







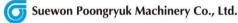
#### **Suewon Poongryuk Machinery Co., Ltd.**

# **Company Overview**

2024

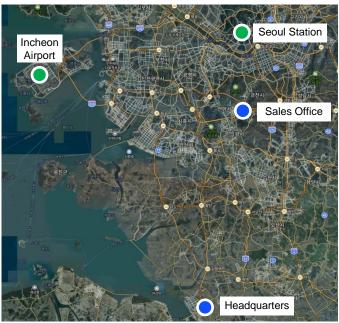
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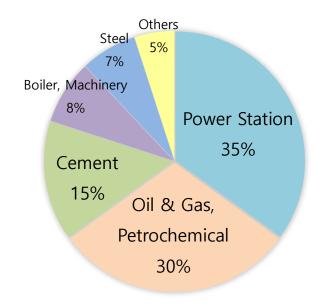
- Name: Suewon Poongryuk Machinery Co., Ltd.
- Business area: Heavy duty fans on Energy, Oil & Gas, Industrial, and Infrastructure
- Established: 1968
- Address of Head Office and Main Factory:
  - 13 Poseungsandanro 40beon-gil, Poseung-eup, Pyeongtaek-si, Gyeonggi-do, South Korea, 17961
  - Tel: +82-31-8094-5500
- Sales Office:
  - 268-1 Hagui-ro, Dongan-gu, Anyang-si, Gyeonggi-do, South Korea, 14056
  - Tel: +82-31-8094-5665 (KR Cho)
- Employees: 140
- ISO9001 acquired in 1996
- Website: www.suewon.co.kr



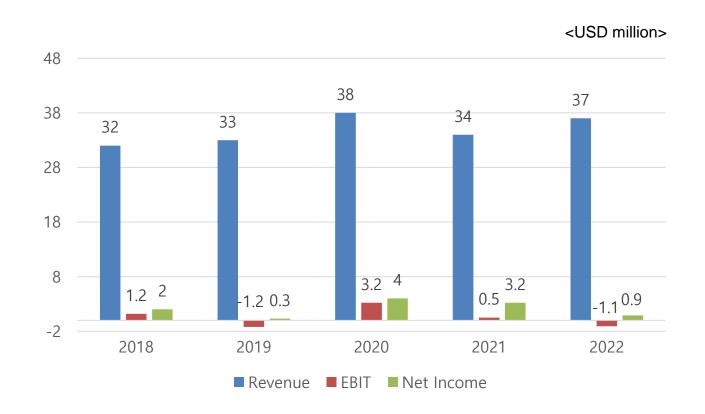


#### Business Area

Energy	Oil & Gas	Industry	Infrastructure
Coal power	Chemical	Automobile	Food
Cogeneration power	LNG	Cement	Pulp
Gas power	Petrochemical	Steel	Tunnel and railway
	Refinery	Ship	Water treatment



#### Financials



"Biggest Fan & Blower Market Share in Korea"

#### Factory Information:

✓ Head Office and Main Factory in Pyeongtaek : 41,313 m² (10.2 Acre)

✓ Second Factory in Pyeongtaek : 16,500 m² (4.1 Acre)

<Head Office and Main Factory Plot Plan>







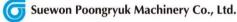


"Largest Fan & Blower Factory in Korea"

