



Welcome the experts, leaders and friends  
to give us valuable advice and we hope that  
we will have friendly cooperation !



InterMet Technology Chengdu Co., Ltd.

Clean the water and blue the sky, we are in action!

**We are producing our own membrane in China and the world!**





# 1. Enterprise profile: Overview



**the headquarters base**



**The new headquarters - South Dayuan Center**



**Company R & D base**



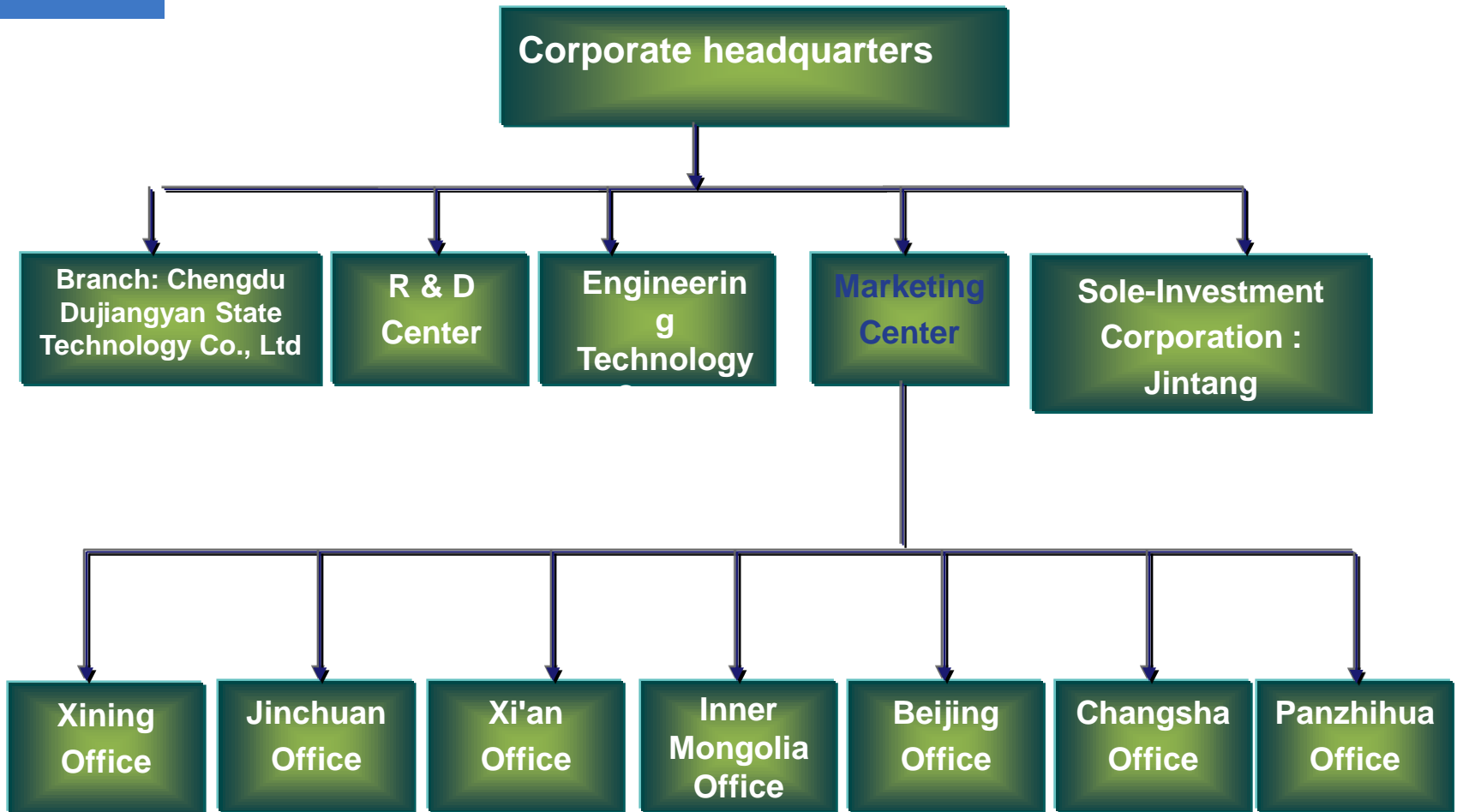
**Dujiangyan branch factory**



**Sole-Investment Corporation :  
Jintang Industrial Park 100  
acres production Park**



# Organization Structure





# Jintang subsidiary factory





## 1.2 Brief Introduction of Company

**InterMet Technology Chengdu Co., Ltd., established in August 2007, was founded jointly by R & D talents (top-ranking trade experts, returned scholars who have studied in the US, and doctors) and those who are familiar with the establishment and management of the listed company. Now, We have 200'000 filter capacity ,and the listing process has been started.**

**The company is the unique high and new technology enterprise taking part in the development and application of asymmetrical membrane filtration materials of Al intermetallic compound globally.**

**The company possesses 120 autonomous core technologies (patent technologies) with international level and builds the investment partnership with Central South University.**



## 1.2 Brief Introduction of Company

**we have manufacture technology, modern membrane separation technology including advanced aluminum metal porous material and the original production process; we can provide a full range of services for customers to realize clean production and low carbon emission in home and abroad, in order to solve the high temperature , strong corrosion and other harsh environment problems in the gas-solid and liquid-solid separation and filtration technology.**

**The porous filtration materials (membrane) and technology of TiAl, FeAl and NiAl intermetallic compounds researched and developed by the company possess the features involving outstanding acid, alkali and salt corrosive resistance, high temperature oxidation resistance, organic solvent resistance, easily sealing, and good process ability, especially have the irreplaceable advantage of the traditional filtration materials under the rigorous environment such as high temperature or strong corrosion, and possess favorable application prospect in various particular process and environmental protection field.**



# TiAl多孔材料 金属间化合物多孔材料概念介绍

## 金属多孔材料

(Ni、Ti、Stainless Steel) :

