运用最新独创的技术
实现了低成本运行、性能可靠的污水处理
拥有实际业绩和可靠性的MICROZA膜组件
Low cost and reliable wastewater treatment solution using the latest unique Microza membrane module technology.

旭化成生产的MICROZA膜产品在污水处理、废水回用等领域拥有众多的实际业绩。在这些实际业绩的基础上，本公司建立了设计咨询、售后服务等技术支援体制。随着2003年世界最大规模生产能力的MICROZA膜组件工厂的建成，本公司进一步提高了市场供应能力。

用于膜生物反应器的MICROZA/MUNC 3系列产品是采用旭化成公司独创的“热式制膜技术”、“膜组件集成技术”、“运行软件技术”开发出来的。在高浓度的活性污泥反应池，不仅可以高通量地稳定运行得到高品质的产水，而且还降低了维护管理成本。

旭化成公司利用独创的技术为保护不可替换的自然环境不断做出贡献。

Microza membrane modules from Asahi Kasei have been used in various water treatment processes all over the world. With our extensive experience, we are able to offer professional technical support; including consultation on design and provide after sales support to our customers. The supply of modules is ensured with the commissioning of our new module manufacturing plant in 2003. This manufacturing plant has one of the largest capacities in the world and state of the art production technology.

Asahi Kasei’s MUNC-3 series module for membrane bioreactors was developed utilizing our most advanced and unique technology for hollow fiber membrane production, membrane module assembly, and operating software. This provides for the production of high quality filtrate at high and stable flux rates, even with highly concentrated activated sludge reactors, and also results in reduced operating and maintenance costs.

Asahi Kasei will continue its contribute for preserving our precious environment with our most advanced and unique technologies.

膜生物反应器(Membrane Bioreactor)的特点

Membrane Bioreactor Features

■ 节省占地、降低投资成本 COMPACT DESIGN / LOW CAPITAL COST
不需要传统活性污泥法所必须的二沉池，可以利用现有的生化池。
比传统活性污泥法的MLSS(2,000~8,000mg/l)高，可将MLSS提高到8,000~12,000mg/l运行。
在高BOD容积负荷下，可节省生化池空间。
Final sedimentation tank is not required. Existing reactor maybe utilized. Capable of operating at higher MLSS than conventional reactor. Reactor size may be reduced. Alternately, higher BOD wastewater may be tretanted.

■ 容易维护 EASY MAINTENANCE
膜可以阻止传统活性污泥法中常常出现的难以克服的因污泥沉降不良造成的污泥流出，减轻维护负担。
No sludge carryover. Membrane process reduces the workload on maintenance personnel.

■ 高品质产水 HIGH QUALITY TREATED WATER
利用膜可以阻止SS、大肠杆菌，获得高品质的产水。
Treated water is void of suspended solids and e-coli.
系统流程示例（示意图）

System Flow Example

食品废水处理的示例 Food Industry Wastewater
（原水BOD=1,000 mg/l，处理量=1,400 m³/d）

膜分离活性污泥法 Membrane Bioreactor

MUNC II Series Features

- 低运行成本、稳定运行LOW OPERATING COST / STABLE OPERATION
  - 独特的中空纤维膜束和膜组件构造，以低曝气量抑制膜表面的污泥附着，实现较低的运行成本。
  - 采用最新的高透水滤膜，利用产水单隔运行方式（也可反洗），可以在高通量下稳定运行。
  - The unique design of the hollow-fiber membrane bundle and the module suppresses the accumulation of sludge on the membrane surface, even at reduced aeration rates.
  - High and stable permeate flux is achieved with our new high-performance membrane combined with interval running of treated water pump (reverse filtration using treated water).

- 采用耐药性强、高维网状结构的中空纤维膜，可获得高品质产水HIGH-RELIABILITY MEMBRANE
  - 采用独创的制膜技术生产的聚偏氟乙烯中空纤维膜具有很强的抗氧化能力和耐碱性，可以长期使用。
  - 另外，独创的孔径0.1μm的高维网状结构中空纤维膜可以长期有效地防止SS的渗漏。
  - PVDF (polyvinylidene fluoride) hollow-fiber membrane provides exceptional chemical compatibility.