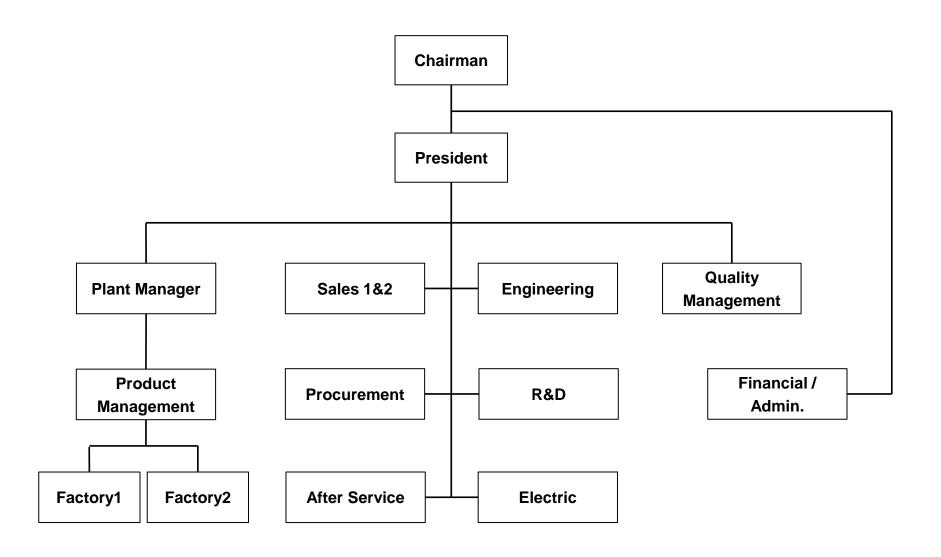
# 2. History

Year	Major History
1968	Founded as a Industrial fan and blower manufacturer in Seoul (2,300 m²)
1978	Construction of Anyang Head Office and Factory (20,800 m²)
1978	Began to manufacture Heavy Duty, Industrial Fan and Blower
1981	Began to manufacture Power Plant Fan and Blower
1989	Began to manufacture Gear increasing single stage turbo blower
1992	Began to manufacture Variable Pitch Axial Flow Fan
1996	Acquired ISO9001
2005	Construction of Second Poseung Factory in Pyeongtaek (16,500 m²)
2018	Construction of Head Office and Main Poseung Factory in Pyeongtaek (41,313 m²)

#### "No.1 Fan & Blower Company in Korea"



# 3. Organization Chart



#### 4. Products

#### 4.1. Centrifugal fans

- Fan and blower
- Multi-stage turbo blower
- Gear increasing single stage turbo blower

#### 4.2. Axial fans

- Variable pitch axial flow fan
- Wind tunnel fan
- Tunnel and Jet fan
- Cooling and HVAC fan

#### Centrifugal Fan & Blower

Feature: Wide application depending on blade types

Design Code: API 673, API 560, AMCA

Characteristics: Backward curved Blade - Typical blade type with normal efficiency

Airfoil Fan – Low noise and high efficiency

Radial Fan – Strong against dust build up

Application: Automobile, Cement, Oil and Gas, Petrochemical, Power, Steel industry





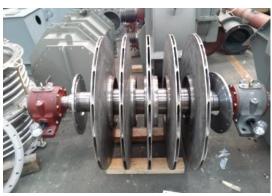
#### Multi-Stage(Multi-Impellers) Turbo Blower

Feature: Multi-Stage Impeller, Horizontal split casing for accessible maintenance

Advantage: Easy maintenance, high pressure (max 1barg), low inertia moment

Application: Cement plant, Oil & Gas, Petrochemical plant, Steel plant







Service: DHU Air Blower

#### Gear Increasing Single Stage Turbo Blower

Feature: Gear-Increased, Mixed Flow, Impeller Single Stage, Forced Lubricant System

Design Code: API 672

Advantage: Small GD<sup>2</sup>, low noise, low vibration, Saving Energy, light weight and high reliability.

Highest pressure (max 2barg)

Application: Chemical plant, Desulfurization facilities, Sewage treatment, Steel plant





Project : Jungnang Water Treatment, Korea

Service: Sewage Treatment



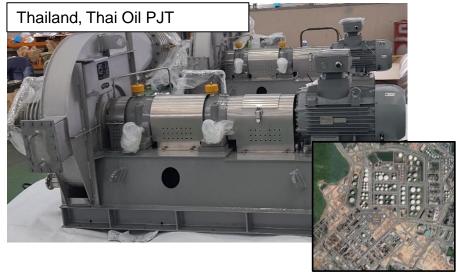
Project: Nghi Sohn Refinery Project, Vietnam Service: Desulfurization Oxidation Air Blower

#### Refinery









#### Gas









#### Petrochemical









#### ✓ Delivered Status

- Delivered more than 30,000 heavy duty and industrial fans.
- Delivered to over 30 countries.
- Largest market share in Korea.