优点: 室温力学性能高  
可加工性能好

缺点: 高温力学性能低  
抗环境腐蚀性能差  
抗高温氧化性能低  
多孔精度低

## 陶瓷多孔材料

( $\text{Al}_2\text{O}_3$ 、 $\text{SiO}_2$ 、 $\text{SiC}$ ) :

优点: 高温力学性能高  
选择性抗环境腐蚀性能好  
抗高温氧化性能优  
多孔精度高(可制多孔膜)

缺点: 室温脆性严重  
抗热震性差  
不可机加工、  
不能焊接连接

## 金属间化合物多孔材料

(Ti-Al、Ti-Al、Ni-Al) :

特点: 室温力学性能较好  
高温力学性能高  
可加工性能好、  
可焊接连接  
抗环境腐蚀性能好  
抗高温氧化性能好  
抗热震性好  
多孔精度高



## 1.2 Brief Introduction of Company

**They are applicable to the purification of high temperature sulfurous gas, purification and recycle of iron alloy high temperature furnace gas, recycling of blast furnace and converter coal gas (such as TRT), and the gas-solid and liquid-solid separation and purification in the processes involving coal transformation (such as IGCC, synthesis ammonia, and methyl alcohol), chloride metallurgy (such as  $\text{TiCl}_4$ ), wet-process metallurgy (such as  $\text{CoSO}_4$  and  $\text{ZnSO}_4$ ), and environmental protection field (such as furnace gas recycle for acid making).**



## 1.3 Our Team : staff size and structure of talent



| N.O | content                                    | number of people | The proportion of total employees |
|-----|--|------------------|-----------------------------------|
| 1   | The total number of employees              | 195              | /                                 |
| 2   | College above the number of employees      | 193              | 99%                               |
| 3   | College above technical personnel number   | 163              | 84%                               |
| 4   | Development and design staff number        | 112              | 58%                               |
| 5   | Master or above the number of researchers  | 21               | 11%                               |
| 6   | Doctor and above the number of researchers | 8                | 4%                                |
| 7   | The returned personnel number              | 2                | 1%                                |
| 8   | The number of foreign experts              | 2                | 1%                                |



