

EUTECHTM
Filters and Systems
For Liquid-Liquid and Solid-Liquid Separation
SEPARATION



Mitsui Chemicals Asahi Life Materials
エム・エー・ライフマテリアルズ

MAL 的分离技术

MAL Separation Technologies



在产业界，多种多样的分离技术被应用，近年来，随着产品的高性能化，高品质化，对分离技术的升级进化有更高的期待，EUTEC™(油水分离器)是采用了旭化成种类繁多的无纺布做为过滤器，它不仅可以将固体和液体分离开，而且还能将液体与液体加以分离，可以满足各种不同的需求。旭化成具有从材料素材到成品的一条龙式产品开发和生产体制，向用户提供满意的过滤器及其系统。

In many industries and production processes, the demand for higher product quality and performance has created the need for advanced separation technologies. EUTEC™ filters and equipment meet this need, with liquid/liquid and solid/liquid separation materials and equipment which are tailored to the specific customer requirements, based on the broad-ranging technology and expertise of Asahi Kasei in polymers, nonwovens, membranes, and related processes and systems. EUTEC™ filters are all based on microfilter-scale mechanisms of separation and filtration, and are designed for installation and use in EUTEC™ vessels or other similar vessels for this purpose.

满足各种需求的EUTEC过滤器

EUTEC™ Filters-A Full Range, to Meet Your Needs

液体与液体的过滤分离器

EUTEC™ FS 油水分离器

*EUTEC™ FS cartridges,
for liquid/liquid(oil/water)separation*

滤芯凝聚过滤器 *Coalescers*

P 4-5

分离器

Separators

P 4-5

- 将相互不能溶解的油和水混合液体通过用超细纤维过滤器，采用滤芯凝聚过滤器统进行分离。
For efficient separation of oil and water, by capture and coalescence(merging)of fine droplets in the ultrafine fiber network of the coalescer to obtain larger drops, which are then readily collected under gravity-induced separation and, if a separator is used, additionally by hydrophobicity-induced separation.

固液体分离过滤器

EUTEC™ MF 超细过滤器

*EUTEC™ MF cartridges,
for solid/liquid microfiltration*

EU-P 系列

EU-P Series

P 6-7

EU-R 系列

EU-R Series

P 8

AM 系列

AM Series

P 8

- 液体中的直径为50μm~ 1 μm左右的杂物微粒也可以高精度高效率地分离开来。
For efficient removal of particle impurities of approximately 1 to 50 μ. m particle size.

EUTEC™ 過濾器

*EUTEC™ Vessel Type
for liquid/liquid separation and
solid/liquid microfiltration*

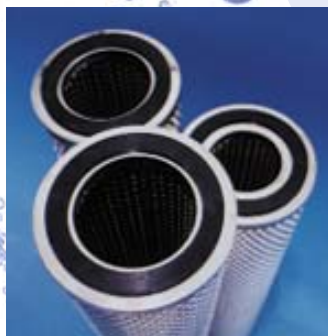
EUTEC™ 過濾器 *EUTEC™ Vessel Type*

P 9

液体与液体的分离过滤器

EUTEC™ FS

EUTEC™ FS Cartridges for Oil/Water Separation



液体与液体的分离过滤器 (EUTEC™ FS) 通过小型过滤筒瞬间就可以高效率处理大流量的液体，与以往的油水分离技术，如沉淀法，澄清法等通过比重差，离心分离，吸着分离等分离方法相比，它实现了小型化，高性能化，节省了劳动成本。

High-performance separation, in systems with substantially higher flow rates, smaller size, and lower running cost than gravity settling, decanting, centrifugation, and adsorption systems.

滤芯凝聚过滤 *Coalescers*

分离器 *Separators*

燃料领域 *Petroleum refining*

石油精制品的制造及出货流水线的油水分离
(汽油，灯油，轻油，喷气燃料等)

Oil/ water separation at production process streams and shipment points for gasoline, kerosene, diesel fuel, jet fuel, other petroleum refining products.

