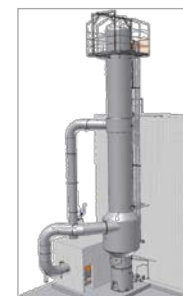


PRODUCTS & SERVICES



EPCON EVAPORATION TECHNOLOGY AS

EVAPORATORS – DRYERS – DISTILLATION & DEHYDRATION – HEAT RECOVERY SYSTEMS
ENGINEERING AND AFTERSALES SERVICES

Clients in focus

EPCON Evaporation Technology AS provides highly energy efficient process solutions. By choosing EPCON technologies, the clients will achieve a minimal CO₂ foot print from their processes. By choosing EPCON as a preferred supplier, the clients are ensured access to energy efficient thermal separation processes and thereby maintain and improve their environmental profile.

EPCON recognizes the development of expertise as an important factor in being able to understand the customer's needs and to provide optimal solutions. EPCON's flexible organization is an important basis for succeeding in this mission, and is highly appreciated by our clients.

Products

EPCON supplies process plants for separating different types of fluids or fluids from solid material, based on the principles of evaporation, distillation and drying. EPCON has developed unique energy efficient technical solutions for a number of separation and purification processes.

Energy saving

EPCON's core competence is energy utilization in evaporation, distillation and drying processes for a number of applications and industries. Energy savings of 80-98% are normally achieved, within a very favorable investment pay-back time





EPCON staff
at our office in
Trondheim.

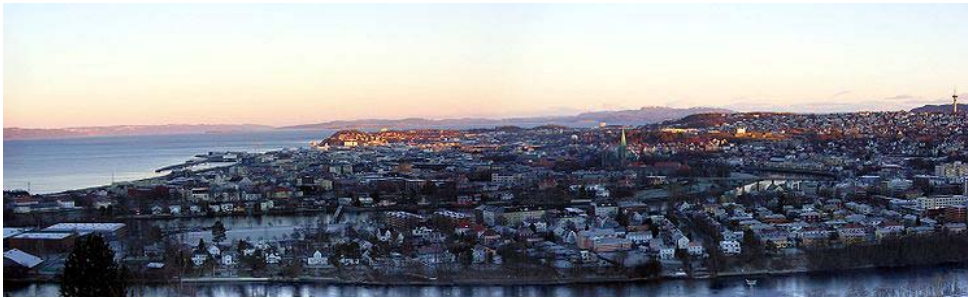
From left:
Carl Ivar
Martin
Jørgen
Kjetil
Asbjørg
Bård
Geir

Our customers and markets

EPCON's customers are national and international industrial companies. Our process technology is used in the food industry, dairy industry, mineral industry, wood processing industry, chemical industry, biofuel industry, in the production of marine products, and for treating industrial process- and waste water.

Located in the city of Trondheim, Norway

EPCON is located in the city of Trondheim in the middle part of Norway. Trondheim is internationally well known as a centre for technology, mainly due to the location of the renowned Norwegian University of Science and Technology, NTNU, in the city. SINTEF, the largest independent research organization in Scandinavia, is also located in Trondheim.



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About EPCON

With its history going back to 1986, EPCON Evaporation Technology AS is a technology company with high theoretical and practical competence. Our staff has backgrounds in thermal and heat pump process engineering, construction and mechanical engineering, chemistry and material technology. This gives EPCON a multidisciplinary line-up, with long term experience and references from several industries.

Scope of supply

EPCON is flexible regarding the scope of supply. EPCON can deliver any scope from component deliveries to turn key thermal separation plants.

Our vision:

EPCON Evaporation Technology AS shall be a leading international supplier of energy efficient thermal separation technology. This technology shall provide valuable products and energy savings for our customers.

MARKETS AND APPLICATIONS

EPCON products are used in a wide range of applications within a number of markets and industries.

The typical application for EPCON has product quality, reliable production and energy saving as important success criteria.

EPCONs thermal separation technologies enables our clients to:

- Transform a low valuable liquid into a high valuable product
- Enhance the quality or the stability of a product by dewatering, i.e. increase the concentration of the product
- Concentrate a liquid upstream further processing or final drying step
- Reduce the volume of a liquid and hence minimize its handling costs
- Reduce the volume of wastewater streams to minimize further handling costs
- Simplify the recovery of valuable substances from a pre-concentrated liquid
- Purify water condensation of the vapour to meet requirements for water discharge or reuse
- Recover and / or concentrate solvents and alcohols
- Dewatering of for instance bioethanol and isopropanol



Refer the separate application brochures for more detailed information.