- 设计紧凑、容易维护COMPACT DESIGN / EASY MAINTENANCE
  - 膜组件采用独创的圆柱型构造，具有高充填密度，实现更小的占地面积。由于结构紧凑且管路连接简单，维护更加容易。
  - Maintenance is simplified by the compact design and the unique cylindrical geometry of the membrane module.
膜组件构造
Module Structure

高维网状结构
Network structure

中空纤维膜
Hollow-fiber membrane

粘合剂
Potting material

裙座
Skirt

均匀胶体截留率
Rejection of Uniform Latex

膜的耐药性
Chemical Resistance of Hollow-fiber membrane
## Application

特别是含有高浓度BOD、SS的废水处理
**Treatment of high BOD and/or suspended solids containing wastewater from.**

<table>
<thead>
<tr>
<th>1. 市政污水</th>
<th>1. Sewage</th>
</tr>
</thead>
<tbody>
<tr>
<td>2. 食品行业废水</td>
<td>2. Food industry</td>
</tr>
<tr>
<td>3. 电子行业废水</td>
<td>3. Electronic industry</td>
</tr>
<tr>
<td>4. 化工行业废水</td>
<td>4. Chemical industry</td>
</tr>
<tr>
<td>5. 垃圾渗滤液</td>
<td>5. Landfill leachate</td>
</tr>
</tbody>
</table>

## Specifications of MUNC-3Series

<table>
<thead>
<tr>
<th>Membrane type</th>
<th>MUNC-620A3</th>
<th>MUNC-640A3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Material</td>
<td>High-bonding network structured polyvinylidene fluoride (HB-PVDF)</td>
<td></td>
</tr>
<tr>
<td>Membrane area (Outer surface)</td>
<td>33.3 m²</td>
<td>23.3 m²</td>
</tr>
<tr>
<td>Nominal pore size</td>
<td>0.1 μm</td>
<td></td>
</tr>
<tr>
<td>Operating conditions</td>
<td>Suction filtration by submerged membrane</td>
<td></td>
</tr>
<tr>
<td>Maximum transmembrane pressure (TMP)</td>
<td>60 kPa</td>
<td></td>
</tr>
<tr>
<td>Maximum operating temperature</td>
<td>40 °C</td>
<td></td>
</tr>
<tr>
<td>pH range</td>
<td>1.10 for raw water filtration</td>
<td></td>
</tr>
<tr>
<td>Design flux</td>
<td>0.2–0.7 m³/d</td>
<td></td>
</tr>
<tr>
<td>Modare composition</td>
<td>ABS resin</td>
<td></td>
</tr>
<tr>
<td>Membrane dimensions</td>
<td>2,264 L x Ø167</td>
<td>1,653 L x Ø167</td>
</tr>
</tbody>
</table>

(1) 对不同应用的最大承受范围是不同的，详情请参考有关使用说明书。
(2) 设计流量受进水水质和设计条件等影响，详情请与本公司联系商谈。

(1) The pH range to apply depends on the chemical used. Refer to the operations manual for further information.
(2) Design flux varies depending on feed wastewater quality or system design basis. Customers are requested to consult with Asahi Kasei Corporation.

### Membrane Unit: MUNC-620A3

<table>
<thead>
<tr>
<th>Rack dimensions</th>
<th>Length x Width</th>
<th>m</th>
</tr>
</thead>
<tbody>
<tr>
<td>Height</td>
<td>m</td>
<td></td>
</tr>
</tbody>
</table>

| Number of modules | 32 |
| Total membrane area (Outer surface) | 1,065 m² |
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- Refer to the operating manual of each product prior to use.
- Specifications in this brochure are subject to change without any notice.
- Customers are requested to consult with Asahi personnel prior to using the products for any applications different from those described in this brochure or diversion of use from original one.

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