## 2. The Government Care

**July 13, 2012 to 15, Premier Wen Jiabao visited in Sichuan, called representative ten in Sichuan private enterprises held a forum. Our company chairman Gao Lin represents the InterMet technology attended the symposium.**





## 2.1 The Government Care

Our company on behalf of Chengdu High-tech Zone in the construction of national high-tech zone 20 Anniversary Exhibition  
-- the national Ministry of science and technology in July 5to 9 2012 in Beijing.



1. Minister of the Ministry of science and technology, vice chairman of the CPPCC National Committee, Wan Gang

2. Deputy minister, Ministry of science and technology of vice secretary of Party Wang Zhigang (right4), deputy director of the State Torch Center Xiu Xiaoping (right 3) visit to the State Science and Technology Exhibition.



## 2.2 The Government Care

Won the "national key high-tech enterprise" title of honor  
(a total of 784 in China)





## 2.3 The Government Care

### ■ Won the "national key new product" title of honor





## 2.4 The Government Care

### Qualification and honors

- ★ **National High and New Technology Enterprise**
- ★ **Construction Innovative Enterprise in Sichuan Province**
- ★ **Excellent Entrepreneurial Enterprise**
- ★ **The Ministry of science and technology, "National Torch Program projects"**
- ★ **"The most growth potential of the Overseas Students Pioneer enterprises"**
- ★ **New materials of Chengdu City "leading enterprises"**
- ★ **"20 strong enterprises DDT national high-tech zone**
- ★ **Asia's top 500 enterprises**



### 3. Products

The porous filtration materials of TiAl, FeAl and NiAl intermetallic compounds

#### ❖ Gas filter characteristics(1)

★ High strength, allows the transmembrane pressure

The filter thickness 1.5、2、3、4.5、6mm

Can adapt to a variety of system conditions

(The table below for the bear of system pressure)

| 壁厚              | 1.5<br>mm      | 2.0<br>mm      | 3.0<br>mm            | 4.5<br>mm       | 6.0<br>mm       |
|-----------------|----------------|----------------|----------------------|-----------------|-----------------|
| 适用<br>系统        | 平稳高温<br>超大通量   | 平稳高温<br>超大通量   | 负压或微<br>正压、高<br>温大通量 | 正压<br>高温<br>大通量 | 高压<br>高温<br>大通量 |
| 系统<br>压力<br>MPa | -0.02<br>~0.02 | -0.03<br>~0.05 | -0.03<br>~0.5        | 0.1<br>~1.5     | 0.5<br>~10      |



### 3.Products

The porous filtration materials of TiAl, FeAl and NiAl intermetallic compound

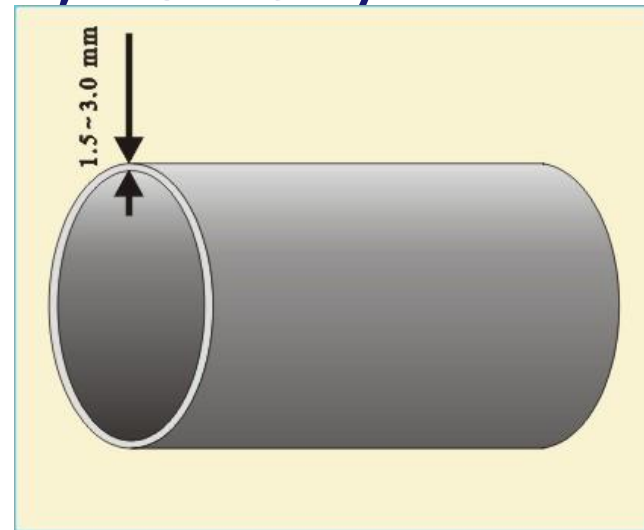
#### ❖ Gas filter characteristics(2)

#### ★ Filter thin, thin to **1.5mm**

The resistance is small, gas flux is ceramic several times, so easy cleaning

air flux :