#### ✓ Strong for

- Oldest and largest Fan and Blower manufacturer in Korea.
- Specialized in Automobile, Cement, Oil and Gas, Petrochemical, Power, Steel industry.
- Satisfy API code.
- Trouble shooting.
- Fast and strong technical support from Head Office engineering team.
- Dispatch Technical Advisor from the Head Office.

#### Variable Pitch Axial Fan

Feature: Hydraulic Blade Pitch Adjustment System for rotation of blades

Advantage: Most appropriate solution to control volume flow during operation

Highest efficiency than other systems

Application: Thermal power plant, Tunnel ventilation





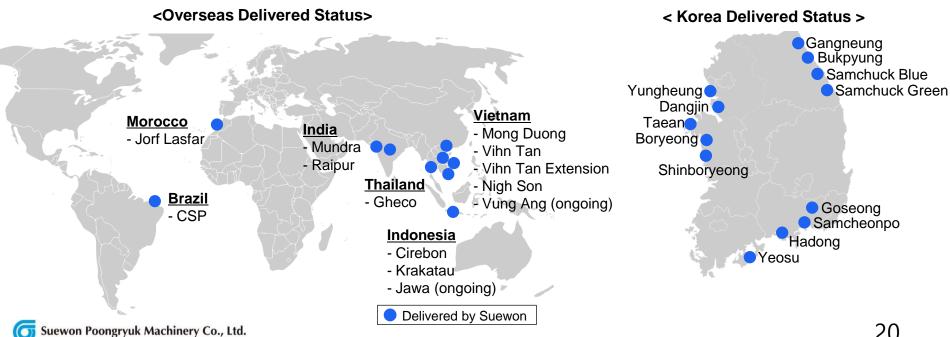
#### Variable Pitch Axial Fans

#### **Delivered Status**

- Delivered more than 500 Variable Pitch Axial Fans to Vietnam, Indonesia, Thailand, Morocco, India, Brazil and Korea.
- More than 95% market share in Korean thermal power plants.
- About 25% of market share in Vietnamese thermal power plants (Capacity over 500MW).

#### Strong for

- Only company to deliver variable pitch axial fans from engineer, manufacturing and after service in Korea.
- Trouble shooting.
- Fast and strong technical support from Head Office engineering team.
- Dispatch Technical Advisor from the Head Office.



#### **Tunnel Fan and Jet Fan**

Feature: Non reversible or reversible rotation tunnel fan, Jet fan

Advantage: Smoke control effect in case of fire in tunnel, anti-corrosion material

Application: Tunnel ventilation

#### Reversible Tunnel Fan

Non Reversible Tunnel Fan

Jet Fan



#### **Wind Tunnel Fan**

Feature: Large air flow

Advantage: Verify aerodynamic performance

Application: Research & Development facilities for aircrafts, cars and ships, defense

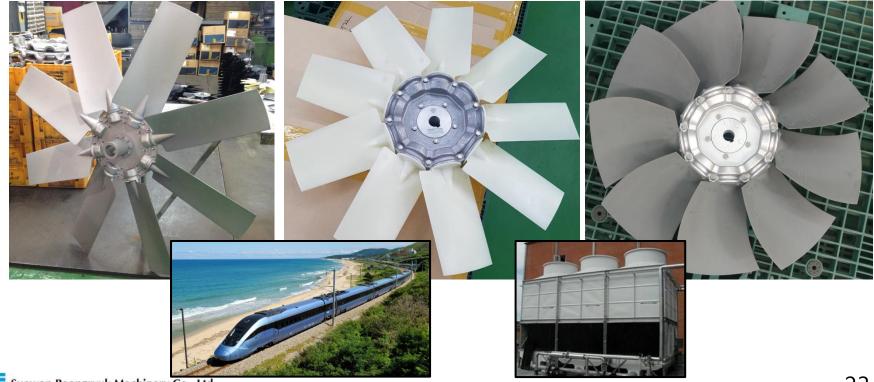


### Cooling/HVAC Fan

Feature: Short manufacturing period, Easy assembly process, Impeller type of Adjustable pitch

