

Established in 1992

(주) 팔 마 텍
철 강 계 측 기 제 조 전 문 기 업

Palmatech Company

Using Palmatech products is the way
to make your steel products the best in the world



Palmatech, with the customers, moves to wards a bigger world
with its advanced technologies and excellent
product competitiveness

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CEO MESSAGE

It is my pleasure to meet all of you.

For the past 29 years, Palmatech has invested so much in technological development to improve the quality of our customers' products, and managed to localize, manufacture and supply many on-line measuring instruments to both the steel and non-ferrous metal industries.

We use laser & optic application & vision application to manufacture our products and we consider our technology as our national pride. We provide all engineering/manufacturing/maintenance, a one touch process which we call "Total Solutions."

We will not just say "World's best technology." Instead, we will listen to the voice of our customers and provide the measuring instruments that are only so essential to our customers, ones that our final users are fully satisfied with.

We will devote all our energy to manufacturing instruments with our corporate ideology of respecting "people, technology and values" and the spirit of "passion, improvement and execution."

Without our dear customers, we would not have made it this far. With the knowledge we have accumulated thus far, we will promise that we will continue to make the world's best products that our customers will be proud to use.

Thank you.

President Jong Man Lee

History

- 2020.03 Steel & STS Integrated Dimension & Flatness Measurement System Development Completed
- 2019.12 Surface Defect Detector (SDD) Development Completed
- 2019.09 RM Width Measurement System Development Completed
- 2019.08 The 45th National Quality Division Competition Gold Medal Won (Presidential Award)
- 2018.12 Cold Profile Measurement System (CPMS) for Roller Straighteners Mill Development Completed
- 2012.02 Flatness Measurement System for Cold Levelers Development Completed (With SPCO/JAPAN)
- 2011.11 Flatness Measurement System for Press Levelers Development Completed (With KOJIMA/JAPAN)
- 2011.11 Backlight (LED Projection) Type Width Gauge Development Completed
- 2010.05 Profile Measuring System (PMS / For Section Mill) Development Completed
- 2010.01 Headquarters Relocation Completed
- 2008.10 Flatness Measurement System Development Completed
- 2008.06 Identified as a Technological Innovation Company (By INNO-BIZ)
- 2005.11 Pin Hole & Crack Detector Development Completed
- 2005.05 Plate Dimension Measurement System Development Completed (Width / Length / Camber / Perpendicularity)
- 2004.04 Slab Width and Length Gauge Development Completed
- 2003.07 Width Gauge(C-Frame) Development Completed
- 2003.06 TCM Hole and Width Gauge(Top-Mount) Development Completed)
- 2001.10 Williamson Pyrometer Sole Agent Agreement
- 2001.04 Confirmed as a Venture Company
- 2000.03 Pin Hole Detector Development Completed
- 1998.01 Optical Research Center Established
- 1996.07 Palmatech Incorporation
- 1994.06 Company name Changed to Palmatech
- 1992.05 Palma Systems Established



Core Technologies & Product list

● Core Technologies

- A. Laser & Optical Technique
- B. Signal Processing & Analysis Technique
- C. System Integration Technique
- D. Measurement & Control Technique
- E. Network & Communication Technique
- F. Design & Manufactures Technique
- G. Pyrometer (Infrared Temperature Sensor)
- H. HMD (Hot Metal Detector)
- I. Vision Processing Technique

● Product LIST

1. Plate Dimension Measurement System
(Plate Width / Length / Camber / Perpendicularity)
2. Flatness Measurement System
3. Width Measurement System
4. Pin Hole Detection System
5. Slab Width & Length & Camber Measurement System
6. Shape Measurement System (Strip)
7. Section Shape Profile Measuring System
8. Surface Defect Detector
9. RM/FM Width Measurement System
10. Center Position Control System (Strip Center Control)
11. Steel & STS Integrated Dimension & Flatness Measurement System
(Flatness,Width,Length,Camber,Perpendicularity)
12. Pyrometer
13. Laser & Optic Instrument System Development



Reference List

(2020. 03 Updated)

No	Product	Plant Name		Location (Line)	Units	Note
1	Plate Dimension Measurement System (Width/Length/Camber/Perpendicularity)	POSCO(Pohang)	#1Plate Mill	Inspection	1	On-Line
			#2Plate Mill	Inspection	1	On-Line
			#2Plate Mill	Heavy Thickness	1	On-Line
			#3Plate Mill	Inspection	1	On-Line
		POSCO(Gwangyang)	Plate Mill	Inspection	1	On-Line
		Dongkuk Steel (Dangjin)	Plate Mill	No.1 Inspection	1	On-Line
			Plate Mill	No.2 Inspection	1	On-Line
		Dongkuk Steel (Pohang)	#2Plate Mill	No.1 Inspection	1	On-Line
			#2Plate Mill	No.2 Inspection	1	On-Line
			#2Plate Mill	Leveling Line	1	On-Line
			#1 Plate Mill	Inspection	1	Width & Length
		TOTAL			11	
2	Steel & STS Integrated Dimension & Flatness Measurement System (Flatness,Width,Length,Camber,Perpendicularity)	SM Steel (Gunsan)	STS Plate	Inspection	1	Flatness & Width & Length & Camber
		TOTAL			1	
3	Flatness Measurement System	Dongkuk Steel (Dangjin)	Plate Mill	No.1 Shearing	1	On-Line
			Plate Mill	No.2 Inspection	1	On-Line
			Plate Mill	Press Leveler	1	With KOJIMA(Japan)
		Dongkuk Steel (Pohang)	#2Plate Mill	No.1 Inspection	1	On-Line
			#2Plate Mill	No.2 Inspection	1	On-Line
			#2Plate Mill	Press Leveler	1	With KOJIMA(Japan)
			#2Plate Mill	Cold Leveler	1	With SPCO(Japan)
		POSCO(Pohang)	#2Plate Mill	Inspection	1	On-Line
		POSCO (Gwangyang)	Plate Mill	Shearing	1	On-Line
			Plate Mill	Inspection	1	On-Line
		Hyundai Steel (Dangjin)	#1Plate Mill	No.1&2 Press Leveler	2	With KOJIMA(Japan)
			#1Plate Mill	Cold Leveler	1	With SPCO(Japan)
			#1Plate Mill	Off-line	1	
			#1Plate Mill	Off-line	1	
		TOTAL			15	
4	Hot Rolled & PlateRM Width & Length Measurement System	Dongkuk Steel (Pohang)	#2Plate Mill	RM	1	Profile
		Hyundai Steel(Dangjin)	#1HRM	RM	1	Profile
		TOTAL			2	