$100 \sim 300 \text{ m}^3 / (\text{m}^2 \cdot \text{Kpa} \cdot \text{h})$





### 3. Products

The porous filtration materials of TiAl, FeAl and NiAl intermetallic compounds

#### ❖ Gas filter characteristics(3)

★ The filter length is more than 2m

In the same filtering area, can reduce the diameter of filter device;

The overall structure of the filter length up to 750、1000、1250、1500、1750mm

Combined structure of filter can reach more than 2m





### 3. Products

The porous filtration materials of TiAl, FeAl and NiAl intermetallic compounds

#### ❖ Gas filter characteristics(4)

#### ★ Filter element with high accuracy

Filtering accuracy  $\leq 0.1 \mu$

The net gas dust content  $\leq 5\text{mg/Nm}^3$



### 3. Products The porous filtration materials of TiAl, FeAl and NiAl intermetallic compounds

#### ❖ Gas filter characteristics(5)

- ★ filter high temperature, in more than 550 °C energy-saving, do not paste film
- ★ filter thermal shock resistance, pressure fluctuation. To adapt to the system temperature, pressure fluctuation
- ★ filter resistance to high temperature oxidation and high-temperature sulfur corrosion. Widely used in high temperature gas and various industrial furnace gas purification
- ★ filter carbonization, no high-temperature catalytic cracking



### 3. Products

The porous filtration materials of TiAl, FeAl and NiAl intermetallic compounds

#### ❖ Liquid filter characteristics (1)

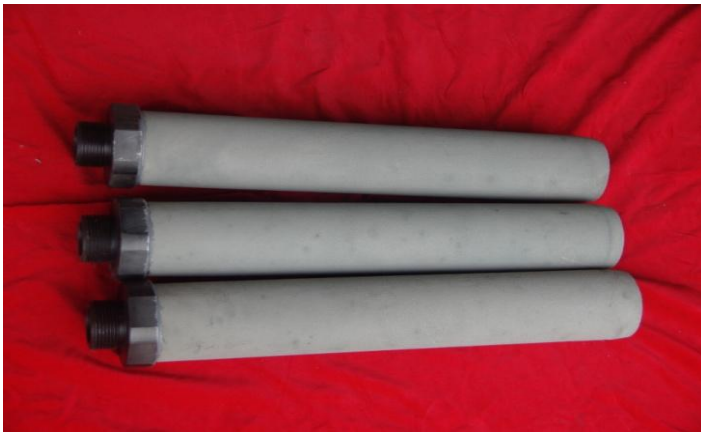
★ filter with high strength

The thickness , small resistance, filtering the transmembrane pressure difference, large flux

The transmembrane pressure difference is only  $1/2 \sim 1/4$  to ceramic membrane

Integral liquid solid separation filter length series: 500, 750, 1000mm

Combined solid-liquid separation filter length: more than 2000mm





#### 4. Filtering characteristics of the YT asymmetric membrane

① 微滤 (Microfiltration, MF)

② 超滤 (Ultrafiltration, UF)

③ 纳滤 (Nanofiltration, NF)

④ 反渗透 (Reverse osmosis, RO)

... ..

YT  
膜

- ❖ YT belongs to the microfiltration membrane filtration;
- ❖ YT membrane filtration of surface filtration;
- ❖ YT membrane filter includes the terminal filtration, cross-flow filtration and micro cross-flow filtration;