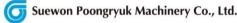
Advantage: Product selection software

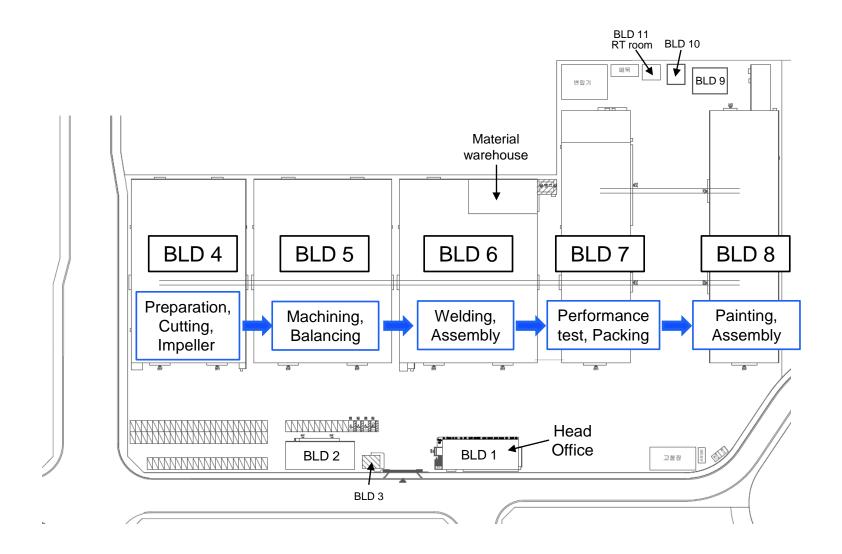
Application: Agriculture, Cooling Unit, HVAC, Oil cooling of the radiator and compressor, Train



### 5. Factory Facilities

- 1. Manufacturing Flow
- 2. Manufacturing Facilities
  - CNC Cutting machine
  - CNC Lathe
  - CNC Miller
  - Shot blast and Paint shop
- 3. Testing Facilities
  - Model fan test machine
  - Balance machine
  - VVVF system
  - Main Bearing and HBAD test machine





Preparation, Cutting, Impeller









#### Machining, Balancing









#### Welding, Assembly









Performance test, Packing





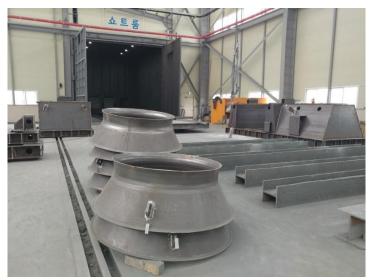




#### Painting, Assembly









#### Office Section









Cutting Machine (Fiber laser)



**1. Equipment Name :** ByStar Fiber 3015 (10kW), Bytronic

#### 2. Specifications:

Maximum cutting thickness: 30 mm

Work Area (X,Y,Z): 3000 x 1,500 x 100 mm

Maximum cutting speed: 170 m/min

Cutting Machine (Gas)



**1. Equipment Name** : CNC GAS CUTTING M/C

#### 2. Specifications

• Maximum cutting capacity : 1-CUT (150 mm)

6-CUT (50 mm)

• Maximum picture size : 3,500mm x 14,400mm

• Cutting speed: 100 ~ 1,000mm /min

Cutting Machine (Laser)



- 1. Equipment Name: TruLaser 3030 (5kW), TRUMPF
- 2. Specifications:
  - Maximum cutting thickness: 20 mm
  - Work Area(X,Y,Z): 3,000 x 1,500 x 115 mm
  - Maximum cutting speed: 60~85 m/min



- 1. Equipment Name: TCL 3030 (4kW), TRUMPF
- 2. Specifications:
  - · Maximum cutting thickness: 20 mm
  - Work Area(X,Y,Z): 3,000 x 1,500 x 115 mm
  - Maximum cutting speed: 20 m/min