Food- and dairy industry

Some successful applications:

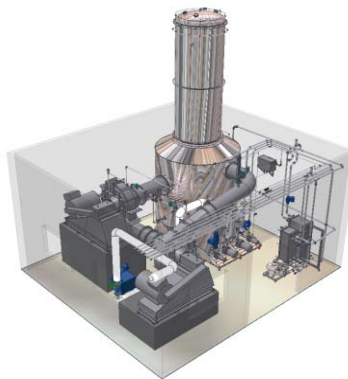
- brown cheese and other milk products
- sweetener and sugar products
- protein extracts and amino acids
- pharmaceutical chemicals
- juice dewatering



Case study:

Production of brown cheese (sweet cheese) at a Norwegian dairy:

- New production facilities in 2003
- Localised in western part of Norway
- FFE-MVR Evaporator from EPCON



Evaporated mass	7000 kg/h
Feed / concentrate	15 / 58 %DS
Total power cons.	244 kW
Energy savings	95 %



Biomarine industry

Some successful applications:

- stick water
- marine protein extracts
- hydrolyzed marine proteins
- enzymated marine proteins
- algae extracts



Case study:

Production of protein concentrates based on off-cuts from processing of salmon:

- Production started in 2002
- Located outside Bergen, Norway
- FFE-MVR Evaporator from EPCON



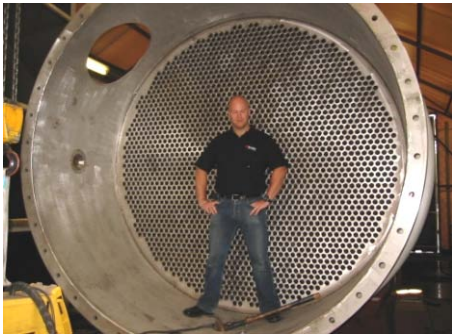
Evaporated mass	5000 kg/h
Feed / concentrate	10 / 67 %DS
Total power cons.	160 kW
Energy savings	95 %



Metallurgical industry

Some successful applications:

- mineral slurries
- recycling of sawing slurry for wafers
- wastewater streams
- utilizing waste energy streams



EPCON FFE evaporator at fabrication.

Chemical industry

Some successful applications:

- recovery of solvents
- ethanol, methanol and IPA
- cleaning liquid for fishing nets
- utilizing waste energy streams



Biofuel industry

Some successful applications:

- bioethanol distillation
- bioethanol dehydration
- stillage evaporation
- solvent recovery biodiesel process
- biodiesel dewatering



EPCON skid mounted biodiesel evaporator.



Biogas reject water treatment

Successful application:

- reject water in pig manure biogas plant

EPCON process is based on unique combination of MVR evaporation, stripping and condensate purification.



Starch industry

Some successful applications:

- Concentration of corn steep liquid
- Concentration of barley steep liquid
- Concentration of Corn syrup
- Dewatering of potato waste water



Wastewater treatment

Some successful applications:

- Dewatering of industrial wastewater
- Dewatering of municipal wastewater

Very low energy consumption with MVR could be obtained, and even below 10 kWh per ton evaporated water. This mean energy saving versus direct steam of 98.5 - 99%.

Case study

Wastewater treatment at Hoff Norske Potetindustrier BA.

- Low capacity of the existing biological treatment plant
- Physical restrictions for expanding the treatment plant
- Need for removal of phosphorus from the discharge
- Expensive sludge handling



Falling Film Evap.	MVR, 3 stage
Evaporated mass	33000 kg/h
Total power cons.	396 kW
Energy savings	98 %

ENERGY SUPPLY

EPCONs core competence is energy utilization in evaporation, distillation and drying processes for a number of applications and industries. Energy savings of 60-98% are normally achieved, within a very favorable investment pay-back time.

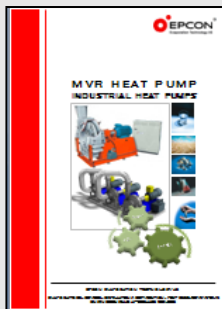
MVR

MVR or Mechanical Vapour Recompression is a technology where the vapour is compressed in a fan or a compressor to a higher temperature and pressure. This compressed vapour is then used as energy source instead of boiler steam.

Most of the products delivered by EPCON are based on MVR technology. EPCON has more than 20 years experience within MVR technology.



Different type of MVR machinery used in EPCON plants.



Refer the EPCON separate MVR heat pump brochure for further information.

Energy supply

All evaporators need an energy supply. EPCON designs evaporators that ensure our customers the optimal energy solution.

Direct steam

When using direct steam, one kilo of live steam is required to remove one kilo of water in the evaporator. This method is only used in cases where there are large quantities of surplus energy (steam or hot water). Typical energy consumption is 750 Wh/kg evaporated water.

Multiple effect

By connecting a number of evaporators in a series and allowing the vapour to cascade in multiple effects, energy consumption can be reduced substantially. However, investment costs will increase. This method may be preferred when limited amount of surplus energy (steam or hot water) is available. Evaporation in this case depends on a supply of energy holding a temperature around 80-100°C. Typical energy consumption if using four evaporators in a series is approximately 195 Wh/kg evaporated water.

TVR (Thermal Vapour Recompression)

By using a steam jet ejector the energy consumption can be reduced without a corresponding increase in investment costs. This technology is often used when old evaporators are upgraded. Evaporation in this case requires live steam at around 5-8 barG. Typical energy consumption is 375 Wh/kg evaporated water.