化学品领域 *Petrochemicals and Fine chemicals*

石油化学品及诱导制品生产过程中的油水分离
(乙稀，苯乙烯成套设备，精密化学制品流程等)

Oil/water separation at production process streams for ethylene, styrene, benzene, other petrochemicals and derivatives.

部件清洗领域 *Parts cleaning facilities*

各种清洗工程中的油水分离

Separation of oil from aqueous solutions and rinse water for cleaning of automotive, precision, electronic, and other parts and components.

其它领域 *Others*

船舶底舱水中的油分离，润滑油中的水分离等

*Separation of oil from red water
Separation of water from lubrication oil.*

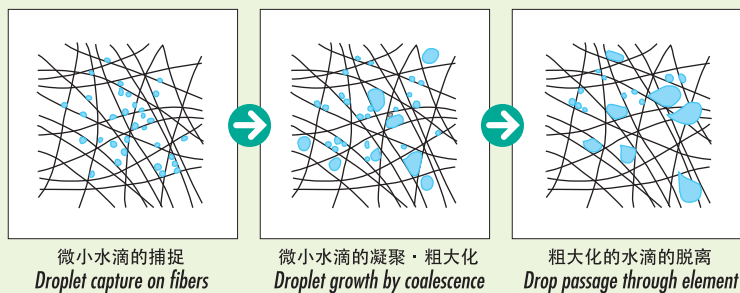
主要用途 *Major Fields of Application*

EUTEC™
FS的特长
EUTEC™ FS-Major Features

- EUTEC™ FS作为过滤体，由于采用了超细纤维无纺布构造，孔径虽小，但保持了高空隙率，这使得高速分离成为可能。
- 超细纤维无纺布构造体是由无粘合剂的长纤维交织的，不会出现像玻璃纤维粘合剂的熔化流出，也不必担心有纤维断开或纤维的流出。
- EUTEC™ FS的过滤体为褶皱构造，每个过滤筒的过滤面积很大，可以处理大流量，并能保持其使用寿命。
- *High separation rates. The high void ratio of the ultrafine-fiber EUTEC™ elements enables high coalescer through-rates and thus high system flow rates.*
- *Freedom from binders and fiber fragments. The synthetic-fiber nonwoven EUTEC™ elements contain no binder; unlike glass-fiber elements, they are therefore inherently free from binder and fiber-fragment migration into the separation liquids.*
- *High capacity and long life. The inherent strength of the EUTEC™ elements and their full-depth pleating result in long service life, large effective area, and high flow volumes.*

● 油水分离的原理 *Droplet Coalescence and Separation*

● 水滴的粗大化 *Mechanism of Water Droplet Coalescence*

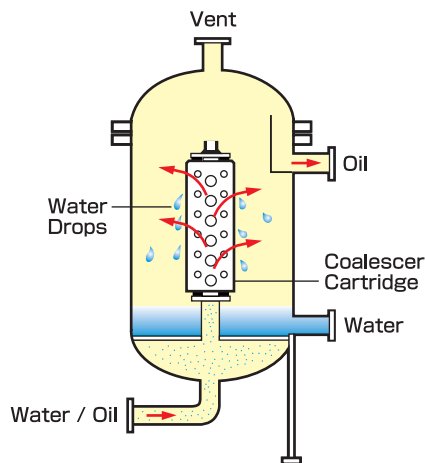


微米程度微小分散的油水混合液体，用静置分离法是很难分离的。EUTEC™ 可以将这样细微分散着的浑油游离液体通过超细纤维过滤器，进行捕捉，凝聚，粗大化。利用这样的功能把微米水平的微小分散游离液体粗大化使其变成毫米水平，通过比重差瞬间将其分离为完全的双层状态。

Dispersed micrometer-order droplets, which are too small for simple gravity-driven stratification, are captured by the ultrafine fibers in the EUTEC™ FS coalescer element and coalesce with other captured droplets as they move along the fibers, to form millimeter-size drops which readily undergo gravity-driven stratification immediately upon their emergence from the coalescer.

