

# JUNGSIN MACHINERY

Expert Solutions for Slurry Pumps & Mining Equipment Localization

Global Leader in Industrial Performance & Material Innovation



# Company Overview

Founded in 1969, Jungsin Machinery has dedicated over four decades to the domestic production of high-performance machinery.

We specialize in localizing core equipment for steel mills and power plants, reducing import dependency and optimizing operational costs for global leaders.



South Korea : Pohang Factory

# **PART I.**

# **SLURRY PUMP DIVISION**

Advancing domestic technology through material localization and slurry pump optimization for global power and steel industries.

# SLURRY PUMP DIVISION

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## Reliable Fluid Transfer

Designed to transport high-concentration slurries (up to 30% solids) across demanding environments:

- **Steel Mills:** Slag granulation & raw material transfer.
- **Power Plants:** Desulfurization & ash handling.
- **Chemical Plants:** Corrosive & abrasive fluid transport.
- **Environmental Plants :** Abrasive sand fluid transport.



Capacity : 0.02 m<sup>3</sup>/min ~ 50 m<sup>3</sup>/min

# KOREA EAST-WEST POWER LOCALIZATION

## DANGJIN UNIT 5~8

Successful localization of core components for desulfurized slurry transfer pumps. Achieved material performance exceeding foreign standards.



## DANGJIN UNIT 9~10

Continued R&D success in localizing main components, ensuring stable operation and significant maintenance cost reduction for EWP.



# DESULFURIZATION PUMP PART MATERIAL **PATENT**

## MATERIAL LOCALIZATION SUCCESS

- ✓ Developed high-wear resistant alloys for acidity pH 5.2~5.8.
- ✓ Chlorine concentration tolerance of 16,000 ppm+.
- ✓ Confirmed 2x durability compared to foreign "Warman" products.

*"Jungsin JS310-1 material achieved superior weight loss results in field tests."*

**CERTIFICATE OF PATENT**

Patent Number 10-1796438

Application Number 10-2015-0164313

Filing Date 2015.11.23.

Registration Date 2017.11.06.

Title of the Invention  
SLURRY PUMP FOR DESULFURIZATION MAJOR COMPONENTS OF THERMAL POWER PLANT

Patentee  
JUNGSIN MACHINERY CO.,LTD.(120111-\*\*\*\*\*)  
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Inventor  
Inventors are filled out in a registration page.

This is to certify that, in accordance with the Patent Act, a patent for the invention has been registered at the Korean Intellectual Property Office.

2025.09.05.

COMMISSIONER,  
KOREAN INTELLECTUAL PROPERTY OFFICE

특허청  
Korean Intellectual  
Property Office

김완기

Check your current registration with QR code



# JUNGSIN MATERIAL PERFORMANCE COMPARED TO FOREIGN BRAND

## KEY FEATURES

- ✓ It was confirmed that the durability and hardness was equal to or higher than that of foreign pump materials.

### HARDNESS

Foreign Brand

**HRC 39~54**

Jungsin Material (JS310-1)

**HRC 63**

### Wear Loss (10,000 hours of operation)

Foreign Brand

**Max. 15%**

Jungsin Material (JS310-1)

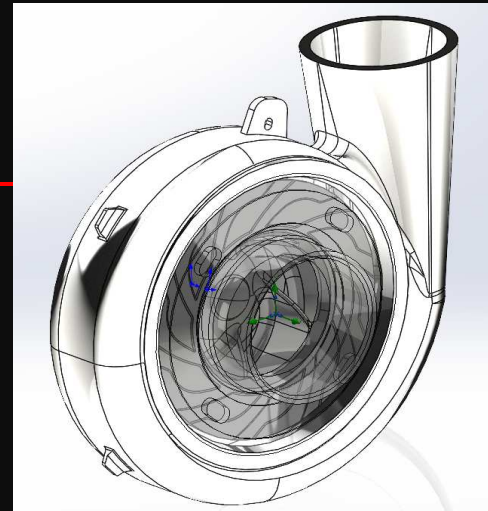
**Max. 6.4%**

# POSCO 2FINEX LOCALIZATION

## WATER PUMP PART SUCCESS

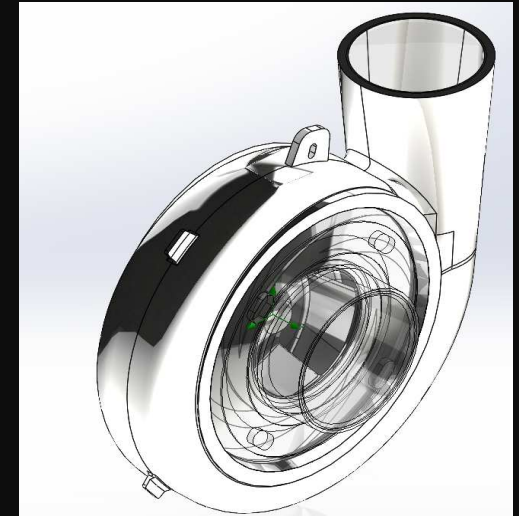
Successfully localized core parts for the POSCO 2FINEX water pump system. Our solution replaced foreign parts, ensuring national industrial competitiveness.