#### Lathe (Horizontal)





#### 1. Equipment Name:

Heavy Duty Horizontal Turn/Mill CNC Lathe (K-068)

#### 2. Specifications:

Model: MEGA II 160x9T

• Swing: Ø1,800 (On bed) / Ø1,400 (On carriage)

• Maximum length of work piece: 9,000 mm

Maximum weight of work piece: 15,000 Kg

#### 1. Equipment Name:

Heavy Duty Horizontal CNC Lathe(K-070)

#### 2. Specifications:

Model: MEGA 100 x 6000

Swing: Ø1,000 (On bed) / Ø700 (On carriage)

Maximum length of work piece: 6,000 mm

Maximum weight of work piece : 6,000 Kg

Lathe (Vertical)



**1. Equipment Name :** CNC Double Column

Vertical Turning Machine

2. Specifications:

• Max. Turning Diameter: 8,000 mm



**1. Equipment Name :** CNC Vertical Lathe (K-051)

2. Specifications:

Max. Turning Diameter: 4,000mmMax. Machining Height: 2,500mm

• RPM: 30~100

Inside Dia.: 1,550mm

Program : FANUC MANUAL GUIDE

#### Miller



- 1. Equipment Name: CNC PLANO MILLER (K-071)
- 2. Specifications:
  - Model: TMS-35V, Shin Nippon Koki
  - X-axis Max. Machining Distance : 9,000 mm
  - Y-axis Max. Machining Distance: 3,200 mm
  - Spindle RPM: 10~1500 RPM

Shot blast and Paint shop





Model Fan Test facility



### **5.3. Testing Facilities**

Balance machine and VVVF facility





Equipment Name : Balancing machine
Rotor Weight : 200 ~ 28,000kg(Max)
Max. Rotor Diameter : 5,300mm



**1. Equipment Name**: VVVF Driving system

2. Max. Motor Power: 1,500 kw

### 7. Major Reference List for Indonesia

		CAPACITY						
CUSTOMER	TYPE	VOLUME	△-PRESS.	TEMP.	POWER	QTY	DELIVERY DATE	END USER
		m³/min	mmAq	°C	kW	1	5,2	
KBR Technology	AIRFOIL	5,858	192.2	177	300	7	2024.02	PT. Lotte Chemical, Indonesia
Lotte E&C	TURBO	117	1,100	30	75	1	2023.06	PT. Lotte Chemical, Indonesia
KRAKTAU POSCO	TURBO FAN	18,000	1,850	150	7,500	1	2023.06	Intergrated Stell Mill at Indonesia
Doosan Heavy Industries & Construction	AUTO PITCH AXIAL (FDF)	20,853	490	35	2,100	4	2023.01	INDONESIA JAWA #9,10 (1000MW)
Doosan Heavy Industries & Construction	AUTO PITCH AXIAL (CIDF)	52,390	1,119	154	1,1300	4	2023.01	INDONESIA JAWA #9,10 (1000MW)
Doosan Heavy Industries & Construction	AUTO PITCH AXIAL (PAF)	11,430	1,428	35	3,400	4	2023.01	INDONESIA JAWA #9,10 (1000MW)
PT. ISKANDAR MUDA	TURBO	1,500	900	61	340	2	2021.01	NPK Chemical, Indonesia
PT. ISKANDAR MUDA	TURBO	1,667	1,000	35	360	1	2021.01	NPK Chemical, Indonesia
PT. ISKANDAR MUDA	TURBO	3,084	950	55	690	1	2021.01	NPK Chemical, Indonesia
PT. ISKANDAR MUDA	TURBO	1,613	900	73.5	370	1	2021.01	NPK Chemical, Indonesia
Hansol Seentec	AIRFOIL	30	968	27.3	37	4	2019.03	KALSELTENG2, Indonesia
Hansol Seentec	AIRFOIL	7,430	489	131	850	4	2019.03	KALSELTENG2, Indonesia
Hansol Seentec	TURBO	2,820	551	27.3	420	4	2019.03	KALSELTENG2, Indonesia
Hansol Seentec	TURBO	1,900	1,908	27.3	820	4	2019.03	KALSELTENG2, Indonesia
Posco E&C	В3-С	20	2,500	30	30	2	2018.03	PERTAMINA LPG TERMINAL, Indonesia