MVR (Mechanical Vapour recompression)

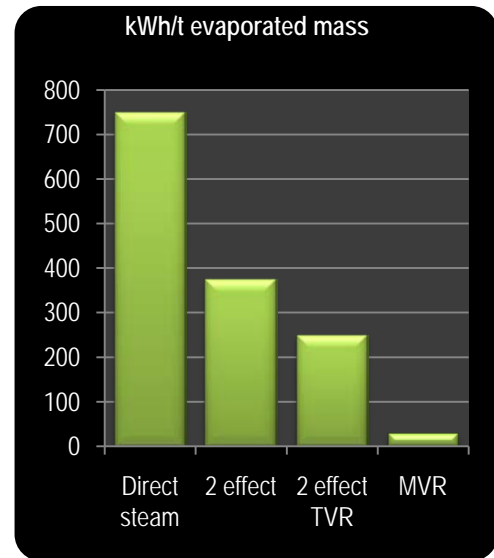
MVR is used in most of EPCONs plants. This method is used when there is an inadequate amount of surplus live steam.

A vapour fan or compressor compresses the vapour to a higher pressure and temperature, the vapour condenses and transfers the heat back to the boiling liquid. The fans are normally electrically powered. This method saves a substantial amount of energy and may yield savings of more than 98% of energy consumption compared to direct steam.

Typical energy consumption is:

- Falling film evaporator: 10-35 Wh/kg water
- Flash evaporator: 30-40 Wh/kg water

With MVR technology, an evaporator plant supplied by EPCON for industrial waste water treatment, will typically have an energy consumption of approximately 10-15 Wh/kg water and even lower in certain cases.



MVR fans in an EPCON evaporator

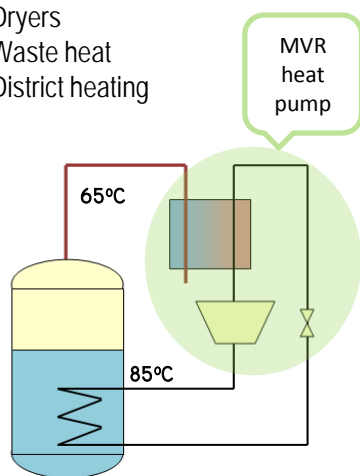
MVR heat pumps

EPCON MVR heat pumps are used in both revamp of existing thermal process plants and in more traditional waste heat recovery applications.

Applications & Characteristics:

Suitable applications for EPCON MVR heat pumps are:

- Evaporators
- Multiple effect evaporators
- Distillation columns
- Reactors
- Boilers
- Dryers
- Waste heat
- District heating



Example of indirect MVR heat pump in revamp of existing plant.

The typical characteristics for MVR heat pumps are:

- Heat output 200 kW to >100 MW
- Energy source temp: 40-150°C
- Temperature rise: 5-30°C
- Typical COP: 5-80
- Simple maintenance
- No steam or cooling water required
- Flexible capacity control
- ATEX available
- Tailormade solutions

Highlights:

- Wide application range not covered by traditional heat pumps
- Suitable for implementation in existing processes
- Direct or indirect systems
- High Coefficient Of Performance
- EPCON provide well proven and robust MVR heat pump technology

Thermo panels

Type: Process-Therm

Design

Process-Therm is an air/water heat-exchanger, designed to handle dust laden exhaust air. Process-Therm is provided with a CIP-system, which is a cleaning system for heat transfer surfaces. A water washing system using a spray nozzle arrangement is located directly above the thermal plates. Water is injected between the gaps of the plates at high pressure. Cleaning process can be executed without interruption of the production process. The well proven Process-Therm system gives a short pay-back time.

Fields of application

All processes with large amounts of dusty exhaust gases provide good applications for Process-Therm.

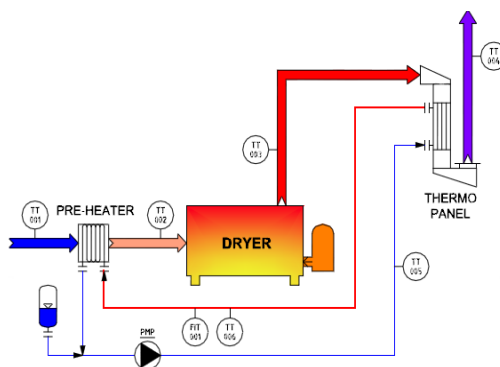
Examples are found in the:

- Food processing industry
- Chemical industry
- Wood and paper industry
- Textile industry
- Mineral industry
- Biomarine industry

Example:

Typical application for thermo panels is preheating of dryer inlet air (refer sketch showing principle below).

However, thermo panels can also be used in a wide range of other applications as mentioned.



ENERGY- / HEAT RECOVERY

EPCON supplies heat recovery systems utilizing waste energy from existing processes, e.g. evaporators, multiple effect evaporators, dryers, distillation units, reactors and other suitable energy sources. EPCON provides tailor made solutions with favorable investment pay-back time.