No	Product	Plant Name		Location (Line)	Units	Note
6	Width Measurement System (CRM, Electrical Steel, HRM)	POSCO (Pohang)	#2CRM	TCM	1	On-Line
			#CRM	CSL	1	On-Line
			CRM	2EGL	1	Vertical type, On-Line
			Electrical Steel	1DRL	1	Bottom Light SourceOn-Line
			Electrical Steel	2DRL	1	Bottom Light SourceOn-Line
			Electrical Steel	2APL	1	C-Frame Type, On-Line
			Electrical Steel	3APL	1	C-Frame Type, On-Line
			Electrical Steel	3ACL	1	C-Frame Type, On-Line
			Electrical Steel	1HCL	1	On-Line
			Electrical Steel	3HCL	1	C-Frame Type, On-Line
			STS	APF	1	C-Frame Type, On-Line
			STS	2CRM APF(Entry)	1	Bottom Light SourceOn-Line
			STS	3APL	1	C-Frame Type, On-Line
			#2 HRM	1HSL	1	On-Line
			#2 HRM	2HSL	1	On-Line
			#2 HRM	3HSL	1	On-Line
		POSCO (Gwangyang)	#2 CRM	2TCM(Exit)	1	On-Line
			#1 CRM	1TCM(Exit)	1	On-Line
			#2 CRM	2PCM	2	On-Line
			#3 CRM	3TCM	1	On-Line
			#4 CRM	4TCM	1	On-Line
			#2 CRM	2RCL-1	1	C-Frame Type, Bottom Light SourceOn-Line
			#2 CRM	2RCL-2	1	C-Frame Type, Bottom Light SourceOn-Line
		Hyundai Steel (Dangjin)	Thin Strip HRM	SPM	2	On-Line
			#1 HRM	SPM(No.1&2)	2	On-Line
			#2 HRM	SPM(No.1~2)	2	Bottom Light SourceOn-Line
			#2 HRM	SPM(No.3~5)	3	Bottom Light SourceOn-Line
		HYSCO (Dangjin)	CRM	CGL	1	C-Frame Type, On-Line
			CRM	CVGL(Entry & Exit)	2	On-Line
			CRM	CGL(Entry & Exit)	2	On-Line
			CRM	PL/TCM	1	On-Line
		POSCO (Mexico)	CRM	SPM	1	On-Line
			CRM	CGL	2	C-Frame Type, On-Line
		POSCO (Vietnam)	CRM	RCL	1	Bottom Light SourceOn-Line
			CRM	CAL	2	C-Frame Type, On-Line
			CRM	PL	1	On-Line
			CRM	TCM	1	On-Line
		TOTAL			52	
7	Shape Measurement System	POSCO (Pohang)	#1 CRM	2CAL	1	On-Line
			Electrical Steel	3HCL	1	On-Line
			#1 CRM	1CAL	1	On-Line
		TOTAL			3	
8	Thickness Measurement System	POSCO (Pohang)	#2 CRM	PCM	2	On-Line
			#1 CRM	2RCL	1	On-Line
		TOTAL			3	
9	Pin Hole Detection System	POSCO (Pohang)	2냉연	3CAL	1	On-Line
			2냉연	EGL	1	On-Line
			1냉연	1CAL	1	On-Line

No	Product	Plant Name		Location (Line)	Units	Note
9	Pin Hole Detection System	POSCO (Pohang)	#1 CRM	2CAL	1	On-Line
			#1 CRM	2CSL	1	On-Line
			#2 CRM	CSL	1	On-Line
			Electrical Steel	2HCL	1	On-Line
			Electrical Steel	3ACL	1	On-Line
			Electrical Steel	3HCL	1	On-Line
			Electrical Steel	2DRL	1	On-Line
			Tin Plate	1SHL	1	On-Line
			Tin Plate	2SHL	1	On-Line
			Tin Plate	3SHL	1	On-Line
		HYSCO (Suncheon)	CRM	CGL	1	On-Line
			CRM	CAL	1	On-Line
		TOTAL			15	
10	Center Position Control System	POSCO (Gwangyang)	#2 CRM	2PL	1	On-Line
			#1 CRM	1CAL	1	On-Line
		TOTAL			2	
11	Section Profile Measuring System	Dongkuk Steel (Pohang)	SectionMill	Bar & Section	1	On-Line
		Hyundai Steel (Incheon)	Large Section Mill	Large Section	1	On-Line
			Medium Section Mill	Medium Section	1	On-Line
			Medium Section Mill	Exit of Roller Straightener	1	On-Line
		TOTAL			4	
12	Surface Defect Detector(SDD)	Hyundai Steel (Incheon)	Medium Section Mill	Medium Section	1	On-Line
		TOTAL			1	
13	Pyrometer	POSCO (Pohang)	STS	BAF	1	On-Line
			Electrical Steel	DNL	1	On-Line
			#2Plate Mill	Heat Treatment	1	On-Line
			#2Plate Mill	Furnace Entry	1	On-Line
			#2Plate Mill	Inspection	3	On-Line
			#3Plate Mill	Heat Furnace	2	On-Line
			#3Plate Mill	Inspection	1	On-Line
			#1Plate Mill	Inspection	1	On-Line
			#2 Steel Making	Ladle	3	On-Line
			#3 Casting	Delivery	1	On-Line
			#2 Cokes	COKES	1	On-Line
			#3 Blast Furnace	Top of BF	4	On-Line
			Research Center		2	On-Line
			Lime	NO.6	1	On-Line
			#2 HRM	Furnace(Soaking Zone, Top/Bottom)	12	On-Line
		POSCO (Gwangyang)	Coating Line	1CGL	1	On-Line
			Coating Line	2CGL	3	On-Line
			Coating Line	4CGL	3	On-Line
			Coating Line	5CGL	1	On-Line
			Coating Line	6CGL	1	On-Line
			#4 CRM	CAL	1	On-Line
			#1 HRM	#3 Heating Furnace(Soaking Zone, Exit)	2	On-Line