● EUTEC™ FS构造 *EUTEC™ FS System Configurations*

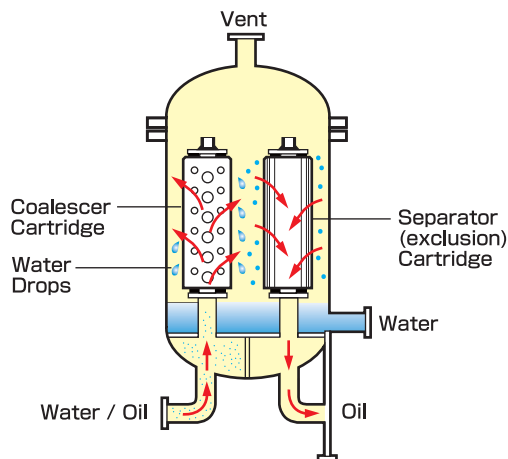
滤芯凝聚过滤方式 *One-stage Separation*



将油水混合液体压送进过滤筒的IN→OUT，使微小分散的游离液体变得粗大化，在装置里瞬间分离成完全双层状态。油比例大于水的情况下，水被分离后油，从顶部被排出。而被分离后的游离水，则沉降在装置的底部，由手动或自动排水阀门排出。

The oil-in-water or water-in-oil dispersion is fed under pressure to the coalescer bore; fine droplets merge in the coalescer element, forming drops that collect in a single layer immediately upon emergence from the coalescer. The oil and water layers leave the vessel via separate outlets. The coalescer also separates solid particles from the feed liquid, by rejection or entrapment in the coalescer element.

双过滤器组合方式 *Two-stage Separation (Filter separator)*



这是将滤芯凝聚过滤方式和双过滤器组合方式并用的方法。先将液体压送进滤芯凝聚过滤器IN→OUT，微小分散的游离水被粗大化，瞬间沉降，为分离不沉降的游离水滴，将其压送进分离过滤器out→in，在过滤器表面把水分离出来，被分离出的游离水沉降在装置的底部，通过手动或自动阀门排出。

Coalescer and separator(exclusion) cartridges in tandem, for high-volume flow in compact unit. After emergence from the coalescer, enlarged water drops collect in the water layer; oil passes through the pores of the separator cartridge while intermediate-size water drops are excluded by the hydrophobic separator surface. Oil and water leave the vessel through separate outlets.

■ 过滤筒的规格 *Standard EUTEC™ FS Cartridge Specifications*

种类 Type		滤芯凝聚过滤 Coalescer					分离器 Exclusion Separator		
系列 Series		EUS			P*1		EUA		60.6*
过滤精度 Absolute filter rating (μm)		1·2·5·10·20·50			1		5·35		74
规格 Dimens.(mm)	外径 Diameter	70·150·152			152		70·150·152		152
	长度 Length	125·250·360·475·600·730·950·1100·1410他							
材质 Materials	过滤体 Media	聚酯 PET	锦纶6 PA	聚酯 PET	锦纶6 PA	滤纸玻璃 Paper,GF	聚酯	聚酯	锦纶 6 PA
	粘合剂 Adhesive	-	-	环氧树脂 Epoxy			-	环氧树脂 Epoxy	
	成型材料 Casing	聚酯 PET	锦纶6 PA	SUS/Ni-Plate		SUS/Al	聚酯 PET	SUS/Ni-Plate	SUS
耐热温度 Max.oper.temp.*2(℃)		80	90	80	90	80	80		90 80

注*1: P及60.6系列: 从德国FAUDI公司进口，主要用于喷气燃料。

*1: P series and 60.6 series are made for Asahi Kasei by Faudi Aviation GmbH & Co.KG, in Germany.

注*2: 耐热温度: 根据所使用的流体及运转条件的不同而不同, 请使用之前进行咨询。

*2: Dependent on target liquids and operating conditions; consult Asahi Kasei before use.