EPCONs has long experience with MVR in evaporation processes, which in principle is a highly efficient heat pump applied directly in process vapor.

In the last decade EPCON has adapted the MVR heat pumps for implementation in existing thermal processes, and can today provide optimal direct or indirect MVR heat pump solutions for a number of existing applications where a certain temperature lift is needed to reuse the thermal energy.

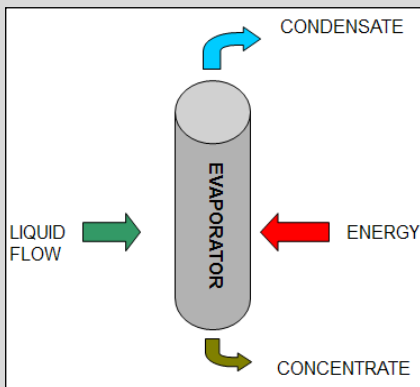
The thermo panels are a well proven technology, and could be utilized in combination with either EPCON MVR heat pump or EPCON Modular Heat Pump (MHP) system.



Modular Heat Pump used for instance in heat recovery systems with thermo panel.

EVAPORATORS

Evaporation is a thermal separation method dividing a flow of liquid into two phases, condensate and concentrate. The amount of concentrate versus feed liquid stream depends upon dry matter in the same streams. In most cases the condensate will be very clean distilled water. An evaporator requires a concentrate that can be pumped. If preferred, the concentrate can be dried into a powder after the evaporation process.



MVR

Most of the evaporators proposed and delivered by EPCON have energy system based on MVR technology, which normally provides an energy saving in the range of 80-98%.



Refer the EPCON separate evaporator brochures for further information.

Combined system

EPCON always designs evaporation plants especially adapted to the various liquids being used. Analyses and tests in pilot facilities establish the properties of the liquid. This information is used to determine the facility's design. A number of evaporation techniques are often combined in the same plant. One plant may therefore consist of one or several falling film evaporators, flash evaporators and flash coolers.

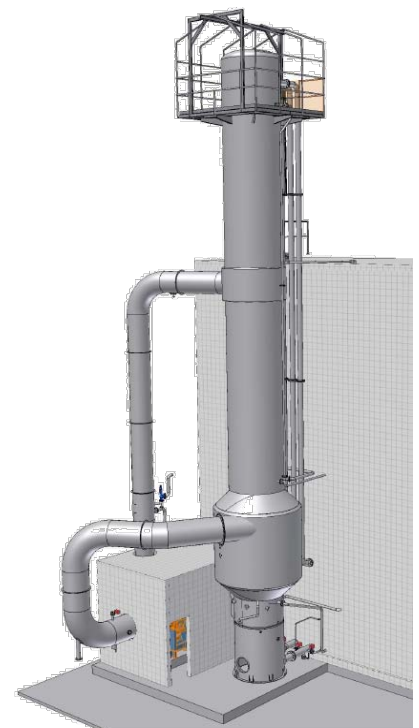


Combined falling film and forced circulation MVR evaporator.

Falling film evaporators

Falling film evaporation is one of the most cost-efficient and energy-saving evaporation method.

In a falling film evaporator the liquid to be evaporated is fed into the top section of a heating surface. The liquid falls down the heating tubes as a film, and as energy is added from the outside, the water in the film is evaporated by a boiling process. Thus the concentration of dry solids in the liquid increases and the concentrate is collected in the bottom before being pumped out of the plant.



Applications:

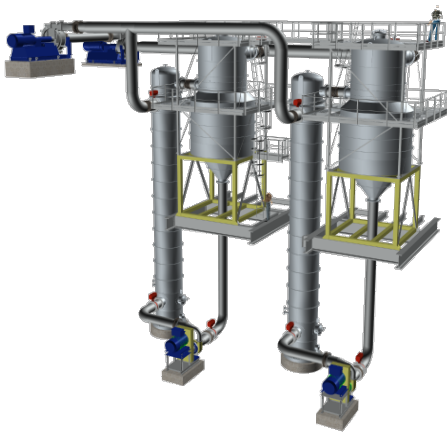
Typical areas of application for falling film plants include liquids with low to medium viscosity which are not prone to burning and sticking to the heating surface. These include:

- Milk and other dairy products
- Marine extracts
- Industrial wastewater
- Mineral industry
- Chemical liquids

Flash evaporators

Flash evaporation is used to concentrate liquids with a high content of dry solids, high viscosity, or for liquids which have a high tendency to form precipitates in other evaporator types.

There is no boiling in direct contact with the heating surface in a flash evaporator, only careful heating at controlled liquid flow rates. The heated liquid is fed into a chamber where the lower pressure causes the liquid to emit vapour. This reduces the risk of incrustation, increases the plant's operation time and reduces or eliminates the need for cleaning.