No	Product	Plant Name		Location (Line)	Units	Note
13	Pyrometer	POSCO (Gwangyang)	#2 HRM	Finishing Mill Line (Exit)	1	On-Line
			#3 HRM	Pre Heat Furnace	4	On-Line
			#2 Blast Furnace	Top of Blast Furnace	4	On-Line
			Plate Mill	Heat Furnace	5	On-Line
			Plate Mill	Inspection	3	On-Line
			Plate Mill	Entry of Furnace	2	On-Line
		POSCO(Suncheon)	Magensium	Magnesium	2	On-Line
		POSCO(Gwangdong)	Coating Line	CGL	2	On-Line
		Dongkuk Steel (Pohang)	Plate Mill	Inspection	5	On-Line
			Section Mill	Section & Bar	2	On-Line
		Dongkuk Steel(Dangjin)	Plate Mill	Inspection	4	On-Line
		Hyundai Steel(Dangjin)	#1 HRM	Entry of Furnace	2	On-Line
			#2 HRM	Entry of Furnace	2	On-Line
				Furnace	1	On-Line
				Down Coiler	2	On-Line
			#1 Plate Mill	Cold Leveler Line	2	On-Line
		Hyundai Steel (Incheon)	Large Section Mill	Large Section Mill	2	On-Line
			Medium Section Mill	Medium Section Mill	1	On-Line
		Seah CSS	Bar Steel Mill		1	On-Line
		KG Dongbu Steel(Incheon)	Coating Line	CGL	2	On-Line
		Jeongan Steel	Steel Tube	Steel Tube	1	On-Line
		Seah FS	Steel Tube	Steel Tube	2	On-Line
		LS Cable & System	Aluminum	Aluminum Bar	1	On-Line
		Hansung Aluminum	Aluminum	Press Exit	1	On-Line
		Sunjin AAT	Aluminum	Press Exit	1	On-Line
		Dae Yeong Metal	Aluminum	Press Exit	1	On-Line
		Ulsan Aluminum	Aluminum	HRM	1	On-Line
		Novelis Korea	Aluminum	CRM	3	On-Line
		TOTAL				107
14	Hot Metal Detector (Pyrometer Type)	POSCO (Pohang)	#1 HRM	SSP	2	On-Line
			#2 HRM	RM	2	On-Line
		TOTAL				3
Total					229	

Products

1. Plate Dimension Measurement System

A. Introduction

For product quality control in a plate mill, this system is one single integrated equipment that is used to measure and control the external factors of steel plates, such as width, camber, length, and perpendicularity, improving the quality of products and at the same time, enabling the efficient use of the space for installation.

B. Measuring Items

- Width
- Length
- Camber
- Perpendicularity
- Can measure regardless of the target spec(Width, Length, Thickness)

C. Product Features and Advantages

ITEM	SPECIFICATION		REMARK
Measuring Method	Non-Contact Measuring While Target is In Motion		
Pass/No pass Feature Screen Configuration	Width, Length, Camber, Perpendicularity		On/Off Line
	3-D Shape Display and Surface Contour(2D)		
Width	Measures the width of steel plates from the top of the plates (moving direction) / Measures the left & right side of the plates and gives the Min/Max/Avg width values		
Length	Measures the width of steel plates from the top of the plates (moving direction) / Measures top/tail		
Camber	Measures the width of steel plates from the top of the plates (moving direction) / Measures the side curve (camber) and gives the position value		
Perpendicularity	Measures the shape and length of the plates and gives the perpendicularity		
Pyrometer	Measures the temperature of the plates'surface which is used to compensate for the thermal expansion factor		
Length Measuring Device	Tracks the position of the plates in the moving direction and compensates for the lengths measurement		Emitter & Receiver Type High Response
INTERFACE	PROTOCOL	TCP/IP(MES), DRY CONTACT (PLC), ANALOG(PLC)	
	ITEM	All Measuring Items	
Features	DATA Search	Included	
	HARD COPY	PRINTER Output and File Output	
	Diagnosis Features	Self-diagnosis Features Included (Equipment status, Interface status etc)	
	Calibrator	Calibration software Included	
	Electronic Display	LCD	
	Event & Alarm Management	Included	



D. Photos



Dongkuk Steel (Pohang)
#2 Plate Mill, No 1. Inspection



Dongkuk Steel (Pohang)
#2 Plate Mill, Leveler)



Dongkuk Steel (Dangjin)
Plate Mill



POSCO (Pohang)
#2 Plate Mill



POSCO (Pohang)
#3 Plate Mill



POSCO (Gwangyang)
Plate Mill



POSCO (Pohang)
#2 Plate Mill, Heavy Thickness



POSCO (Pohang)
#1 Plate Mill



POSCO (Pohang)
#2 Plate Mill



POSCO (Pohang)
#2 Plate Mill

2. Flatness Measurement System

A. Introduction

This is a system that measures the flatness of steel plates. It measures the flatness of the plate at the inspection line to determine the quality and at the entry and exit of levelers to first gain the flatness data and use the data for the leveling purposes. It gives the shape data of the plate by measuring the Height(H), Wavelength or Pitch(P), Waviness, C-Curve, Curl, Gutter etc so that the user can use it for quality control purposes. This will give pass/no pass results depending on the measurement

B. Measuring Items

- Max. Height & Position (Width Direction & Length Direction)
- Max. Waviness & Position(Width Direction)
- Max. C-Curve & Position (Length Direction)
- Pitch, Gutter, Curl
- Width & Length Direction Profile
- Number of Waves and C-Curves in Width & Length Directions

C. Product Features and Advantages

ITEM	SPECIFICATION		REMARK
Measuring Method	Non-Contact Measuring While Target is In Motion		
Pass / No Pass Feature	Height, Pitch, Waviness, C-Curve, etc		On/Off Line
Screen	3D-Display and Surface Contour(2D)		
Light Source	Dual Line Beam Laser		
INTERFACE	PROTOCOL	TCP/IP(MES), UDP, FTP, DRY CONTACT(PLC), ANALOG(PLC)	
	ITEM	All Measuring Items	
Features	DATA Search	Included	
	HARD COPY	PRINTER Output & File Output	
	Diagnosis Features	Self-diagnosis Features Included (Equipment status, Interface status etc)	
	Auto Calibrator	Auto Calibration software Included	
	Electronic Display	LCD	
	Event & Alarm Management	Included	

