

## Application

The ultrafiltration units of the KOMPasep-P-Line have been developed by Gütling for recycling and disposal of different production effluents and/or waste water.

The KOMPasep-P-Line is suitable for the treatment of:

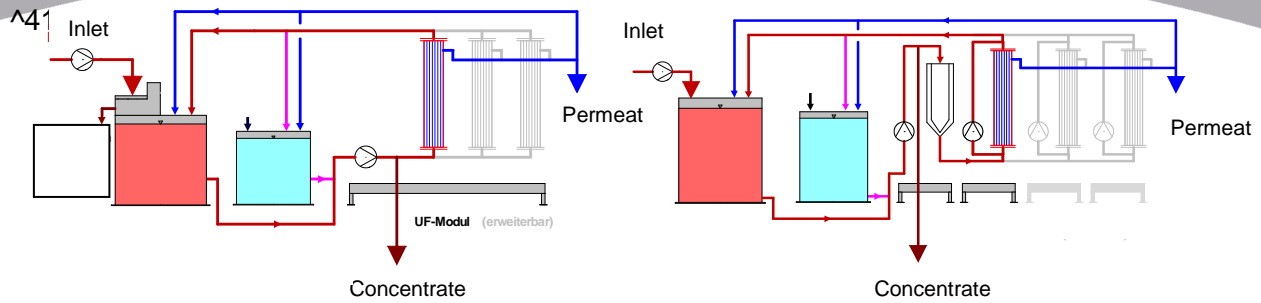
- Degreasing and washing solutions
- Cooling lubricants
- Oil/water emulsions
- Grinding waste water and dispersion
- Waste water from maintenance and repair of transport vehicles
- Recycling of oil from rinsing water
- Various special applications

## Process Characteristics

The ultrafiltration is a physical separation process. It separates aqueous dispersion and emulsions. The medium to be separated flows along a membrane with high velocity and under specific pressure (so-called “cross-flow” mode).

The pore size of the membrane is carefully chosen so that the passage to the smaller molecules like water and solved materials is granted (permeate) whereas larger molecules are not allowed to penetrate the membrane (retentate/concentrate).

The separation process can basically be used either for recycling or disposal.



Type	PK1	PK2	PK3	PM4	PM5	PM6	PM7	PX1	PX2	PX3	PX4	PX5
Flow l/hr	55	115	175	230	290	350	400	400	800	1200	1600	2000
Membrane area m <sup>2</sup>	1,4	2,8	4,3	5,8	7,2	8,7	10,1	9,3	18	28	37	46
Execution	Komp.	Komp.	Komp.	Komp.	Komp.	Komp.	Komp.	Komp.	Loop	Loop	Loop	Loop
Material of piping	PVC or PPH											
Length ca. mm	1750	1750	2500	2500	2500	2500	2500	1600	2500	3400	4300	5200
Width ca. mm	1100	1100	1100	1100	1100	1100	1100	1800	1800	1800	1800	1800
Height ca. mm	2000	2000	2000	2000	2000	2000	2000	2300	2300	2300	2300	2300

Komp. : compact execution  
 Loop: loop execution, Feed and Bleed  
 measures without tanks

## Description of the plant

The KOMPasep-P-Line unit consists of:

- Storage tank
- Pre-filtration
- Work tank
- Ultrafiltration unit
- Rinsing tank

Taking procedural and energetic considerations in account, these plants are offered in two different designs in dependence on size: compact type and loop type (Feed and Bleed). The operation of these units is subdivided into the following main steps:

- Separation: Filtration with drain of the permeate and post-feeding
- Thickening: Filtration with drain of the permeate without post-feeding, for the end-concentration (e.g. oil content 30-40%)
- Rinsing: Cleaning of the membrane at the completion of an operating cycle

## Advantages

- Non polluting process
- Cost saving through recycling or minimising of the disposal costs
- Completely preassembled and function tested
- Compact design
- Almost all plants are expandable with additional modules without changing of peripheral equipment
- Modern control concept at a central PLC unit
- Optimal concentration or recovery

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