## 7. Major Reference List for Indonesia

			CA	PACITY				
CUSTOMER	TYPE	VOLUME	△-PRESS.	TEMP.	POWER	QTY	DELIVERY DATE	END USER
		m³/min	mmAq	°C	kW			
Posco E&C	B4-C	16	3,500	5	37	1	2018.03	PERTAMINA LPG TERMINAL, Indonesia
Posco E&C	B3-C	20	2,600	30	37	1	2018.03	PERTAMINA LPG TERMINAL, Indonesia
Posco E&C	В3-С	20	2,700	30	37	1	2018.03	PERTAMINA LPG TERMINAL, Indonesia
Posco E&C	B4-C	18.1	3,500	-30	37	1	2018.02	PERTAMINA LPG TERMINAL, Indonesia
Samsung Engineering	TURBO	381	3,770	37	400	2	2013.05	Exxonmobil - Banyu Urip, Indonesia
Samsung Engineering	GM BLOWER	47	11,640	37	132	2	2013.05	Exxonmobil - Banyu Urip, Indonesia
Toyo Engineering	TURBO	2,781	550	37	370	1	2013.02	KALTIM-5, INDONESIA
Toyo Engineering	TURBO	11,835	550	37	1,550	1	2013.02	KALTIM-5, INDONESIA
Toyo Engineering	TURBO	21,618	260	44	1,360	1	2013.02	KALTIM-5, INDONESIA
Toyo Engineering	TURBO	251	400	37	37	1	2013.02	KALTIM-5, INDONESIA
Toyo Engineering	TURBO	5,319	410	37	520	1	2013.02	KALTIM-5, INDONESIA
POSCO E&C	AUTO PITCH AXIAL	18,000	400	34	2,000	2	2012.12	Intergrated Stell Mill at Indonesia
POSCO E&C	TURBO FAN	18,000	1,850	150	7,500	2	2012.11	Intergrated Stell Mill at Indonesia
Doosan Heavy Industries & Construction	AUTO PITCH AXIAL (IDF)	39,318	590	157	4,800	2	2010.03	INDONESIA Cirebon #1 (660MW)
Doosan Heavy Industries & Construction	AUTO PITCH AXIAL (FDF)	16,062	522	38	1,800	2	2010.03	INDONESIA Cirebon #1 (660MW)
Doosan Heavy Industries & Construction	AIRFOIL	9,101	11,81	38	2,300	2	2009.11	INDONESIA Cirebon #1 (660MW)

### 7. Major Reference List of Power Plant

				POWER				CAPACIT	ΓΥ	
DATE	LOCATION	CLIENT	END USER	RATING	Qʻty	TYPE	VOLUME	PRESS.	TEMP.	POWER
				(MW)			m³/min	™Aq	°C	kW
Ongoing	Vietnam	Doosan	Vung Ang 2	600	4	Auto Pitch Axial (CIDF)	30,815	1,063	136	6,600
Ongoing	Korea	Doosan	Samchuck Blue #1,2	1,050	4	Auto Pitch Axial (IDF)	46,696	1,236	105	10,700
2024	Korea	Doosan	Dangjin #1-4 Retrofit	500	8	Auto Pitch Ax ial (CIDF)	27,144	1,073	110	3,000
2023	Indonesia	Doosan	JAWA #9,10	1,000	4	Auto Pitch Axial (CIDF)	52,390	1,119	154	11,300
2021	Korea	Doosan	Kangneung #1,2	1,040	4	Auto Pitch Axial (CIDF)	47,547	1,198	110	11,000
2020	Vietnam	Doosan	Nghi Sohn 2 #1,2	665	4	Auto Pitch Axial (CIDF)	34,133	1,025	145	7,100
2020	Morocco	Daewoo E&C	Jorf Lasfar #5,6 Retrofit	350	4	Auto Pitch Axial (CIDF)	16,964	941	149	3,300
2019	Korea	Doosan	Goseong #1,2	1,040	4	Auto Pitch Axial (CIDF)	52,428	1,094	151	11,000
2019	Korea	ВНІ	Samcheopo #5,6 Retrofit	560	4	Auto Pitch Axial (CIDF)	29,410	812	140	4,800
2018	Korea	Doosan	Boryung #3 Retrofit	550	2	Auto Pitch Axial (IDF)	26,196	704	105	3,800
2018	Vietnam	Doosan	Vinh Tan 4 Extension	600	2	Auto Pitch Axial (CIDF)	31,453	1,196	138	7,500
2015	Korea	Doosan	Shinboryung #1,2	1,000	4	Auto Pitch Axial (CIDF)	50,529	1,087	149	10,400
2014	Korea	Hyundai E&C	Samchuck Green #1,2	1,000	8	Auto Pitch Axial (IDF)	30,355	832	159	5,000