D. Photos



POSCO (Pohang)
#2 Plate Mill



POSCO (Gwangyang)
Plate Mill



POSCO (Gwangyang)
Plate Mill



Dongkuk Steel (Dangjin)
Plate Mill, No.1 Inspection



Dongkuk Steel (Dangjin)
Plate Mill, No.2 Inspection



Dongkuk Steel (Pohang)
#2 Plate Mill, #1 Inspection



Dongkuk Steel (Pohang)
#2 Plate Mill, #2 Inspection



Hyundai Steel (Dangjin)
Plate Mill, Press Leveler



Dongkuk Steel (Pohang)
#2 Plate Mill, Press Leveler



Dongkuk Steel (Pohang)
#2 Plate Mill, No.1 Inspection



Hyundai Steel (Dangjin)
Plate Mill, No.1 Press Leveler



Hyundai Steel (Dangjin)
Plate Mill, No.2 Press Leveler



Hyundai Steel (Dangjin)
#1 Plate Mill



Hyundai Steel (Dangjin)
#2 Plate Mill



Hyundai Steel (Dangjin)
#1 Plate Mill, Cold Leveler

3. Width Measurement System

A. Introduction

- Non-Contact Measurement of Strip while the line is running
- 2 Types of Optical Configuration
 - Top-side light source and CCD, Trigonometric Method is used
 - Bottom-side light source and CCD, Stereovision Method is used
- System Types
 - Top Mount Type
 - C-Frame Type
 - Vertical / Horizontal Type
 - Top/Bottom Separated Type

B. Measuring Items

- Real-time Width
- Width Deviation (Off Gauge)
- Center Deviation
- Edge Heights of both sides

C. Product Features and Advantages

ITEM	SPECIFICATION		REMARK
Measuring Method	Non-Contact Measurement while the target is in motion		
Pass / No Pass Feature	Included		
INTERFACE	PROTOCOL	TCP/IP(MES), UDP, DRY CONTACT(PLC), ANALOG(PLC)	
	ITEM	All Measuring Items	
Features	DATA Search	Included	
	HARD COPY	PRINTER Output & File Output	
	Diagnosis Feature	Self-diagnosis Features Included (Equipment status, Interface status etc)	
	Calibrator	Calibration software Included	
	Electronic Display	LCD	
	Event & Alarm Management	Included	
	Installation Conditions	Customizable Engineering / Design based on the Line Condition	

D. Photos

C-Frame Type (Movable)



POSCO (Mexico) CGL



POSCO (Vietnam) CAL



Hyundai Steel (Suncheon) CGL



Hyundai Steel (Dangjin)
#2 HRM, No.1 SPM



Hyundai Steel (Dangjin)
#2 HRM, No.2 SPM



Hyundai Steel (Dangjin)
CRM CGL

Top-Mount Type (Top Part Fixed Position)



Hyundai Steel (Dangjin)
#1 HRM, No.2 SPM



Hyundai Steel (Dangjin)
#2 HRM, No.5 SPM



Hyundai Steel (Dangjin)
#2 HRM, No.3 SPM



Hyundai Steel (Dangjin)
#2 HRM, No.4 SPM



POSCO (Vietnam) TCM Exit



POSCO (Gwangyang) 1TCM Exit



POSCO(Gwangyang) 2TCM Exit



Hyundai Steel (Dangjin) CRM 1CAL



Hyundai Steel (Dangjin) CRM SPM

Vertical / Horizontal Type



POSCO (Pohang) #1 CRM 2RCL



POSCO (Pohang) #2 CRM 3CAL

4. Pin Hole Detection System

A. Introduction

For the quality purposes, pin holes that are caused by internal/external factors are one of the important checklists in the process of making steel and other non-ferrous metals. This system does not require edge masks, and detects pinholes in the strip across its whole length and width. In addition to that, it measures the size and width/length of the pin holes detected and record their locations and allows viewing of these pin holes through real time videos. All these acquired data are built in database, and with this, one can analyze the factors that cause these pinholes. It is truly a measuring instrument that improves both productivity and the quality of the product.

B. Measuring Items

- Pin Hole
- Pin Hole Size & Position
- Pin Hole Class

C. Product Features and Advantages

ITEM	SPECIFICATION		REMARK
Measuring Method	Non-Contact Measurement while the target is in motion		
Light Source	High level of Luminance with a long life time		
Light Source	No Necessary (No Edge Mask Unit)		
INTERFACE	PROTOCOL	TCP/IP(MES), UDP, DRY CONTACT(PLC), ANALOG(PLC)	
	ITEM	All Measuring Items	
Features	DATA Search	Included	
	HARD COPY	PRINTER Output & File Output	
	Diagnosis Feature	Self-diagnosis Features Included (Equipment status, Interface status etc)	
	Calibrator	Calibration software Included	
	Event & Alarm Management	Included	
	DISPLAY	Displays the actual Pin hole defects	
	InstallationConditions	Customizable Engineering / Design based on the Line Condition	

D. Photos



POSCO (Pohang) #2 CRM 3CAL



Hyundai Steel (Suncheon) CRM CAL



Hyundai Steel (Suncheon) CRM CGL



POSCO(Pohang) Electrical Steel 3ACL



POSCO (Pohang) Electrical Steel 2HCL



POSCO (Pohang) #1 CRM 1CAL

5. Slab Width & Length & Camber Measurement System

A. Introduction

During slab rolling process in plate producing mills and hot-rolling mills, slabs' width, length and camber are key factors that determine work conditions in a heating furnace and that can be used in rolling processes. This system measures the width & length, and camber while the slab is moving, and it especially makes it possible to measure the length and thickness profile of the hot charged slabs. With the information acquired about the slab, one can confirm the heating furnace charging conditions and can use it as the data for the process.