Applications

Typical areas of application include high-viscosity liquids that are prone to burning and sticking:

- Viscous marine extracts
- Final concentrates of wastewater
- Mineral industry
- Viscous liquids in chemical industry

Climbing film evaporators

In a climbing film evaporator the liquid boils while being transported up a heated surface. Evaporation can take place in a special tube heat exchanger, alternatively in a plate heat exchanger. External energy is supplied to the boiling tubes or plates.



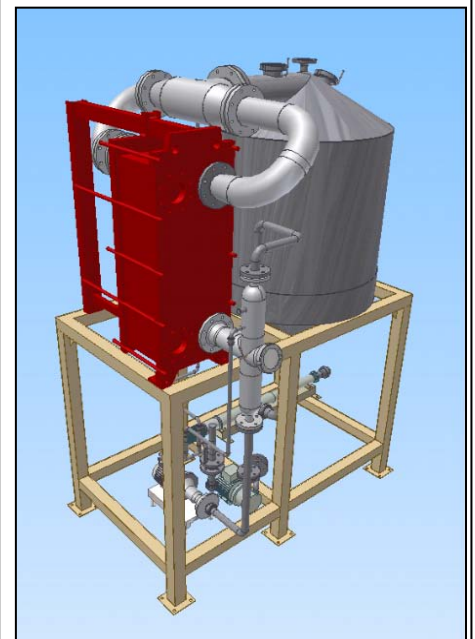
Applications:

Typical applications for EPCON climbing film evaporators, for products with low or medium viscosity and without fibrous material, among other:

- Concentration of juice, sweetener, and other food products
- Concentration of marine protein extracts
- Concentration of certain wastewater streams
- Concentration of chemical products

Flash coolers

Flash cooling, also known as vacuum cooling, is a technique that combines cooling with a concentration process. By feeding hot liquid into a chamber that has a vacuum state, vapour will be emitted until the liquid reaches thermal equilibrium. This causes instantaneous reduction of the temperature in the liquid, and the concentration of dry solids increases. Depending on the initial temperature, the final temperature and the properties of the liquid, the concentration can be increased by 1% to 10% of dry solids, and the temperature can be lowered towards 0°C. The selection of final temperature can be made independently of the process, but the more cooling the greater the increase in concentration.



Flash cooling is particularly suitable for viscous and sensitive liquids, often with a high content of dry solids. Cooling is instantaneous with no use of heated surfaces which could lead to fouling. In many cases this technique ensures high quality of the final product due to the rapid cooling.

COMPACT EVAPORATORS

EPCOVAP-MVR evaporator

The EPCOVAP-MVR evaporators are a series of standardized compact MVR evaporators. More than 20 years of experience in evaporation technology is incorporated into the design of the system.

The EPCOVAP-MVR are available with both climbing film and flash evaporation technology.

The EPCOVAP-MVR evaporator use MVR technology to provide our customers a robust dewatering system at the lowest installation and operational cost. The energy savings using an EPCOVAP-MVR evaporator is 90-95% compared to a one effect evaporator using boiler steam.

EPCOVAP-MHP evaporator

EPCON is developing EPCOVAP-MHP evaporators. The EPCOVAP-MHP evaporators are a series of standardized evaporators with modular indirect heat pump technology (MHP). These are for lower capacity range: 100-400 kg/h. Energy consumption is approx. 200 Wh/kg evaporated water. MHP technology offer a very good environmental profile.



Refer the EPCON separate product brochures for further information.

EPCOVAP-MVR



Technical data

The evaporators can evaporate the liquid at different temperatures ranging from 40°C to 100°C. The evaporation capacity is depending on the selected temperature. The achieved capacity is product dependent and must be calculated for each specific application.

EPCOVAP-MVR-	10	15	25	40	
Evaporation rate at 95°C	1000	1500	2500	-	kg/h
Evaporation rate at 80°C	700	1200	2000	2350	kg/h
Evaporation rate at 70°C	500	850	1300	1750	kg/h
Evaporation rate at 60°C	320	550	850	1100	kg/h

Energy consumption

The typical energy consumption is 30-50 kWh / ton evaporated mass, depending on the application, evaporator size and process temperature.

This means that the energy consumption to evaporate 1000 kg/h will be 30-40 kW.

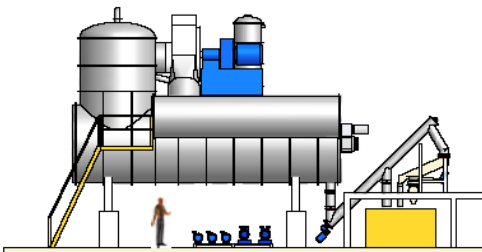
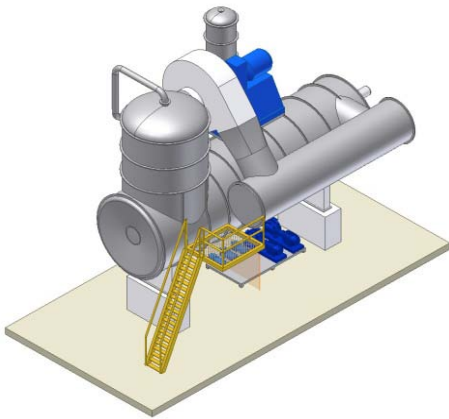
Applications

