KMU LOFT
Cleanwater

KLC Evaporator

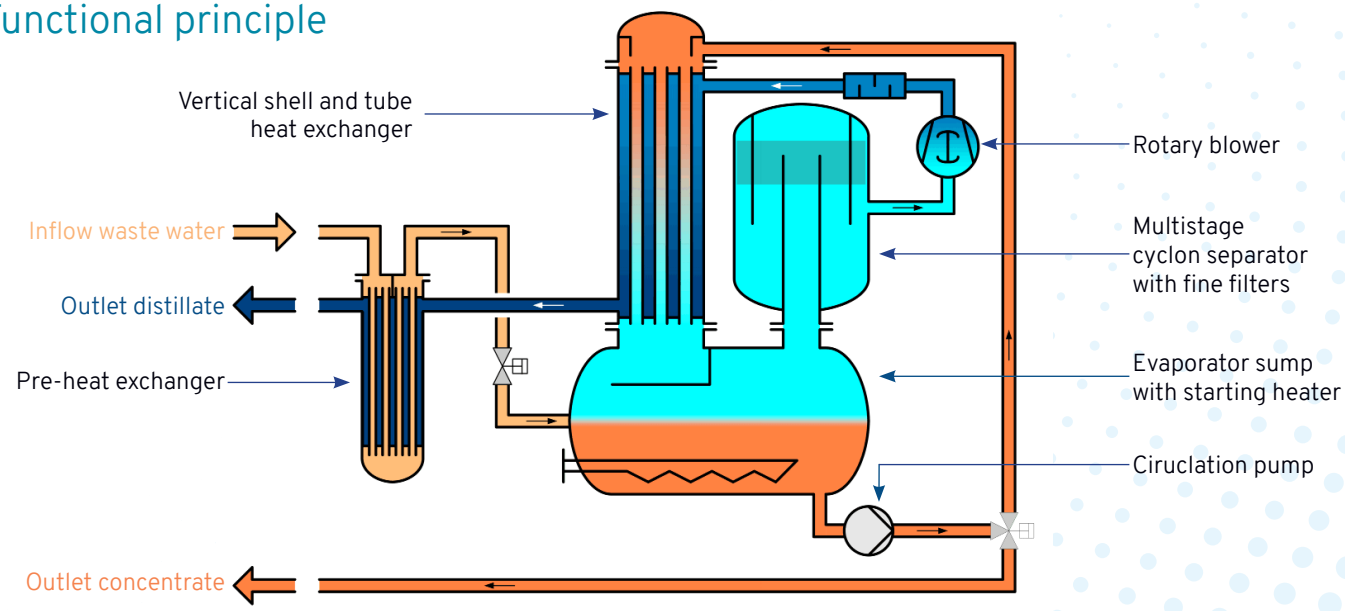
PROWADEST®/1

Vacuum distillation with falling film/
forced circulation and vapor compression

The efficient treatment of waste water

The circulation pump continuously feeds the waste water from the sump of the evaporator to the top of the falling-film evaporator/condenser. From there a film of waste water flows down the tube walls and evaporates. Within the tubes, the amount of steam increases continually, thus boosting the flow speed. This turbulent flow provides optimal heat transfer and ensures the self-cleaning effect. Any waste water left flows back into the evaporator sump. Entrained water droplets and aerosols are retained before the rotary blower by a multi-stage centrifugal separator and flow back into the evaporator sump. The vapour, compressed by the rotary blower, condenses on the shell side, transferring heat to the evaporating waste water on the tubes side. The hot distillate flows through the pre-heater/heat exchanger and again heat is transferred to the inflowing waste water.

Functional principle



Technical features

- Very well suited for foaming waste waters
- Foam destruction due to high flow rate
- High and constant flow rate prevents deposits in the tube bundle
- Lower energy consumption due to closed heat circuit
- Interior is divided into hot and cold zones; prolonging operating life
- Effective automatic CIP provides high availability
- Compactly constructed machine with optimum accessibility
- Processing is carried out by the state-of-the-art and very user friendly PLC
- Optional with “Best Dest” technology for best quality of the distillate
- Various materials available for construction

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Vacuum distillation with falling down/ forced circulation and vapor compression

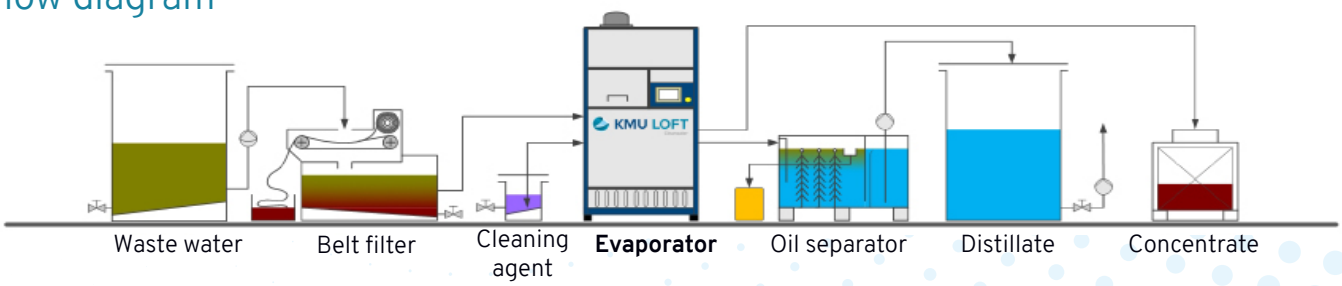
Technical data

Type of plant	P 30	P 40	P 60	P 90	P 120	P 160	P 200	P 240	P 300	P 350	P 400
Capacity per year [m³]*	180	240	360	540	720	960	1200	1440	1800	2100	2400
Installed power [kW]	9		10	17	22		27	32	36	45	
Weight transportation/operation approx. ca. [kg]	600/670	620/690	650/720	700/770	920/1060	960/1100	1200/1360	1450/1700	1500/1750	1600/1850	1770/2020
Dimensions L x W x H [mm]	1790x920x2180				2160x1280x2320			2346x1548x2499			
Energy consumption [kWh/m³]	~ 80 - 90		~ 75 - 85		~ 65 - 75		~ 60 - 70		~ 55 - 65		

Type of plant	P 500	P 600	P 800	P 1000	P 1200	P 1500	P 2000	P 2500
Capacity per year [m³]*	3000	3600	4800	6000	7200	9000	12000	15000
Installed power [kW]	94			124		140	187	224
Weight transportation/operation approx. ca. [kg]	4000/4950			5500/6700			7200/8800	9500/11600
Dimensions L x W x H [mm]	3342x2100x2759			3551x2390x3301			4002x2450x3560	4002x2900x3890
Energy consumption [kWh/m³]	~ 40 - 50			~ 30 - 40				

* These data are based on city water and can differ due to different types of waste water.

Flow diagram



Treatment of waste water such as

- Rinse and active baths from surface treatment
- Emulsions (coolants and lubricants)
- Washing and cleaning waste waters
- Waste water with release agents
- Rinse water from crack detection systems
- Penetrants
- Galvanic waste waters

More information about KLC PROWADEST®

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