B. Measuring Items

- Slab Width, Length, Camber
- Skew, Taper, Temperature, Weight
- Slab Length and Thickness Profiles(Length and Thickness direction)

C. Product Features and Advantages

ITEM	SPECIFICATION		REMARK
Measuring Method	Non-Contact Measurement while the target is in motion		
Light Source	Light Source that can even measure HCR targets		
INTERFACE	PROTOCOL	TCP/IP(MES), DRY CONTACT(PLC), ANALOG(PLC)	
	ITEM	All Measuring Items	
Features	DATA Search	Included	
	HARD COPY	PRINTER Output & File Output	
	Diagnosis Feature	Self-diagnosis Features Included (Equipment status, Interface status etc	
	Calibrator	Calibration software Included	
	Event & Alarm Management	Included	
	Installation Conditions	Customizable Engineering / Design based on the Line Condition Includes a cooling system that can tolerate the heat	



D. Photos



Dongkuk Steel (Pohang)
#2 Plate Mill Furnace



POSCO (Pohang)
#1 HRM Furnace



POSCO (Pohang)
#2 Plate Mill Furnace



POSCO (Gwangyang)
Plate Mill, Furnace



Hyundai Steel (Dangjin)
#1 HRM, Furnace



Hyundai Steel (Dangjin)
#2 HRM, Furnace

6. Shape Measurement System (Strip Profile)

A. Introduction

Shape measurement system measures surface shape information (height, wavelength, waveness, C-curve) of the rolled steels produced in rolling processes through continuous 3-D measurement. This acquires the accurate shape information against the product lifting, tilting and shifting. The measured shape information of products can be used as the data for the tension leveler.

B. Measuring Items

- Width
- Height
- C-Curve
- Pitch
- Steepness
- Elongation
- I-Unit

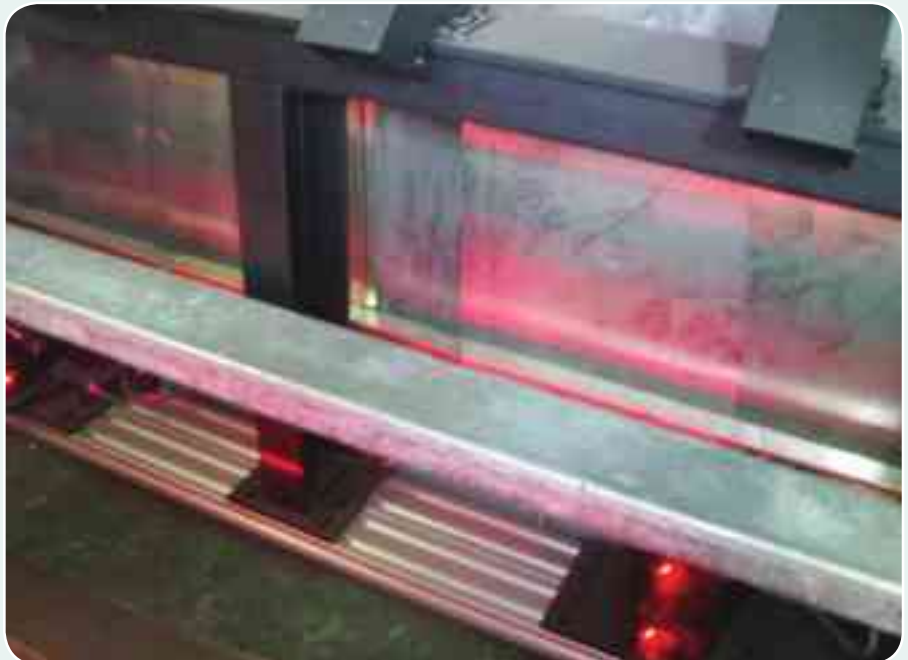
C. Product Features and Advantages

ITEM	SPECIFICATION		REMARK
Measuring Method	Non-Contact Measurement while the target is in motion		
Measuring Items	Width, Height, C-Curve, Pitch, Steepness, Elongation, I-Unit		
Light Source	Dual Line Laser Beam		
INTERFACE	PROTOCOL	TCP/IP(MES), DRY CONTACT(PLC), ANALOG(PLC)	
	ITEM	All Measuring Items	
기능	DATA Search	Included	
	HARD COPY	PRINTER Output & File Output	
	Diagnosis Feature	Self-diagnosis Features Included (Equipment status, Interface status etc)	
	Calibrator	Calibration software Included	
	Event & Alarm Management	Included	
	Installation Conditions	Customizable Engineering / Design based on the Line Condition Includes a cooling system that can tolerate the heat	

D. Photos



POSCO (Pohang) #1 CRM, 2CAL



POSCO (Pohang) #1 CRM 2CAL

7. Section Shape Profile Measuring System

A. Introduction

This system measures the profile data (hot & cold) of section products (H-beam, Angle, Channel, Flat bar, Round Bar, Rail). It measures the width, height, and the thickness of Web & Flange. With this data, the user can see the actual profile of the product (both hot and cold) and use this data to control the rolling process.

B. Measuring Items

- Height
- Width
- Thickness
- Web
- Eccentricity
- Flatness
- Perpendicularity
- Camber & Sweep

C. Product Features and Advantages

ITEM	SPECIFICATION		REMARK
Measuring Method	Non-Contact Measurement while the target is in motion		
Measuring Items	Height, Width, Thickness, Web, Eccentricity, Flatness, Perpendicularity, Camber & Sweep		
Light Source	Light Source that can measure Hot Charge targets		
INTERFACE	PROTOCOL	TCP/IP(MES), DRY CONTACT(PLC), ANALOG(PLC)	
	ITEM	All Measuring Items	
Features	DATA Search	Included	
	HARD COPY	PRINTER Output & File Output	
	Diagnosis Feature	Self-diagnosis Features Included (Equipment status, Interface status etc)	
	Calibrator	Calibration software Included	
	Event & Alarm Management	Included	
	Installation Conditions	Customizable Engineering /Design based on the Line Condition	
		Cooling System Included (Can tolerate targets over 1200℃)	





D. Photos



Dongkuk Steel (Pohang) Section Mill



Dongkuk Steel (Pohang) Section Mill



Hyundai Steel (Incheon) Large Section Mill



Hyundai Steel (Incheon) Medium Section Mill



Hyundai Steel (Incheon) Medium Section Mill

8. RM Width & Length Measurement System

A. Introduction

During the rolling processes in plate mills and hot rolling mills, this system measures the whole width and length of the slabs in roughing mills. It measures the hot slab, and is a self-emissive type that does not require any light source. This system allows for the data (width and length of the slabs) measured before and after rolling to be used to control the rolling processes in roughing mills.