The EPCOVAP-MVR is a flexible evaporator system that can be used for a wide range of applications including:

- Concentration of marine protein extracts
- Concentration of ingredients in food industry
- Concentration of products from chemical and mineral industry.
- Dewatering of wastewater from different industries.
- Dewatering of wastewater from oil and gas industry.
- Dewatering of seine laundry wastewater
- Regeneration of MEG and PEG
- Desalination of seawater
- Production of distilled water for use in food industry

SHS- dryer:

EPCON is finalizing development of the second generation of superheated steam dryers, run with direct steam preferably in applications where discharge steam energy recovery will be implemented. An energy recovery system is also being developed.



SHS dryer (1st generation)

Applications:

Typical applications for EPCON drying system are:

- Drying of municipal sludge
- Drying of industrial sludge
- Drying of industrial products
- The dryer can also be used for certain food products

Advantages:

- Low energy consumption and high potential of energy recovery
- The direct steam SHS dryer has potential of recovering 80-90% of the added amount of energy
- Possible energy reductions for the excess process vapour:
 - vapour at 92 - 100°C (sat.)
 - hot water at 90 - 98°C
 - cooling water at 6 - 65°C
- Energy savings in the range of 60-90% could be obtained compared to air dryers (2nd generation)
- Practically no exhaust air – only the non condensables in the feed
- As the process is practically free of oxygen during drying, there is no risk for fire and explosion
- Negligible oxidation of product, due to very low oxygen concentration
- Simple and robust product and process control
- High flexibility related to feed composition and type, the latter either as liquid, slurry or cake
- Good bacteriological quality of the dried product
- Specific test has shown that the total bacteria concentration in the dried product is low, specifically below 50.000 pcs/g, and coliforms are zero

SUPERHEATED STEAM DRYERS

The technology is based on the principles of superheated steam (SHS) drying. Liquid or sludge is transported into the drying chamber, where it is heated with superheated steam to the boiling level and water evaporates from the product.

More than 20 years of experience within water steam processes is incorporated into the design of the system.

This technology has several benefits compared to direct air dryers, e.g. low energy consumption, high potential of energy recovery, low potential of product oxidation, negligible emissions to air and eliminated or very low risk of explosion.

The 2nd generation pilot test dryer for product characterization and process verification is planned for realization in 2011. The dryer will be commercial available in 2011-2012.



Refer the EPCON separate product brochure for further information.

DISTILLATION SYSTEMS

Distillation is a thermal separation method dividing a feed flow of mixed solvents into a distillate stream and a bottom product stream.

The EPCON distillation systems could either have direct energy system, cascade energy system or utilize MVR or MHP in an energy optimized design.

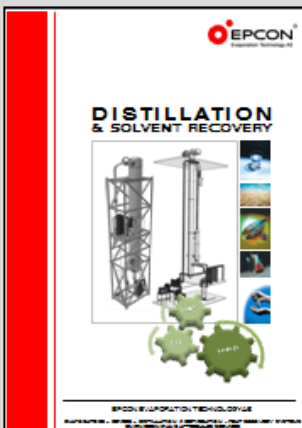
The capacity and operating temperature range give, among other factors, the criteria for which energy system to be used.

MVR

The EPCON distillation systems can be delivered with MVR technology, which can provide an energy saving up to 90%.

MHP

The EPCON distillation systems could also be equipped with our energy system based on Modular Heat Pump (MHP) technology.



Refer the EPCON separate product brochure for further information.

Bioethanol distillation

EPCON Evaporation Technology AS recognize a great potential in the bioethanol industry, and substantial new competence has been developed during the last years.

The plant extracts ethanol from a fermentation liquid, and further concentrates the ethanol up to an ethanol content of 85-95 wt% depending on the customer requirements (refer also EPCON dehydration system).

Energy consumption is low due to the utilization of MVR (typically 80-85% energy savings), which will be integrated to achieve optimal energy- and cost efficiency for this application.

The distillation column itself with the trays or packing is normally delivered from one of EPCONs prequalified sub suppliers.

EPCON skid mounted distillation plant, delivered fully pre fabricated from factory.



Applications:

Other applications for EPCON distillation plants, with or without MVR, are:

- Regeneration of ethanol, e.g. from extraction processes
- Regeneration and concentration of methanol, e.g. in biodiesel plants
- Biodiesel- and glycerol stripper
- Concentration of isopropanol
- Other suitable distillation processes

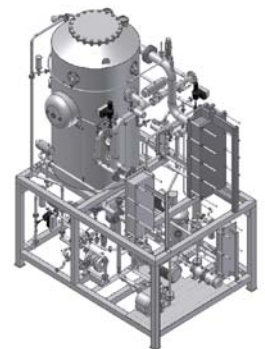
Solvent recovery

EPCONs technology for recovery and purification of solvents is based on the principles of evaporation and distillation.