Featured in TV programs and industrial magazines for "Excellence in Domestic Engineering."

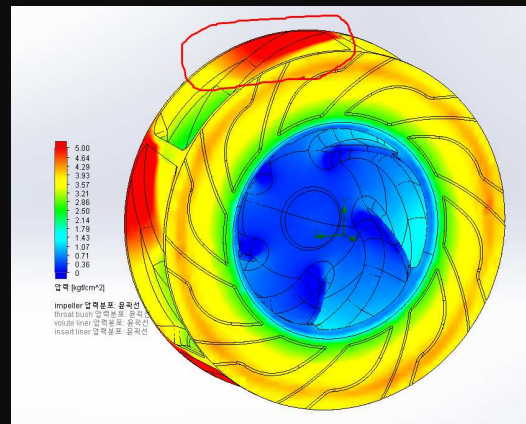


Before improvement

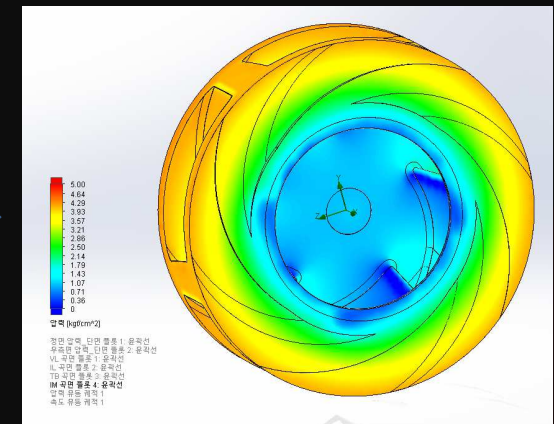
Design Changes



After improvement



Before improvement



After improvement

Impeller Pressure Distribution Difference

# 2FINEX PERFORMANCE OPTIMIZATION

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## ISSUE RESOLUTION VIA R&D

**Challenge:** Performance degradation and abnormal pressure distribution in the vortex chamber caused by improper localization.

**Solution:** Redesigned Impeller/Liner using Jungsin's proprietary CFD design program.

**Result:** As a result of localization with our own design program compared to the existing simple copy, the required flow rate was transferred normally, and the current, slag production, and pump operating conditions were operated on the same level as Australia's Warman, which was initially installed, and the localization of pump parts was successful.

# PUMP LOCALIZATION TRACK RECORD

Year	Client	Project Description	Result
2009.04	POSCO	#4 Blast Furnace Water Slurry Pump Supply	Success
2013.08	East-West Power	Dangjin Unit 5~8 Core Part Localization	Success & Patent Obtained
2018.01	POSCO	#1, 4, 5 Blast Furnace Pump Rationalization	Success
2020.05	POSCO	2FINEX Large Slurry Pump Localization	Success
2023.03	POSCO	#4 Blast Furnace Water Slurry Pump Supply	Success

# **PART II.**

# **MINING PROCESS DIVISION**

Complete turnkey solutions from primary crushing to final mineral extraction using high-efficiency classification technology.

# THE MINING PROCESS FLOW

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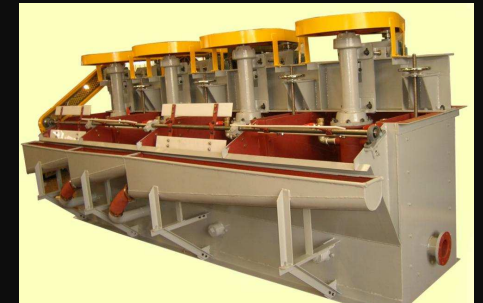
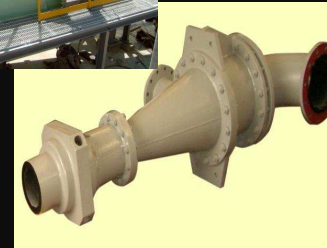
1. Crushing



2. Grinding



3. Classification



4. Extraction

Jungsin Machinery provides optimized equipment for every stage of mineral processing.

# PRIMARY CRUSHING: **JAW CRUSHER**

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## **HEAVY DUTY PERFORMANCE**

Ideal for primary crushing of raw ore. Engineered for high-stress durability and maximum throughput.

Capacity: From 0.3 Ton/Hr to 500 Ton/Hr depending on model specifications.

# SECONDARY CRUSHING: **HAMMER CRUSHER**

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## PRECISION REDUCTION

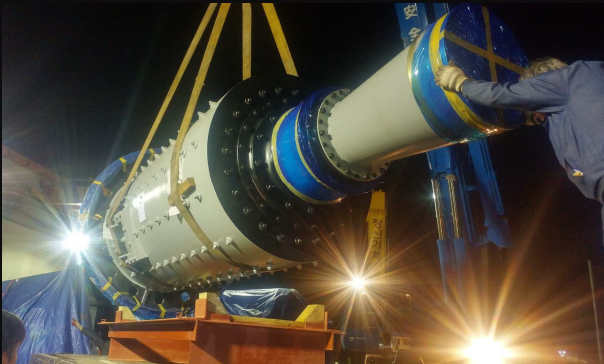
Secondary crushing to ensure uniform output size before the grinding stage.