B. Measuring Items

- Width
- Length
- Skew

C. Product Features and Advantages

ITEM	SPECIFICATION		REMARK
Measuring Method	Non-Contact Measurement while the target is in motion		
Measuring Items	Width, Length, Skew		
INTERFACE	PROTOCOL	TCP/IP(MES), DRY CONTACT(PLC), ANALOG(PLC)	
	ITEM	All Measuring Items	
Features	DATA Search	Included	
	HARD COPY	PRINTER Output & File Output	
	Diagnosis Feature	Self-diagnosis Features Included (Equipment status, Interface status etc)	
	Calibrator	Calibration software Included	
	Event & Alarm Management	Included	
	Installation Conditions	Customizable Engineering / Design based on the Line Condition	
		Cooling System Included (Can tolerate targets over 1300°C)	





D. Photos



Dongkuk Steel (Pohang) #2 Plate Mill, Roughing Mill



Dongkuk Steel (Pohang) #2 Plate Mill, Roughing Mill



Hyundai Steel (Dangjin) #1 HRM, Roughing Mill



Hyundai Steel (Dangjin) #1 HRM, Roughing Mill

9. Surface Defect Detector

A. Introduction

This system detects many different defects that are shown during the section mill production process (H-Beam, Angle, Channel, Flat Bar, Round Bar, Rail, Sheet Piles etc). It shows the real-time images of defects and the data are stored and managed in the processor. The position of each defect is also shown (across the width and length) by this system so that the users can go spot the defects themselves. It also has a feature where it gives the user an alarm whenever a defect has been detected and provides the user with a pass / no pass for the product.

B. Measuring Items

- Defects detection
- Defects Size
- Defects Position (Width and Length direction)
- Defects Class

C. Product Features and Advantages

ITEM	SPECIFICATION		REMARK
Measuring Method	Non-Contact Measurement while the target is in motion		
Measuring Items	Presence of Defects / Defects Size / Defects Positions		
Light Source	Light Source that can measure Hot Charged targets		
INTERFACE	PROTOCOL	TCP/IP(Level 2&3), DRY CONTACT(PLC), ANALOG(PLC)	
	ITEM	All Measuring Items	
Features	DATA Search	Included	
	HARD COPY	PRINTER Output & File Output	
	Diagnosis Feature	Self-diagnosis Features Included (Equipment status, Interface status etc)	
	Calibrator	Calibration software Included	
	Event & Alarm Management	Included	
	Installation Conditions	Customizable Engineering/Design based on the Line Condition	
		Cooling System Included (Can tolerate targets over 1200°C)	



D. Photos



Hyundai Steel (Incheon) Medium Section Mill



Hyundai Steel (Incheon) Medium Section Mill



10. Center Position Control System(Strip Center)

A. Introduction

Center Position Control System is a system that measures the degree of center deviation of the leading coil and trailing coil at the entry welder during the continuous annealing & pickling line and cold rolling processes in the steel industry. It sends the acquired center deviation data to the higher system to be used as the base reference for the manufacturing process, and it can also be used as a reference for controlling the center location of the strip.

B. Measuring Items

- Center Deviation
- Width
- Width Deviation (Off Gauge)

C. Product Features and Advantages

ITEM	SPECIFICATION		REMARK
Measuring Method	Non-Contact Measurement while the target is in motion		
Measuring Items	Center Deviation, Width, Width Deviation (Off Gauge)		
Light Source	High Level of Luminance with a Long Life Time		
INTERFACE	PROTOCOL	TCP/IP(Level 2&3), DRY CONTACT(PLC), ANALOG(PLC)	
	ITEM	All Measuring Items	
Features	DATA Search	Included	
	HARD COPY	PRINTER Output & File Output	
	Diagnosis Feature	Self-diagnosis Features Included (Equipment status, Interface status etc)	
	Calibrator	Calibration software Included	
	Event & Alarm Management	Included	
	Installation Condition	Customizable Engineering/Design based on the Line Condition	



D. Photos



POSCO (Gwangyang) #2 CRM PL



POSCO (Gwangyang) #2 CRM PL

11. Steel & STS Integrated Dimension & Flatness Measurement System

A. Introduction

This system measures width, length, camber, perpendicularity and flatness of steel & STS, which are the most important factors when it comes to qualitycontrolling. This integrated system can provide all these data in one system, making it very space-efficient for the user.

B. Measuring Items

- Width
- Length
- Camber
- Perpendicularity
- Max. Height & Position (Width & Length Direction)
- Max. Waviness & Position (Width Direction)
- Max. C-Curve & Position (Length Direction)
- Pitch, Gutter, Curl
- Width & Length Direction Profile
- Number of Waviness & C-Curves (Width & Length Direction)
- Can Measure Regardless Of the Product Spec (Width, Length, Thickness)

C. Product Features and Advantages

ITEM	SPECIFICATION	REMARK
Measuring Method	Non-Contact Measurement while the target is in motion	
Pass / No Passfeature	Flatness, Width, Length, Camber, Perpendicularity	On/Off Line
Screen Configuration	3-D Shape Display and Surface Contour(2D)	
Flatness	Max. Height, Waviness, Max. C-Curve, Curl, Gutter	
Width	Max, Min, Avg Width	
Length	Top/Tail measurement Length	
Camber	Camber and position	
Perpendicularity	Top/Tail Shape Measurement	
Pyrometer	Plate Surface Temperature	
Length Measuring Device	Length / Position Tracking	Emitter & Receiver Type High Response





ITEM	SPECIFICATION		REMARK
INTERFACE	PROTOCOL	TCP/IP(MES), DRY CONTACT (PLC), ANALOG(PLC)	
	ITEM	All Measuring Items	
Features	DATA Search	Included	
	HARD COPY	PRINTER Output & File Output	
	Diagnosis Feature	Self-diagnosis Features Included (Equipment status, Interface status etc)	
	Calibrator	Calibration software Included	
	Event & Alarm Management	Included	
	Installation Condition	Customizable Engineering/Design based on the Line Condition	