In flash evaporation, the liquid is heated in a heat exchanger. The pressure in the exchanger is higher than the saturation pressure for the liquid, to avoid boiling. By feeding the hot liquid into a vacuum state chamber (the flash chamber), solvent vapour will be emitted until the liquid reaches thermal equilibrium. The vapour is thereafter condensed to distillate in a condenser. The distillate is transported through a sub-cooler where incondensable volatiles are removed before the distillate is ready for reuse.

The incondensable volatiles are removed by a vacuum-pump. When the evaporation is finished the remaining liquid in the flash chamber is drained and the flash chamber and the circulation system is cleaned.

EPCON skid mounted solvent recovery plant.

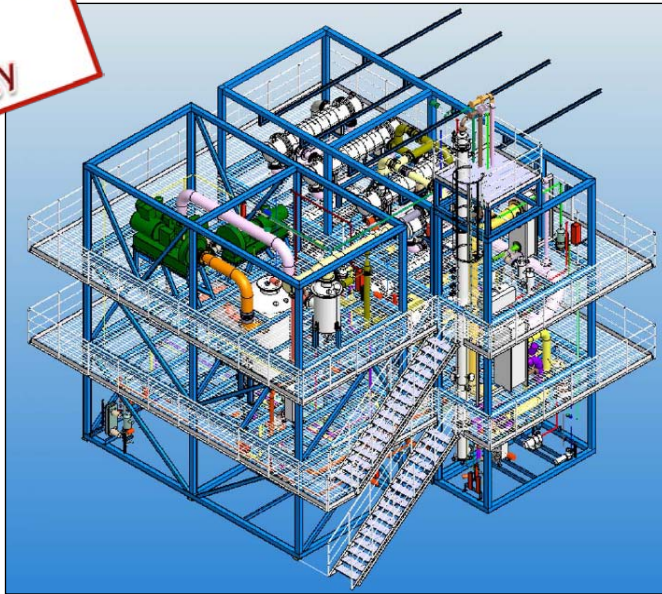


Advantages:

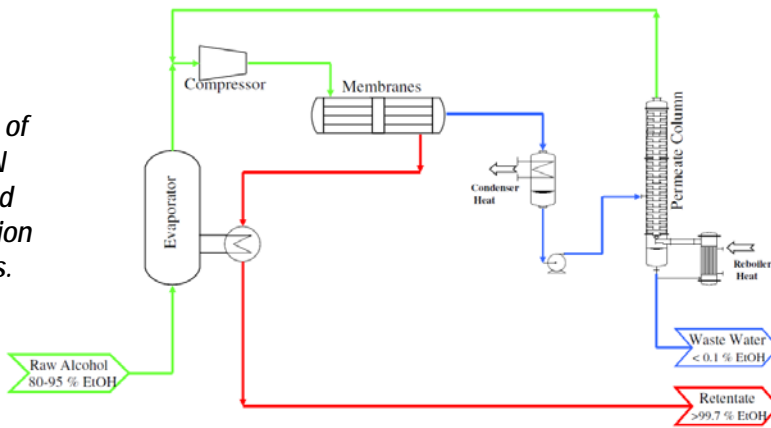
- Considerable cost savings by recycling used solvents
- Easy to expand for increased capacity
- Can utilize alternative heating agents
- Based on well known methods
- Easy cleaning
- Easy maintenance and repair
- Designed for different types of liquids
- Compact design

**Patented
technology**

Layout of reference dehydration plant, with capacity 70.000 ton bioethanol per year.



Principle of EPCON patented dehydration process.



DEHYDRATION UNITS

The EPCON dehydration process is used to further concentrate solvents that have already been rectified close to its azeotropic concentration and hence reached the sufficient concentration by traditional distillation. The dehydration unit then removes the required amount of the remaining water.

EPCON has developed and delivered a new patented energy optimized dehydration system that utilize an MVR evaporator connected with membranes. An integrated permeate distillation column is used to recycle the ethanol following in the permeate stream.

MVR

The EPCON dehydration systems are delivered with MVR technology, which provides an energy saving of 60-80% compared to traditional stand-alone dehydration systems.

Main advantages:

- Significantly reduced energy consumption
- Significantly reduced cooling effect
- Standalone unit, i.e. flexibility in regard to operating temp./pressure
- Suitable when utilizing MVR in upstream distillation
- Suitable when utilizing membrane technology for dehydration

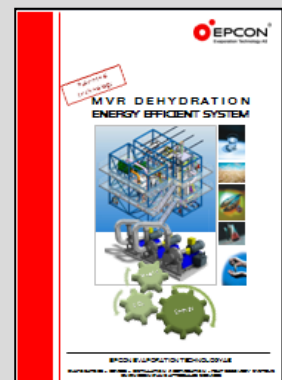
Applications:

Other applications for EPCON dehydration plants are:

- Dehydration of ethanol
- Dehydration of isopropanol

Reference plant:

EPCON has delivered the first industrial scale dehydration unit with ceramic Zeolite membranes, commissioned in 2008. The capacity of this plant is 70.000 ton bioethanol per year.