## 5.Application: application for purification of zinc sulfate

Compared with the traditional filtering effect



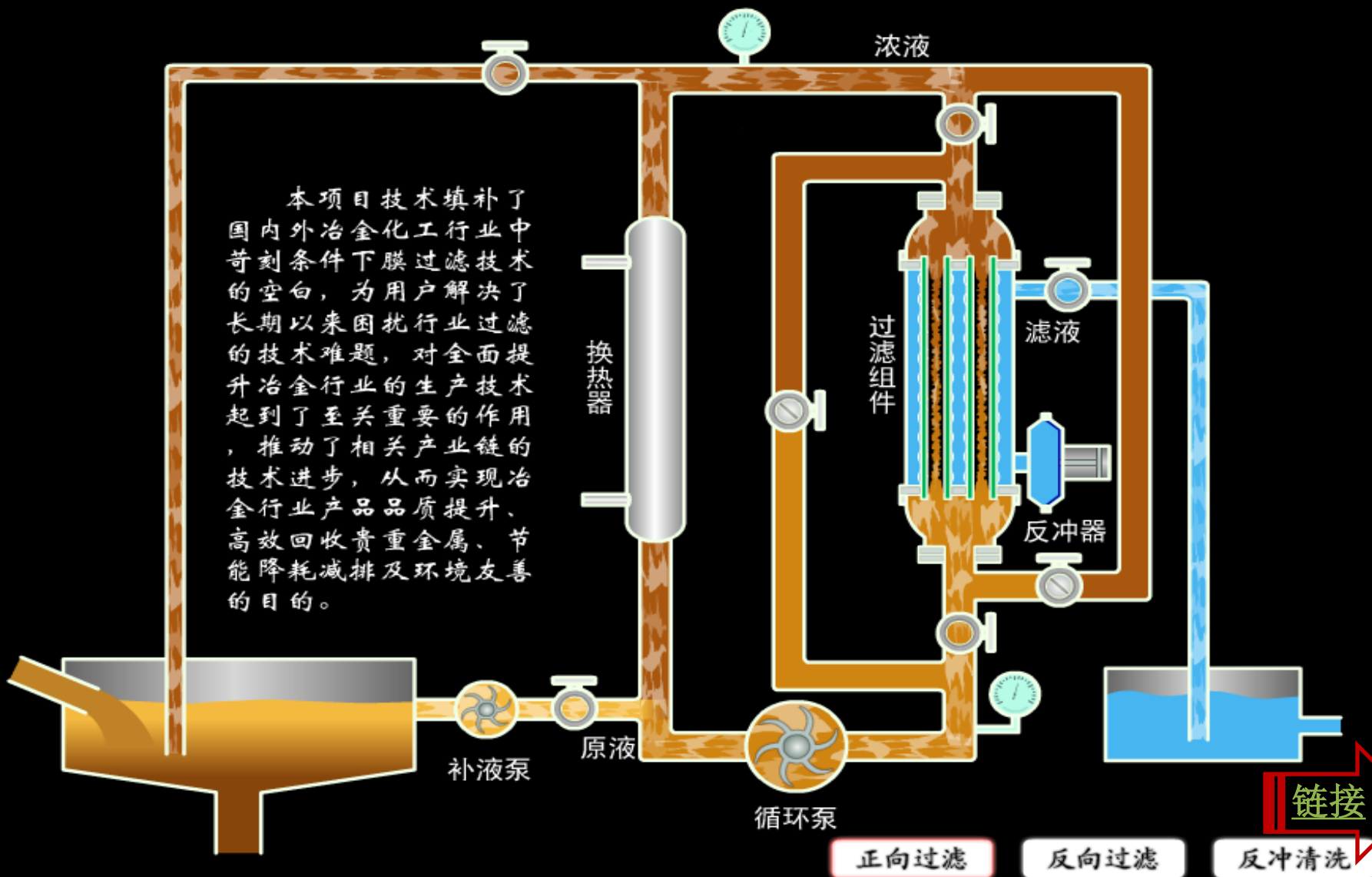
硫酸锌中性浸出液过滤前后对比



# Application: YT liquid cross-flow filtration system principle

## YT-TiAl 金属间化合物非对称膜液固分离流程

本项目技术填补了国内外冶金化工行业中苛刻条件下膜过滤技术的空白，为用户解决了长期的技术难题，对全面提升冶金行业的生产技术起到了至关重要的作用，推动了相关产业链的技术进步，从而实现冶金行业产品品质提升、高效回收贵重金属、节能降耗减排及环境友善的目的。