D. Photos



SM Steel (Gunsan) STS Plate Mill



SM Steel (Gunsan) STS Plate Mill

Reference History

2020. 03.	SM Steel Gunsan STS Plate Integrated Dimension & Flatness Measurement system (Flatness, Width, Length, Camber, Perpendicularity) Completed
2019. 12.	HYUNDAI STEEL Incheon Medium Section Surface Defect Detector(SDD) Completed
2019. 11.	HYUNDAI STEEL Incheon Large Section Profile Measuring System Completed
2019. 10.	POSCO Pohang Furnace Slab Width Measurement System Completed
	HYUNDAI STEEL Dangjin HRM Precision Inspection completed
2019. 09.	HYUNDAI STEEL Dangjin #1 HRM RM Width Measurement System Completed
	POSCO Plate Mill Plate Dimension Measurement System Software Upgrade Completed
2019. 08.	POSCO Gwangyang 2-2 RCL Width Measurement System Delivery and Completed
	HYUNDAI STEEL #1 Plate Mill Line Laser Supervising Completed
2019. 07.	SM STEEL Gunsan STS Plate Integrated Dimension & Flatness Measurement System Contracted
2019. 06.	HYUNDAI STEEL Dangjin #1 Plate mill 19YR First half year Offline Flatness Measurement System Precision Inspection & Tuning completed
	POSCO Pohang #2 Plate Mill Inspection Line Flatness Measurement System Precision Inspection completed
2019. 04.	HYUNDAI STEEL Dangjin #1 Plate Mill QMS Data Development Completed
2018. 12.	HYUNDAI STEEL Incheon Medium Section Mill Cold Leveler Profile Measuring System completed
	HYUNDAI STEEL Incheon Large Section Mill Profile Measuring System Tuning completed
	HYUNDAI STEEL Incheon Medium Section Mill Profile Measuring System Upgrade completed
	HYUNDAI STEEL Dangjin Plate Mill second half of 2018 Flatness Measurement System Precision Inspection & Tuning completed
	Ulsan Aluminum Williamson Pyrometer APTQ supplied
	HYUNDAI STEEL Dangjin 1 Hot Rolled Mill Width Measurement System Upgrade supplied
2018. 11.	HYUNDAI STEEL Dangjin 1,2, thin plate Hot Rolled Mill Precision Inspection of Special Measuring System completed
2018. 10.	SeAH FS Thailand Williamson Pyrometer supplied
2018. 08.	Ulsan Aluminum HFM Temperature Measuring System Williamson Pyrometer supplied
	HYUNDAI STEEL Dangjin 1 Plate Mill No.1 Press Leveler Flatness Measurement System Image Controller Upgrade supplied
	Novelis Korea Youngju Aluminum Cold Rolled Mill CM On-Line Williamson Pyrometer supplied
	DAE YEONG METAL Gyeongsan Aluminum Extrusion Williamson Pyrometer supplied
	HYUNDAI STEEL Incheon Large Section Mill Profile Measuring System OVERHAUL completed
2018. 06.	HYUNDAI STEEL Dangjin 2 Plate Mill CPL Flatness Measurement System Upgrade completed
	HYUNDAI STEEL Dangjin Plate Mill first half of 2018 Flatness Measurement System Precision Inspection & Tuning completed
2018. 05.	Sunjin AAT Haman Aluminum Extrusion Recorder & Thermal couple supplied
2018. 04.	HYUNDAI STEEL Dangjin 1,2 Hot Rolled Mill Precision Inspection of Special Measuring System completed
	POSCO Vietnam Welder Position Controller Tuning completed
	HYUNDAI STEEL Dangjin 1 Plate Mill No.2 Press Leveler Flatness Measurement System Laser Module Replacement supplied & Supervising
	HYUNDAI STEEL Dangjin 1 Plate Mill Off Line Flatness Measurement System Laser Module Replacement supplied & Supervising
	HYUNDAI STEEL Dangjin 2 Plate Mill CPL Flatness Measurement System Laser Module Replacement supplied & Supervising
2018. 03.	SeAH FS Pyeongtaek Williamson Pyrometer Interface Module & Cable supplied
	JEONAN STEEL Daegu Williamson Pyrometer Interface Module supplied

2017. 10.	LS Cable & System Gumi Aluminum Casting Williamson Pyrometer supplied
	HYUNDAI STEEL Dangjin A Hot Rolled Mill No.1 SPM Width Measurement System Upgrade completed
2017. 09.	HYUNDAI STEEL Dangjin C Hot Rolled Mill No.3&4 SPM Width Measurement System Upgrade supplied & completed
2017. 07.	DONGKUK Steel Pohang Profile Measuring System Tuning completed
	HYUNDAI STEEL Incheon Large Section Mill Profile Measuring System Overhaul completed
	POSCO Pohang STS 3APL Width Measurement System completed
	POSCO Gwangyang Plate Mill Williamson Pyrometer supplied
2017. 06.	HYUNDAI STEEL Incheon Medium Section Profile Measuring System completed
2017. 05.	POSCO Pohang No.2 Hot Rolled Mill Heating Furnace Width Measurement System completed
	HYUNDAI STEEL Dangjin Plate Mill first half of 2017 Flatness Measurement System Precision Inspection & Tuning completed
2017. 04.	HYUNDAI STEEL Dangjin B, C Hot Rolled Mill Precision Inspection of Special Measuring System completed
2017. 03.	HYUNDAI STEEL Dangjin No.5 SPM Width Measurement System Software Development completed
2017. 01.	HYUNDAI STEEL Incheon Large Section Mill Profile Measuring System Overhaul completed
	POSCO Gwangyang Plate Mill Williamson Pyrometer supplied
2016. 12.	POSCO Pohang STS No.2 Cold Rolled Mill APF Width Gauge Upgrade completed
	POSCO Pohang No.2 Cold Rolled PCM Width Gauge Upgrade completed
	HYUNDAI STEEL Incheon Medium Section Mill Profile Measuring System supplied
	DONGKUK Steel Pohang Section Shape Profile Measuring System Replacement of Laser completed
2016. 11.	HYUNDAI STEEL Dangjin B,C Hot Rolled Mill Precision Inspection of Special Measuring System completed
	POSCO Pohang No.2 Hot Rolled Mill Heating Furnace Width Measurement System contracted
	POSCO Gwangyang Plate Mill Flatness Measurement System Smart Factory Software Development completed
2016. 10.	HYUNDAI STEEL Dangjin A Hot Rolled Mill SPM Precision Inspection of Width Gauge completed
	HYUNDAI STEEL Dangjin C Hot Rolled Mill Heating Furnace Slab Width / Length / Camber Measurement System Upgrade supplied & completed
2016. 08.	HYUNDAI STEEL Dangjin No.1 Plate Mill Cold Leveler Line Williamson Pyrometer supplied
2016. 07.	HYUNDAI STEEL Dangjin C Hot Rolled Mill No.2 SPM Width Gauge Upgrade supplied & completed
2016. 06.	HYUNDAI STEEL Dangjin C Hot Rolled Mill Down Coiler Williamson Pyrometer supplied
	HYUNDAI STEEL Incheon Large Section Mill Precision Inspection of Profile Measuring System & Replacement of Laser completed
	HYUNDAI STEEL Incheon Large Section Mill Profile Measuring System Upgrade completed
2016. 05.	HYUNDAI STEEL Dangjin No.1 Plate Mill Precision Inspection of Special Measuring System completed
2016. 04.	HYUNDAI STEEL Dangjin C Hot Rolled Mill No.1 SPM Width Gauge Upgrade supplied & completed
	HYUNDAI STEEL Dangjin B,C Hot Rolled Mill Precision Inspection of Special Measuring System completed
2016. 02.	POSCO Pohang No.2 Hot Rolled Mill Heating Furnace Williamson Pyrometer supplied
	HYUNDAI STEEL Dangjin No.1 Plate Mill Cold Leveler Flatness Measurement System completed
2015. 12.	HYUNDAI STEEL Dangjin No.2 Plate Mill Off Line Flatness Measurement System completed
	HYUNDAI STEEL Dangjin No.1 Plate Mill Off Line Flatness Measurement System completed
	HYUNDAI STEEL Dangjin C Hot Rolled Mill No.5 SPM Width Measurement System completed
	HYUNDAI STEEL Dangjin No.1 Plate Mill Cold Leveler Flatness Measurement System supplied & installed
2015. 11.	HYUNDAI STEEL Dangjin No.1 Plate Mill Cold Leveler Flatness Measurement System supplied & installed
	HYUNDAI STEEL Dangjin B Hot Rolled Mill Slab Width / Length / Camber Measurement System Williamson Pyrometer supplied
	HYUNDAI STEEL Dangjin No.1 Plate Mill Cold Leveler Line Williamson Pyrometer supplied