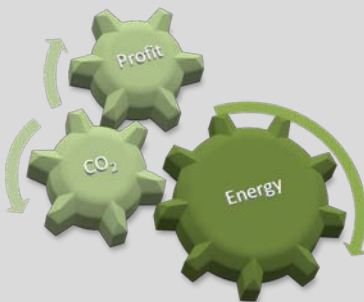
Refer the EPCON separate product brochure for further information.

SERVICES

With its history going back to 1986, EPCON Evaporation Technology AS is a technology company with high theoretical and practical competence. Our staff has backgrounds in thermal and heat pump process engineering, construction and mechanical engineering, chemistry and material technology. This gives EPCON a multidisciplinary line-up, with experience and references from several industries.

EPCON recognizes the development of expertise as an important factor in being able to understand the customer's needs and to provide optimal solutions.

EPCON's flexible organization is an important basis for succeeding in this mission, and is highly appreciated by our clients.



Engineering services

EPCON provide engineering services within energy efficient thermal processes, utilization of waste energy streams and heat recovery systems. EPCON typically contribute in the client projects related to pre-studies, feasibility studies and engineering work.



In energy recovery projects EPCON supplies the client with a map of energy sources and energy consumers, suggestion of how to utilize the technical and economical available energy recovery potential, identification and main data of possible industrial process equipment or -system for this task and finally a cost efficiency analysis.

By choosing EPCON you will benefit from our long term experience and know-how in energy efficient thermal processing, trained and innovative energy hunting skills, unique energy recovery solutions and a detailed knowledge of suitable and available process equipment or -systems.

After-sales services

To be competitive an increasing number of companies define maintenance as an essential factor in their strategies. Correct maintenance and regular servicing result in high production availability and ensure optimal functionality with a minimum of operating costs.

EPCON has the experience and know-how to achieve this goal. We offer fixed schemes that ensure the best possible follow-up of the installations through both preventive and corrective maintenance.



To ensure that the customer obtains the best effect possible, EPCON has established a 24-hour after sales service, available to all our customers. Maintenance plans and service agreements are set up on individual basis.

Laboratory glass evaporation reactor

Based on an initial test EPCON is normally able to find most of the parameters required to do an initial design of the full scale plant.

Such an evaporation test does only require a small amount of test liquid.



Stationary falling film evaporator

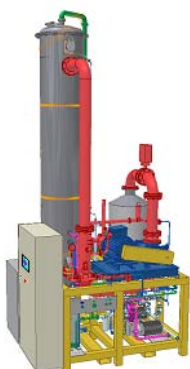
The maximum capacity is 300 kg of vapour per hour.



Mobile MVR falling film evaporator

This evaporator is equipped with MVR energy recovery, resulting in very low energy consumption.

Nominal evaporation capacity: 300 kg/h.



Mobile falling film evaporator

This evaporator has several tube bundles. Nominal evaporation capacity 50-100 kg/h.



Mobile flash evaporator

Nominal evaporation capacity: 50 kg/h.



EPCOVAP mobile unit

Can operate both as climbing film and flash evaporator.

Evaporation capacity: 150 kg/h.



SHS dryer (1st generation)

Superheated steam pilot dryer.

Evaporation capacity: 25 kg/h



TESTING FACILITIES

Specifying the correct technical separation method is an important and often exacting process. Equally important is to establish confidence in the functionality of the technical solution and to document return on investment for the customer. Consequently, to ensure an optimal solution it is of utmost importance to conduct tests and analysis on fluids using a pilot test rig. Based on the test results the optimal evaporation technique can be defined and the required design specifications will be identified.

It is obvious that the plant must satisfy the customer's expectations and meet all technical challenges and needs. Hence, EPCON has several evaporation test units available in order to clarify all information essential for making the right technical decisions.

EPCON has tested a wide range of fluids. Frequently, the analysis of fluid samples is conducted on the permanent testing equipment at our laboratory in Trondheim. If fluids have to be tested on site, EPCON also has mobile test rigs that can be dispatched anywhere in the world for use at the customer's own plant.



Refer the EPCON separate testing facilities brochure for further information.

Partners & distributors

Finland

AJON APU OY

Viertotie 3

15560 Nastola

Tel: +358 400 467051

Mail: simo.ajo@phnet.fi

South Korea



5th FL, HP building 23-6,

Yoido-Dong

Youngdeungpo-Gu,

Seoul, Korea, 150-724

Tel: +82-2-2167-9093

Fax: +82-2-2167-9178

Mail: evapor@sc-eng.com



Location: Jarleveien 17
Address: N – 7041 Trondheim,
Norway
NO 994 469 126MVA/VAT
Phone: (+47) 73 99 04 50
Fax: (+47) 73 99 04 51
companymail@epcon.org
www.epcon.org