超细过滤器

EUTECHTM MF

EUTECHTM MF Microfilters



EU-P 系列 *EU-P Series*

EU-R 系列 *EU-R Series*

AM 系列 *AM Series*

超细过滤器的选择

- 近年来，所有产业都进行着瞬息万变的技术革新，在过滤产品领域同样有对其经济性，高精度性，使用寿命的各种要求，这对我们厂家提出了更加严格的标准。超细过滤器EUTECHTM MF就是满足客户这些要求而诞生的产品。

EUTECHTM MF的特长

- EUTECHTM MF采用了将旭化成丰富多采的各种纤维过滤无纺布进行复合，最大限度地发挥各个过滤材料的特长，应用范围可以覆盖从一般过滤到微米精密过滤。
- EUTECHTM MF实现了在精密过滤领域前所未有的使用寿命，并具有良好的耐药剂性，耐溶剂性，用户可以根据不同用途选择适合其目的的过滤器。

● **The microfilters of choice-for performance, durability, economy**

- EUTECHTM MF microfilters meet the exacting standards and advanced requirements of many industrial sectors for high precision, long service life, and operational economy.

● Important features

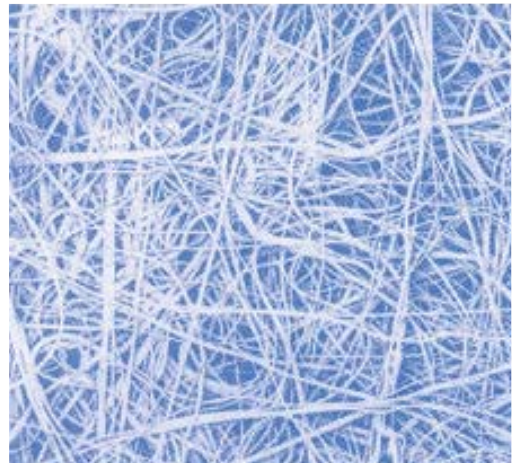
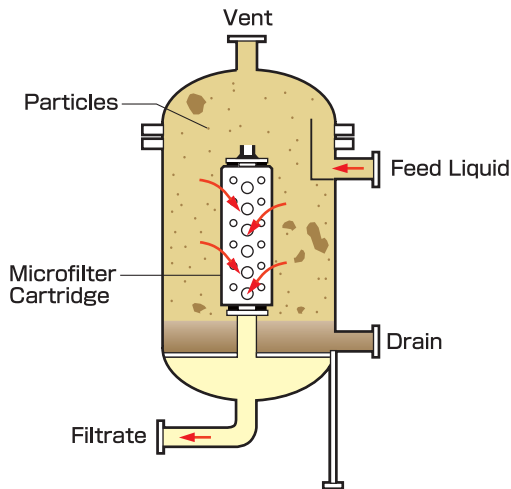
High performance in a broad spectrum of filter ratings, from general filtration to micrometer-order filtration, made possible by development of nonwoven filter element and support layer combinations produced from a full range of fiber types, with optimum utilization of their inherent characteristics.

Long service life, previously unattainable in microfiltration, together with outstanding chemical and solvent resistance, for greatly expanded range of applications and optimum selection for specific operating conditions and objectives.

EUTEC™ MF的构造

Filtration System Configuration and Mechanism

超细过滤器 Microfilter



10μm
超细纤维膜的放大照片(1000×)
Ultrafine fiber network

被处理流体从装置侧面的管口流入，通过压送进过滤筒的OUT→IN，大的杂物便沉降到装置的底部，小的杂物被过滤筒过滤，杂物被去除，变得清洁的流体从底部的出口被回收。过滤筒经过去除杂物的操作后入口处的压力上升，不久将达到交换压差（入口和出口的压力之差）。

The target liquid is fed into the filtration vessel under pressure, passes through the microfilter cartridge element to its core, and from there to the vessel outlet. Particles in the feed liquid which are too large to enter the element settle to the bottom of the vessel chamber, and finer particles enter and are entrapped in the ultrafine-fiber network of the element. As the fine particles accumulate in the element, the pressure differential across the element gradually increases to a limiting value, and the cartridge must then be replaced.