## 7. Major Reference List of Oil and Gas Industry

							CAPACITY				
DATE	LOCATION	CLIENT	END USER	Qʻty	TYPE	VOLUME	PRESS.	TEMP.	POWER		
						m³/min	™Aq	°C	kW		
2024	Malaysia	Samsung Engineering	Shell	2	Turbo API 673	1,134	3,590	35.5	1,000		
2022	Korea	Hyundai Oil Bank	Hyundai Oil Bank	2	Multistage	226	5,000	27	320		
2020	Thailand	JNK Heaters	Thai Oil	1	Airfoil API 560	5,167	343	225	420		
2019	Korea	SK E&C	SK Energy	3	GM	359	7,500	39	650		
2019	USA	Zeeco	Bechtel Corpus Christi LNG	2	Airfoil API 560	1,833	845	43	400		
2018	UAE	JNK Heaters	ANDOC Ruwais Refinery	2	Turbo API 673	1,360	236	165	90		
2017	Korea	AMEC Foster Wheeler	Hyundai Oil Bank	1	Turbo API 673	2,004	190	164	132		
2017	Korea	Daelim	S-Oil	1	Turbo API 673	2,339	2,020	38	1,250		
2016	Kuwait	Heurtey Petrochem	KNPC, CFP	1	Turbo API 560	4,733	571	145	650		
2015	USA	Zeeco	Bechtel Sabine Pass LNG	4	Airfoil API 560	1,833	845	43	400		
2015	Malaysia	Zeeco	Petronas	2	Airfoil API 560	5,806	199	384	320		
2015	Vietnam	JNK Heaters	Nghi Sohn Refinery Project	1	Turbo API 560	8,344	335	226	920		
2014	Egypt	JNK Heaters	Egyptian Refinery Company	1	Turbo	3,069	356	166	320		

#### 7. Major Reference List of Petrochemical Industry

							CAPACIT	Υ	
DATE	LOCATION	CLIENT	END USER	Qʻty	TYPE	VOLUME	PRESS.	TEMP.	POWER
						m³/min	™Aq	°C	kW
2024	Indonesia	KBR	Lotte Chemical	7	Airfoil 5,858 API 560		192	177	300
2021	Korea	Daelim	YNCC	2	Airfoil API 560	6,175	192	186	370
2021	Korea	Korea Petrochemical	Korea Petrochemical	1	Airfoil	3,400	645	216	500
2020	Korea	KBR	Hyundai Chemical	3	Airfoil API 560	6,651	524	149	850
2020	Korea	Hanwha E&C	Hanwha Chemical	1	Airfoil 3,116 8		867	175	650
2020	Korea	Heurtey Petrochem	Korea Petrochemical	1	Turbo API 673 1,400		473	198	180
2019	Korea	KBR	GS Caltex	5	Airfoil API 560	6,522 382		171	600
2019	Korea	LG Chemical	LG Chemical	6	Airfoil API 560	5,346	210	168	420
2019	Korea	eTEC E&C	Air Liquide	1	Turbo API 673	1,832	479	150	210
2018	Korea	Wacker Chemi cals	Wacker Chemicals	1	Airfoil	4,201	734	70	680
2017	Korea	Heurtey Petrochem	Deokyang	1	Turbo API 673	4,795	570	144	680
2017	Korea	Lotte E&C	Lotte Chemical	1	Airfoil API 560	4,352	245	170	260
2016	Korea	GS E&C	Korea Petrochemical	2	Turbo API 560	7,009	513	152	900