# Application: YT zinc sulfate liquid continuous purification process

- 1、降低锌粉消耗量40%；
- 2、提高电积效率7%以上；
- 3、提高电锌/产品品质；
- 4、避免电解烧板；
- 5、封闭运行、环境友善。

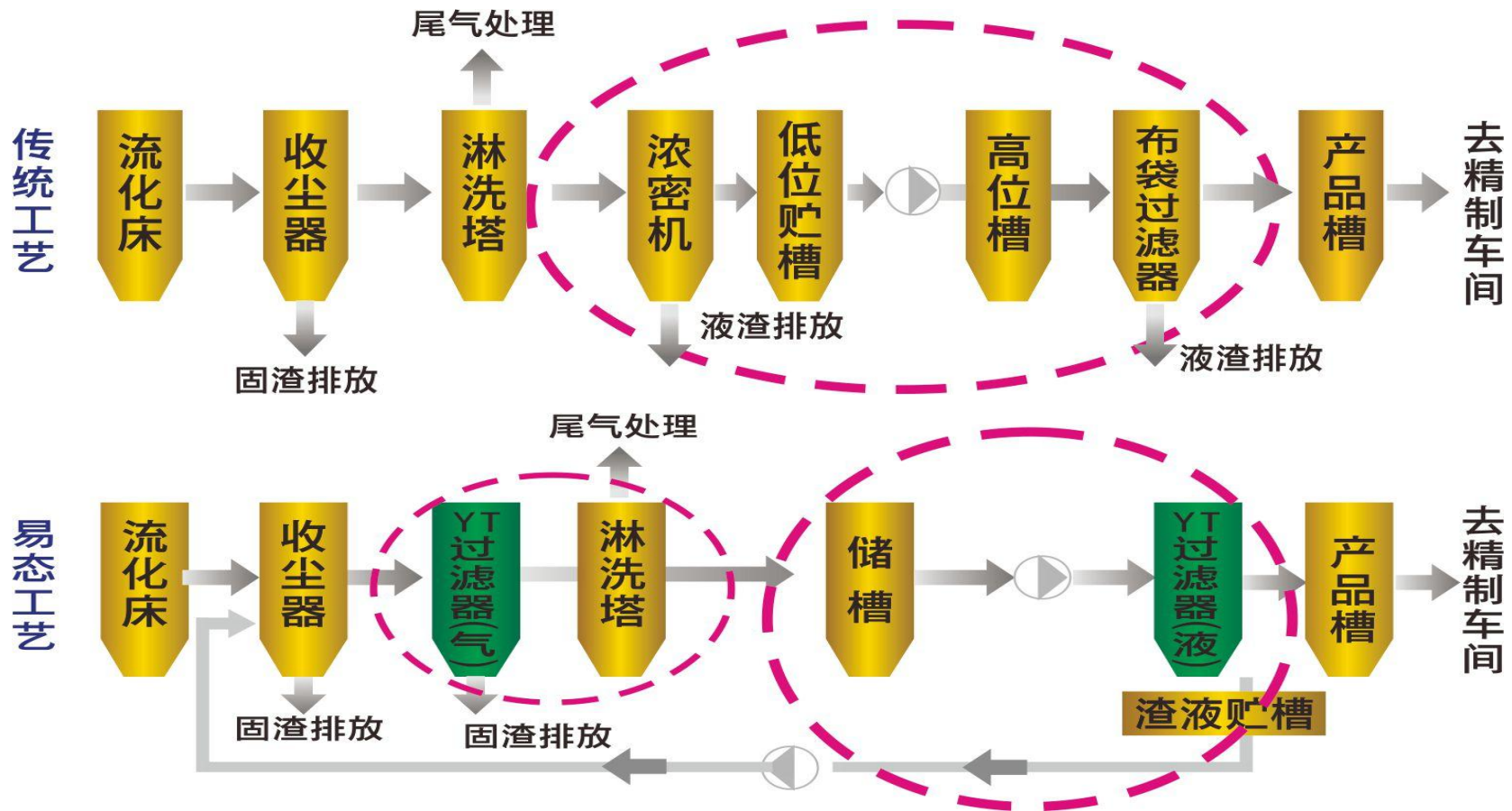


YT-锌液连续净化新工艺



# Comparison of $\text{TiCl}_4$ conventional bag filter technology and YT-TiAl membrane filtration process




**Greatly shorten the process flow**





**Energy saving and environmental protection: the product can solve the problem**

## **The harsh conditions of the corrosive chemical metallurgy industrial liquid filtration**

-  **will be the first membrane filtration technology used in wet metallurgy, chemical and metallurgical industry in the chlorinating metallurgy liquid filtration, successfully used for precious metals extraction, extraction of yellow phosphorus, cobalt sulfate, zinc sulfate production and purification in filtration and separation and concentration of titanium chloride industry.**