EU-P系列 EU-P Application Series-For Fuels and Lubricants

是处理大流量的过滤器，用于炼油厂，油库等燃料油·润滑油种的杂物的去除。
(汽油，灯油，轻油，喷气燃料，润滑油等)

EUTEC™ MF cartridges in the EU-P Application Series are used for large flow-volume filtration of gasoline, kerosine, diesel fuel, jet fuel, lubricants, and other liquids, at refineries and transfer depots.

过滤筒的规格 Standard cartridge specifications

系列 Cartridge series		EUP			
种类 Element form		皱折式 Pleated			
过滤精度 Nominal filter rating (μm)		1·3·5·10·20·45			
规格 Dimens.(mm)	外径 Diameter	150			
	长度 Length	360·600·730·1100他			
材质 Materials	过滤材质 Media	纸 Paper	玻璃纤维、聚酯 GF,PET	聚酯 PET	聚丙烯 PP
	粘合剂 Adhesive	环氧树脂 Epoxy			
	成型材料 Casing	SUS/SECC			
耐热温度 Max.oper.temp.* (°C)		80			

注*：耐热温度：根据所使用的流体及运转条件的不同而不同，请使用之前进行咨询。

*Dependent on target liquids and operating conditions; consult Asahi Kasei before use.



EU-R 系列 EU-R Application Series-For Rust Particle Removal

用于重复用水的过滤器，可去除锅炉中污水中的铁锈。

EUTEC™ MF cartridges in the EU-R Application Series are used to remove iron rust from bilge and other "red water".

■ 过滤筒规格 Standard cartridge specifications

系列 Cartridge series	EUR	AMP	AMWPP
种类 Element form	皱折式 Pleated		缠线式 Wound
过滤精度 Absolute filter rating* ¹ (μm)	2·5·6·7·10·23·30·42		
尺寸 Dimens.(mm)	外径 Diameter	70·150	
	长度 Length	250·500·750他	
材质 Materials	过滤体 Media	聚酯 PET	聚丙烯 PP
	粘合剂 Adhesive	环氧树脂 Epoxy	—
	成型材料 Casing	SUS	PP
耐热温度 Max.oper.temp.* ² (°C)	80	80	80

注*1:AMWPP Series: 过滤精度以普通精度表示

*1: Absolute filter rating for EUR and AMP; nominal filter rating for AMWPP.

注*2:耐热温度:根据所使用的流体及运转条件的不同而不同, 请使用之前进行咨询。 *2: Dependent on target liquids and operating conditions; consult Asahi Kasei before use.



AM 系列 AM Application Series-For Production Process Liquids

是对应各种工序的过滤器, 用于石油化学产品, 诱导制品的制造程序, 汽车部件, 精密机械部件·电子工学产品的制造程序等多中用途。

EUTEC™ MF cartridges in the AM Application Series are used for a broad range of microfiltration applications, in the production processes for petrochemicals, petrochemical derivatives, automotive, precision, and electronic parts, and other fields.

■ 过滤筒规格 Standard cartridge specifications

系列 Cartridge series		AME	AMH	AMN	AMP	AMPA	AMWSC	AMWPP	AWPPS
种类 Element form		皱折式 Pleated					缠线式 Wound		
过滤精度 Absolute filter rating* ¹ (μm)		0.8・1.2・2・4・5・6・7・10・23・30・42					1・3・5・10・25・50・100		
尺寸 Dimens.	外径 Diameter(mm)	70							
	长度 Length(inch)	10・20・30							
材质 Materials	过滤体 Media	聚酯 PET			聚丙烯 PP	锦纶6 PA	棉花 Cotton	聚丙烯 PP	ポリフェニレン 硫化物 PPS
	辅助过滤材料 Support	聚酯 PET			聚丙烯 PP	锦纶6 PA	—	—	—
	成型材料 Casing	聚丙烯 PP	聚酯 PET	锦纶 PA	聚丙烯 PP	锦纶6 PA	SUS304	聚丙烯 PP	SUS304
耐热温度 Max.oper.temp.* ² (℃)		80	80	80	80	100	150	80	150

注*1:缠线式: 过滤精度以普通精度表示。

*1: Absolute filter rating for pleated-element cartridges; nominal filter rating for wound-element cartridges.

