed	168	195	220	290	370
kW Absorbed	121	137,5	154	198	242
Flowrate L/d	26400	30000	33600	43200	52800
Dimension cm	550x220x350h	550x220x370h	550x250x370h	700x350x400h	700x410x450h
Weight kg	7500	8000	8500	10000	14000

ZLD - Zero Liquid Discharge

The term Zero Liquid Discharge (ZLD) refers to a water treatment system in which no wastewater is released into the environment. All incoming water is recovered and reused, and the concentrated solid residues are separated and safely disposed of.

ZERO LIQUID DISCHARGE
Process Flow



HOW A VACUUM EVAPORATOR CAN SOLVE THE PROBLEM

01

Influent of contaminated wastewater

These can include oily emulsions, heavy metals, inks, paints, cutting fluids, process wash waters, etc... essentially any industrial effluent.

02

Vacuum unit

The pressure is reduced to create a high vacuum. The boiling point of water drops to only 35–50 °C, allowing for enormous energy savings compared to conventional boiling.

03

Heat Pump / Steam Heating

The integrated heat pump, or an external steam/hot water stream, evaporates the water. The heat pump reuses the condensation energy, providing both heating and cooling in a single circuit.

04

OUTGOING Distillate + Concentrate

Up to 98% is recovered as clean distilled water, ready for reuse in production. Contaminants are reduced to a concentrated residue for low-cost disposal.

Distillation is the only technology that completely separates water from all contaminants (suspended solids, heavy metals, oils, inks, salts, bacteria) in a single step.
Unlike reverse osmosis (RO) or biological treatments, it does not become 'clogged' or compromised by the treated effluent.

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