-  **- filtering accuracy of 0.1um, to bring customers shortened process, product quality improvement, energy consumption reduction, resource recovery, reduce emissions, solve the environmental problem, which can promote the coordinated development of national economy and ecological civilization,so the national and even global whole industry technology upgrade;**
-  **The precision of membrane separation, promotion, can reduce the exploitable resources standards, increase the recoverable reserves.**



## Application: Comparison of $\text{H}_2\text{SO}_4$ results for molybdenum smelting

### Comparison of results of $\text{H}_2\text{SO}_4$ filter

The use of bag filter after the product is deep coffee color and serious pollution



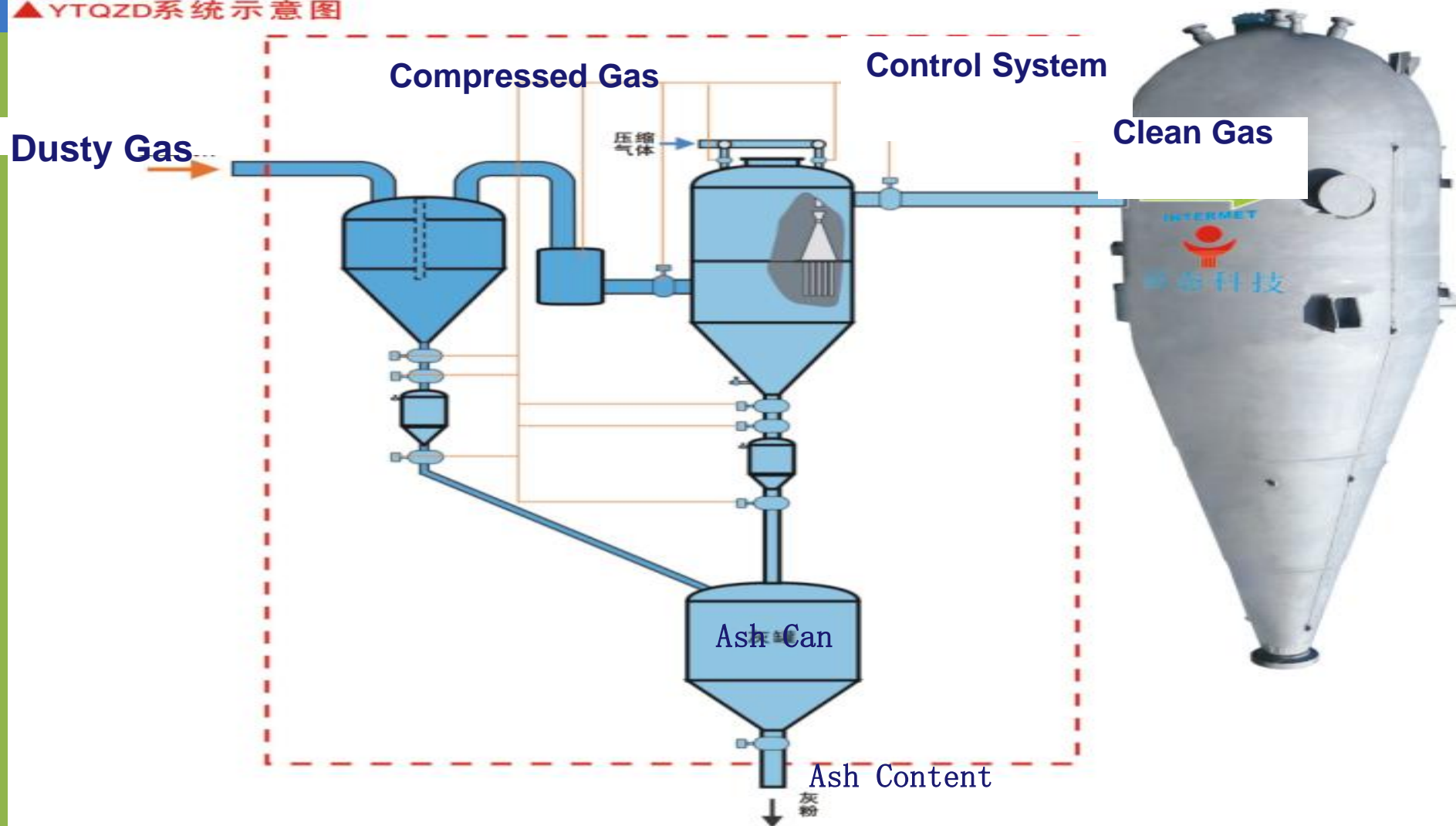
The use of YT-FeAl membrane filtration products deep transparent and clear without impurities

