

KLC Evaporator

# KLC-MASTER Line

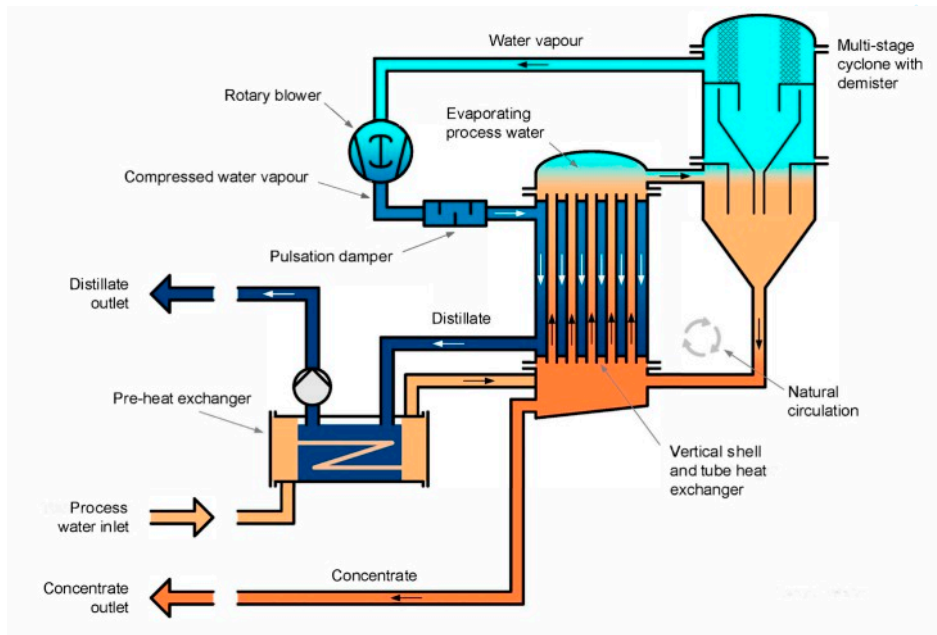
Vacuum distillation with modular design



## Treatment of process water by extraction of best quality distillate reducing disposal cost

The KLC-MASTER Line is the new generation of KLC evaporators for high-quality treatment of industrial process water. Powerful and efficient components are installed in the smallest possible space, which decisively improve distillate quality and significantly reduce energy consumption. The new modular design allows the KLC-MASTER Line to be customized to meet the requirements of a wide range of process water types. With additional configurations, even the most difficult process waters can be treated. At the same time, the concentration factor is increased and best distillate quality is achieved. This modular, customer-specific design maximizes availability and reduces life cycle cost. By reusing the distillate, it is possible to achieve a closed circuit water management that conserves resources and achieves the highest environmental standards. With this innovative design a Zero Liquid Discharge Production is possible.

### Functional principle



### Special features

- Optimized to treat a wider range of the most difficult process waters covering all applications producing emulsion/oil and salt containing process waters
- Proven optimum values for distillate quality by optimised design without usage of additional upstream and downstream treatment of the process water
- Higher concentration of the concentrate by adjustable natural forced evaporation
- Reduced footprint and installation space due to compact design and optimized service access
- Cost savings due to lower residual disposal quantity
- Fully automated cleaning system reduces service times and ensures maximum user-friendliness
- Significant reduction of operating and lifecycle costs
- Modular design for customized assembly of additional kits
- Latest control system, intuitive operation und easy handling of the machine visualization



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## Technical data metric and US-equivalents

Type of model	Capacity <sup>1</sup> [l/h]	Capacity per year <sup>2,4</sup> [m <sup>3</sup> ] (7000 h/a)	Installed power [kW]	Energy consumption <sup>3,4</sup> [kWh/m <sup>3</sup> ] starting from	Weight empty [kg]	Dimensions L x W x H [mm]
KLC-MASTER Line 250 NC	250	1750	33	50	3000	2760 x 1430 x 2500
KLC-MASTER Line 300 NC	300	2100	33	50	3000	2760 x 1430 x 2500
KLC-MASTER Line 350 NC	350	2450	40	50	3200	2760 x 1430 x 2500
KLC-MASTER Line 400 NC	400	2800	40	50	3200	2760 x 1430 x 2500
KLC-MASTER Line 500 NC	500	3500	70	40	4250	3570 x 1920 x 3510
KLC-MASTER Line 800 NC	800	5600	70	40	4250	3570 x 1920 x 3510
KLC-MASTER Line 1000 NC	1000	7000	100	35	7000	4500 x 2400 x 3550
KLC-MASTER Line 1400 NC	1400	9800	120	35	7000	4500 x 2400 x 3550
KLC-MASTER Line 1800 NC	1800	12600	120	35	7000	4500 x 2400 x 3550

<sup>1</sup> City water hardness <10° dH, inlet temperature >15°C (59°F)

<sup>2</sup> with 7000 operation hours per year with city water (6 days/ 50 weeks)

<sup>3</sup> Values refer to a machine at operating temperature

<sup>4</sup> Data for particular process waters are determined in customer specific calculations

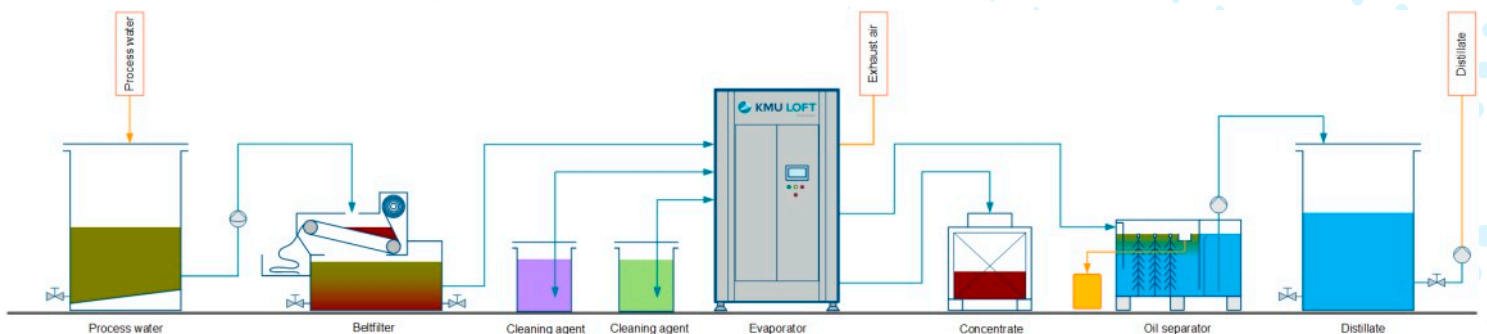
### Additional configurations

- KLC- Q-KIT (Quality) : Integrated oil separation, increased distillate quality
- KLC- V-KIT (Vapour) : Reduction of exhaust amount and odour nuisance
- KLC- E-KIT (Energy) : Energy saving through increased heat recovery

### Excellent quality of the distillate

- Reduction compared to input value:
- Conductivity [ $\mu\text{S}/\text{cm}$ ] up to 99%
- Chemical oxygen demand COD [ $\text{mg}/\text{IO}_2$ ] up to 99%
- Hydrocarbons HC [ $\text{mg}/\text{l}$ ] up to 98%

## Example process flow diagram



### Especially suitable for the following process waters:

- Process water from manufacturing and production processes from a wide variety of industrial sectors
- Wash water and cleaning water
- Rinse water and active baths
- Moderately radioactive water
- Water containing separating agents and glycol
- Landfill leachate, mine water
- Water containing reusable materials, recycling

### Authorized distributor in Poland:

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