注*2:耐热温度:根据所使用的流体及运转条件的不同而不同, 请使用之前进行咨询。 *2: Dependent on target liquids and operating conditions; consult Asahi Kasei before use.

EUTEC™ 過濾器

EUTEC™ Vessel Type

为了能更有效地使用EUTEC™系列過濾器,我们开发了小流量到大流量用的過濾器,使其标准化。为了满足客户的各种需求,我们依据大型過濾器 各种数据,设计出多种款式,不仅有不锈钢的,还有钛合金的,内侧加工成树脂涂层的特殊材料的過濾器,以及加入水泵的组合等,设计并生产着能让客户满意的多种产品。

EUTEC™ vessels deliver maximum performance and efficiency from EUTEC™ FS and MF cartridges singly and in combination, for flow volumes ranging from vehicle-mounted to large-plant applications. They are produced in a broad range of standard and custom design configurations, component materials, capacities, and dimensions, as well as a full complement of related fittings, lines, and equipment, to meet the specific needs of the customer.

EUTEC™ 過濾器 EUTEC™ Vessel Type



石油炼油用的EUVR系列
MODEL: EUVR for Riferines



清洗用TH系列
TH Series for Part Cleaning

■ 過濾器款式及其系统规格 Typical EUTEC™ Vessel Type and system specifications

种类 Description	款号 Basic Series	系列 Special Purpose Series	用途 Fields of application	处理流量 Flow rates	设计压力 Design press.	材 质 Material	备 注 Standards, features
FS Series Coalescer Vessel	EUVR		燃料,化学成套设备,化学品等 Petroleum refining, petrochemicals, fine chemicals, etc.	根据客户的需要进行设计。 To customer specification			符合消防法,高压瓦斯安全法。 JIS, JPI, ASME(No Stamp)
	EUVS	TH	清洗部件 Aqueous parts cleaning, etc.	10,15,30, 40,80	0.2MPa	SUS304	带自动排出回收油(水)的功能 Automatic discharge of separated oil or water.
		TK	溶剂的清洗,及运做用油等 Solvent parts cleaning, lubricating oil	15,30,60			
FS Series Coalescer System Unit	EUVU	SYH	清洗部件 Aqueous parts cleaning, etc.	10,15,30, 40,80	0.2MPa		带自动排出回收油(水)的功能 内带水泵,过滤的组合装置 Automatic discharge of separated oil or water. Incl.pumps, equipment.
		SYK	溶剂的清洗,及运做用油等 Solvent parts cleaning, lubricating oil	15,30,60			
MF Series Microfilter Vessel	EUIVP		燃料,化学成套设备,化学品等 Petroleum refining, Petrochemicals, fine chemicals, etc.	标准产品 根据用户需要进行设计。 Standard specification/To customer specification			符合消防法,高压瓦斯安全法 JIS, JPI, ASME(No Stamp)

设备购置流程

Application-Specific Services

EUTECH™安装的标准流程如下。从单体过滤筒测试，我们具备了具有高水准，广范围的评估试验设备，能够设计出适合用户程序需要的设备并能做好售后服务。

ASAHI KASEI performs the following developmental, testing, and implementation services, as standard procedure for the optimum fulfillment of specific customer requirements.



小样测试

Sample testing

- ◆ 分离及过滤性能评估
- ◆ SS性状分析
- ◆ 原始液体性状分析
- Separation and filtration efficiency
- Suspended solids
- Target liquids

现场测试

Field testing

- ◆ 小样测试后结果在现场确认
- ◆ 过滤筒寿命
- Verification of beaker tests
- Cartridge service life assessment

设计·制作

Design and fabrication

- ◆ 过滤筒的选定
- ◆ 决定装置规格
- Cartridges
- Vessels

交货·售后服务

Implementation

- ◆ 交货
- ◆ 现场测试结果用实际设备进行确认
- Delivery
- In-line verification of field tests



术语说明

过滤筒：是将无纺布、辅助网屏等构成材料装进筒状的容器里，再把该容器装入设备中。

中心材料：是指过滤筒中的主要构成材料，具有过滤和分离微米程度的杂质和水滴的功能。

注：但是，一般也有用来表示与上述的过滤筒相同意思的情况。

过滤器：是发挥过滤筒的功能的容器，根据用户对处理流量的需要由一个或若干个组合而成。

过滤体：本商品目录所使用的过滤体是指液体与液体，液体与固体的分离所用的过滤材料，安装在过滤筒内使用。

The related terms, as used in this brochure, are essentially as follows.