Widely used in steel mill plants and thermal power plants in limestone & coal crushing systems across Vietnam and Indonesia, Türkiye.



# GRINDING STAGE: **BALL & ROD MILL**

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**BALL MILL**

Achieves 200 Mesh fineness.



**ROD MILL**

Uniform particle reduction.

Crucial step to prepare mineral slurry for the flotation process. Fine grinding unlocks the gold, copper, or iron from the host rock.

# MODERN CLASSIFICATION SOLUTIONS

Replacing traditional conditioning with high-efficiency separation.

# SPIRAL CLASSIFIER

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## MECHANICAL SEPARATION

Separates fine particles from coarse materials through sedimentation speed differences in a liquid medium.

- ✓ Continuous operation with low maintenance.
- ✓ Effective for dewatering and desliming.
- ✓ Submerged bearing application for easy maintenance.



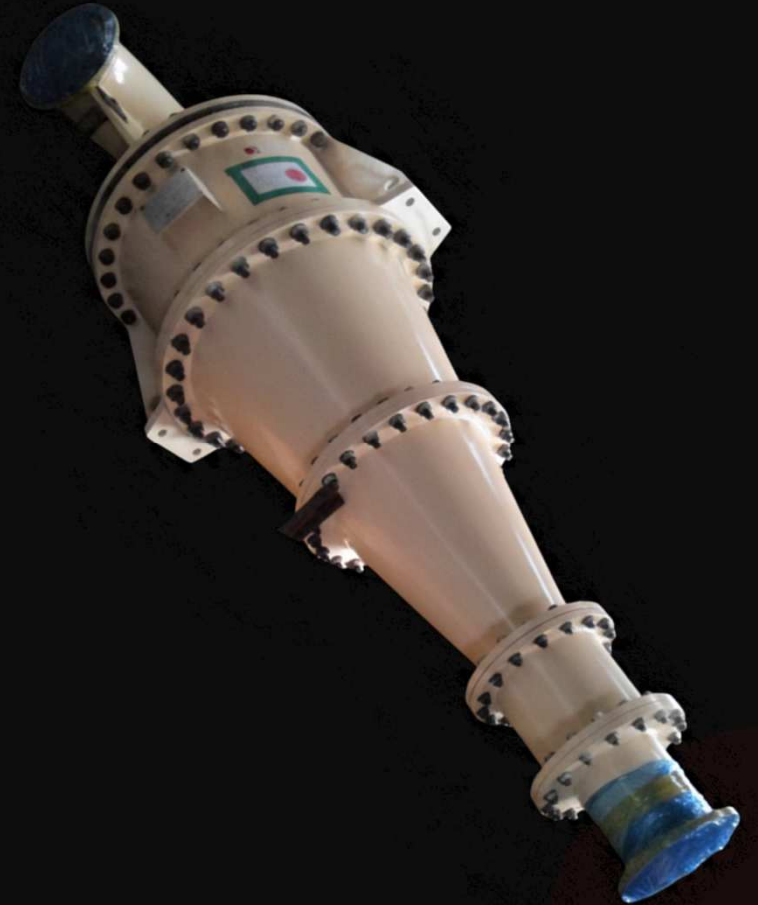
# WET CYCLONE

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## CENTRIFUGAL CLASSIFICATION

Utilizes high-speed centrifugal force to separate slurry by density and size.  
Essential for high-capacity mining plants.

**Advantage:** Compact design with extremely high separation efficiency compared to traditional tanks.



# THE **FLOTATOR** (FLOTATION MACHINE)

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## **FINAL EXTRACTION STAGE**

Extracts valuable minerals like Gold, Copper, and Silver using chemical reagents and air bubbles.

Capacity: 10 Ton/Day ~ 1,500 Ton/Day.

Proven track record in Graphite mines and precious metal recovery plants.

# GLOBAL **EXPERTISE** HIGHLIGHTS

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## **SOUTH AFRICA**

Kalagadi Mn-Sinter Plant Roll  
Crusher supply.



## **PHILIPPINES**

Cebu Limestone Crushing Plant  
complete setup.



## **BRAZIL**

POSCO CSP Laboratory  
Equipment and Roll Crushers.



## **INDONESIA**

JAWA Power Plant Bottom Ash  
Handling System  
Krakatau POSCO Crushing System.



## **TÜRKIYE**

Tufanbeyli Power Plant Limestone  
Hammer Crushers & Mills.



## **VIETNAM**

Sonhau 1 Power Plant Clinker  
Grinder supply.

# QUALITY & CERTIFICATIONS

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## STANDARD OF EXCELLENCE

- ✿ ISO 9001 / ISO 14001 / 45001 Certified
- ✿ Core Component Material Patents
- ✿ Smart Factory R&D Base

Jungsin Machinery utilizes advanced design programs and a research-based smart factory to ensure every product meets the highest industrial standards.

# Q & A

Thank you for your attention.

Expert Engineering. Domestic Pride. Global Performance.

# CONTACT US

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