# 7. Major Reference List of Steel Industry

							CAPACIT	Y	
DATE	LOCATION	CLIENT	END USER	Qʻty	TYPE	VOLUME	PRESS.	TEMP.	POWER
						m³/min	mmAq	°C	kW
2020	Korea	Posco Plantec	Posco	2	Turbo 1,860		400	350	320
2014	Korea	KC Cottrell	SNNC	1	Turbo	6,400	480	160	750
2014	Korea	KC Cottrell	SNNC	1	Turbo 10,000		500	30	1,150
2013	Brazil	Posco E&C	Posco Brazil	2	Auto Pitch Axial	18.000   7		20	2,000
2013	Brazil	Posco E&C	Posco Brazil	2	Turbo	18,000	1,850	150	7,400
2013	Thailand	Nippon Steel Engineering	Thai CGL	20	Turbo	1,650	637	30	280
2013	Indonesia	Posco E&C	Posco Indonesia	2	Auto Pitch Axial	18,000	400	20	2,000
2013	Indonesia	Posco E&C	Posco Indonesia	4	Turbo	18,000	1,850	150	7,400
2013	Korea	Posco E&C	Posco	3	Turbo	3,126	1,591	25	1,200
2013	Korea	Posco E&C	Posco	3	Turbo	2,425	1,800	250	1,200
2013	Korea	Hyundai-Wia	Hyundai Steel	2	Airfoil	25,650	857	180	5,200
2013	Korea	Hyundai-Rotem	Hyundai Steel	2	Airfoil	26,500	500	25	3,000

# 7. Major Reference List of Cement Industry

							CAPACIT	Υ	
DATE	LOCATION	CLIENT	END USER	Qʻty	TYPE	VOLUME	PRESS.	TEMP.	POWER
						m³/min	mmAq	°C	kW
Ongoing	Korea	Hanil Hyundai Cement	Hanil Hyundai Cement	2	Turbo	10,861	1,080	390	3,400
Ongoing	Korea	Sungshin Cement	Sungshin Cement	1	Airfoil	17,275	690	370	3,000
2024	Korea	Sungshin Cement	Sungshin Cement	1	Turbo	19,591	500	180	2,200
2024	Korea	Halla Cement	Halla Cement	2	Turbo	9,286	1,010	390	2,300
2024	Korea	Halla Cement	Halla Cement	2	Turbo	11,900	1,790	80	4,500
2021	Korea	Ssangyong Cement	Ssangyong Cement	1	Airfoil	7,000	600	180	1,000
2021	Indonesia	PT. Unitech	PT. Semen Indonesia	1	Turbo	31,860	370	187	2,800
2020	Korea	Hanil Hyundai Cement	Hanil Hyundai Cement	1	Airfoil	11,917	550	150	1,500
2020	Korea	Asia Cement	Asia Cement	1	Turbo	12,983	1,009	380	3,000
2020	Korea	Ssangyong Cement	Ssangyong Cement	1	Turbo	13,124	891	245	2,400
2019	Malaysia	Sung-yu	NSCI, Perlis Plant	1	Airfoil	4,070	393	140	370
2016	Korea	Ssangyong Cement	Ssangyong Cement	1	Airfoil	15,400	1,350	100	4,400
2014	Korea	Ssangyong Cement	Ssangyong Cement	1	Airfoil	16,040	400	180	1,500
2014	Korea	Asia Cement	Asia Cement	1	Turbo	13,334	755	395	2,400

# Thank you