Cartridge: A cylindrical unit containing the filter element composed of nonwoven polymeric or other media together with supporting, protective, and connecting components.

Element: Main component of the cartridge, in pleated or other cylindrical configuration, with a microfiltration-scale structure which permits the passage of certain substances while blocking that of others.

Note: Among users and manufacturers, the word "element" is also often used to indicate the complete cartridge.

Vessel: A tank-like receptacle for one or more cartridges, with requisite inlets and outlets, fittings, lines, and other integral components.

Filter: In the broad sense, a device for liquid/liquid or solid/liquid separation, and this including all of the "coalescers", "separators" and "microfilters" described in this brochure; in the narrow sense, a device for solid/liquid separation using an element.

EUTEC™ 的实施范例

Typical EUTEC™ Installations



: Filter separator

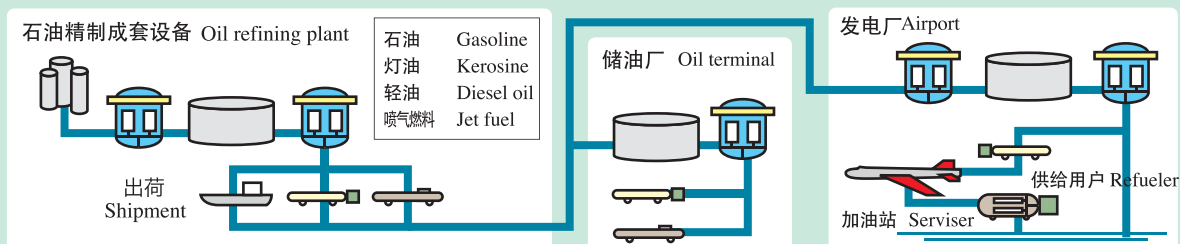


: Pump

燃料用途 Fuel Supply Networks

流程：石油制品中游离水分的去除，杂物的去除，提高产品质量。

Efficient, effective removal of free water and other impurities from gasoline, kerosene, diesel oil, and jet fuels, for high, uniform fuel quality.