The use of YT filtering device, each producing thirty thousand tons of molybdenum oxide, customers can add economic benefits 28000000 yuan per year.



# Application: Purification process of ferroalloy smelting 550 degrees high temperature furnace gas

▲ YTQZD系统示意图





## **Application:** Purification process of ferroalloy smelting 550 degrees high temperature furnace gas

### **The customer plant**



### ***The filtering effect comparison***

According to the authoritative data show that the national development and Reform Commission, the national ferroalloy smelting furnace, a total of 4000 sets, the total energy consumption accounted for 2% of total national energy consumption, the use of the technology, the high temperature furnace gas resources are fully utilized (power or coal chemical industry), the total energy consumption in proportion to its share fell from 2% to 1.35%.

Customer operation on the night





## Application: energy conservation and environment protection

- **First solve the filtering problem of global temperatures above 550 degrees gas, successfully used for ferroalloy smelting, coal gas, coal oil, oil shale, precious metals, precious metals recovery and purification.**
- **Filtering accuracy of 0.1um, we can solve PM2.5 problems successfully, and the desulfurization, denitrification, emissions of arsenic removal problem;**
- **We can effectively prevent the pollution of the atmosphere.**



## 4. Application of enterprise survey

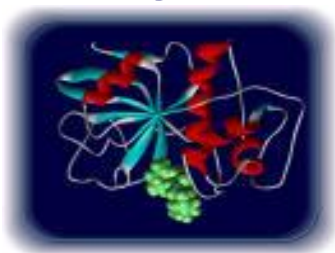


**Water treatment, desalination of sea water**



**Food Processing**

**Biological and chemical**



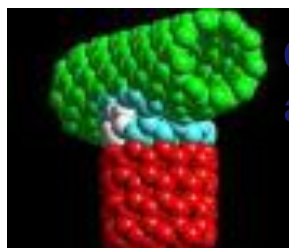
**The smelting, steel plant**



**Petroleum, chemical industry, coal chemical industry**



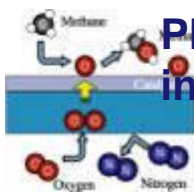
**Nanotechnology**




**Catalytic purification of automobile exhaust**



**Pharmaceuticals industry**





Promoting the human resource economization and friendly environment with our most advanced technology and continuous innovation, and we will pay all efforts, in order to achieve this mission!

**Clean the water and blue the sky, we are in action!**



**We again express our most sincere thanks for the care and support of the experts, leaders and friends! Thank you for your attention!!**



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