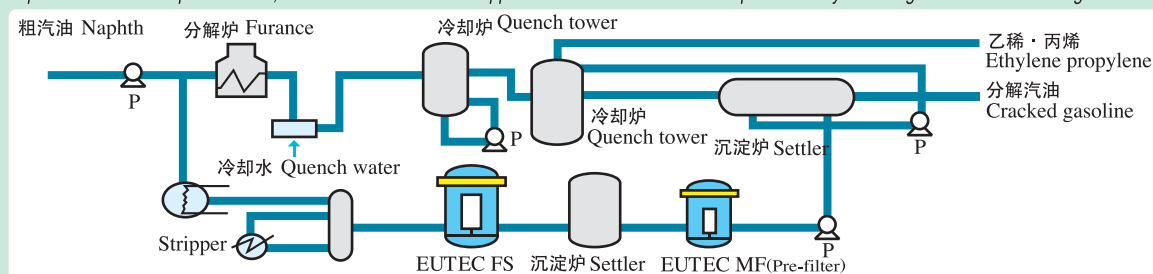


制造乙稀成套设备 Ethylene Production Facility

流程：用于分离制造乙稀成套设备冷却水中混入的油，通过减轻后道工序蒸汽剥离器的负荷，

去除油中的腐蚀成分，实现维修成本的降低。

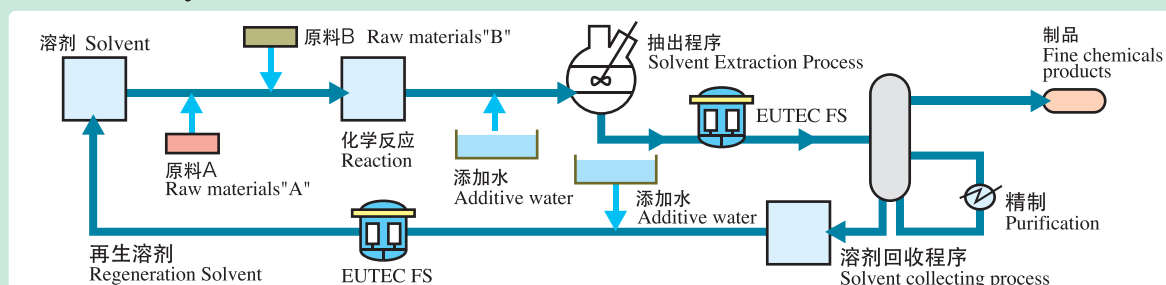
Separation of oil from quench water, to lessen load on steam stripper and reduce maintenance requirements by removing oil-borne corrosive agents.



精密化学制品用 Fine Chemicals Process

流程：在溶剂抽出和回流过程中，分离溶剂中的水，实现高效率化。

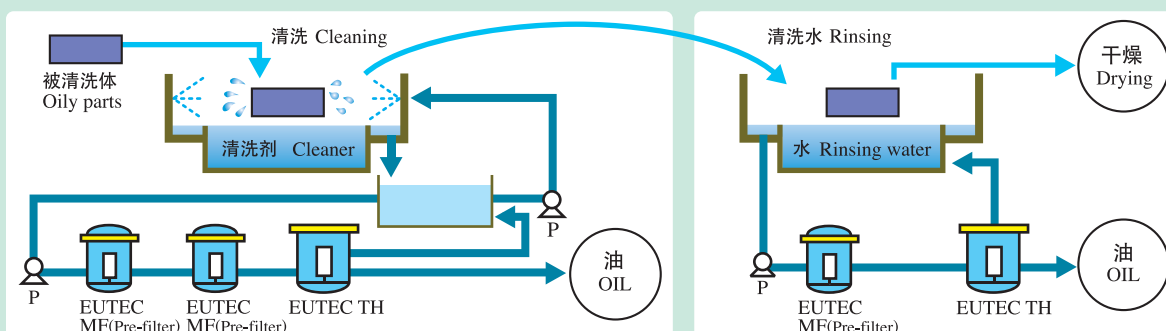
Separation of water from solvent, to become high precision on solvent extraction process and solvent collecting process by removing water-borne corrosive agents.



部件清洗用 Parts Cleaning Process

流程：机械加工部件清洗液，去除清洗水中的油分，实现延长清洗液的使用寿命，减少清洗液的废弃，防止由于油引起的第二次污染。

Separation of oil from aqueous cleaning solution and rinse water, to extend their service life, prevent adhesion of residual oil film, and reduce volume of liquid wastes.





Mitsui Chemicals Asahi Life Materials Co., Ltd.
Filter Sales Department Industrial Materials Sales Division
Tokyo Midtown Yaesu, Yaesu Central Tower 10F
2-2-1 Yaesu, Chuo-ku, Tokyo, 104-0028 Japan
TEL : +81(0)3-6880-7630
E-mail : MAL_Filter_Contact@malifematerials.com

- 在使用之前，请一定阅读本公司的使用说明书。
- 本目录中的规格有变更的可能。
- 当与本目录所明确的用途不同，或与购买时的用途不同时，请与本公司联系确认。
- Refer to operating manual of each product prior to use.
- Specifications in this brochure are subject to change without notice.
- Customers are requested to consult with Asahi personnel prior to any applications different from those described herein or diversion from original use.

本目录系2023年10月之前的内容，
规格及设计等改良可能会在没有通知的情
Effective date of this publication: Oct. 2023
Please note that all information and products described herein
are subject to change without notice.