2015. 09.	HYUNDAI STEEL Dangjin B,C Hot Rolled Mill Precision Inspection of Special Measuring System completed
	HYUNDAI STEEL Dangjin C Hot Rolled Mill No.5 SPM Width Measurement System supplied
	HYUNDAI STEEL Dangjin No.2 Plate Mill Off Line Flatness Measurement System contracted
	HYUNDAI STEEL Dangjin No.1 Plate Mill Off Line Flatness Measurement System contracted
	POSCO Gwangyang Plate Mill Inspection Line Plate Mill Plate Dimension Measurement System (Width/ Length/ Camber/ Perpendicularity) Williamson Pyrometer supplied
2015. 08.	DONGKUK Steel Pohang Section Shape Profile Measuring System Replacement of Laser contracted
	HYUNDAI STEEL Dangjin B,C Hot Rolled Mill Precision Inspection of Special Measuring System contracted
2015. 07.	POSCO Vietnam TCM Width Measurement System Supervising contracted
	HYUNDAI STEEL Dangjin No.1 Plate Mill Cold Leveler Flatness Measurement System contracted
	DONGKUK Steel Dangjin Plate Mill Plate Dimension Measurement System (Width/ Length/ Camber/ Perpendicularity) Replacement of Laser & Tuning
2015. 06.	POSCO Pohang No.2 Hot Rolled Mill Heating Furnace Williamson Pyrometer supplied
	HYUNDAI STEEL Dangjin C Hot Rolled Mill Slab Width/Length/Camber Measurement System Williamson Pyrometer supplied
2015. 05.	POSCO POSCO Gwangyang No.2 CRM 2-1RCL Width Measurement System completed
2015. 04.	POSCO Pohang No.2 Plate Mill On-Line Flatness Measurement System Replacement of Laser & Tuning
2015. 03.	POSCO Gwangyang Plate Mill Inspection Line Flatness Measurement System Replacement of Laser & Tuning
	POSCO POSCO Gwangyang No.2 CRM 2-1RCL Width Measurement System supplied
	HYUNDAI STEEL Incheon Large Section Mill Profile Measuring System completed
	HYUNDAI STEEL Dangjin No.1 Plate Mill #2 Curved Plate Leveler Flatness Measurement System: KOJIMA / JAPAN completed
2014. 12.	HYUNDAI STEEL Dangjin No.1 Plate Mill #2 Curved Plate Leveler Flatness Gauge: KOJIMA/JAPAN supplied
	HYUNDAI STEEL Dangjin C Hot Rolled Mill No.5 SPM Width Gauge contracted
	POSCO Pohang No.1 CRM(1CAL / 2CAL / 2CPL) Pin Hole Detector completed
	DONGKUK Steel Pohang No.2 Plate Mill RM Width Gauge completed
2014. 11.	POSCO Pohang No.1 CRM(1CAL / 2CAL / 2CPL) Pin Hole Detector supplied & installed
	POSCO Gwangyang No.2 CRM 2-1RCL Width Gauge contracted
2014. 10.	DONGKUK Steel Pohang No.2 Plate Mill RM Width Gauge supplied & installed
	HYUNDAI STEEL Dangjin B,C Hot Rolled Mill Precision Inspection of Special Measuring System Completed
2014. 08.	HYUNDAI STEEL Incheon Large Section Mill Profile Measuring System Supplied & Supervising
	HYUNDAI STEEL Dangjin B,C Hot Rolled Mill Precision Inspection of Special Measuring System contracted
	DONGKUK Steel Pohang Section Shape Profile Measuring System Temperature monitoring & Overhaul completed
2014. 06.	DONGKUK Steel Pohang Section Shape Profile Measuring System Replacement of Laser completed
	DONGKUK Steel Dangjin Plate Mill Flatness Gauge Replacement of Laser completed
	HYUNDAI STEEL Dangjin No.1 Plate Mill #2 Curved Plate Leveler Flatness Gauge: KOJIMA/JAPAN contracted
2014. 05.	POSCO Gwangyang Plate Mill Inspection Line Flatness Gauge Auto Calibrator supplied & installed
2014. 04.	DONGKUK Steel Pohang, Dangjin Presentation of Williamson Pyrometer
	DONGKUK Steel Pohang No.2 Plate Mill Flatness Gauge Auto Calibrator installed completed
	DONGKUK Steel Pohang No.2 Plate Mill Optic Measuring System Replacement of Laser & Overhaul & Calibration completed
2014. 03.	DONGKUK Steel Pohang No.2 Plate Mill Cold Leveler Flatness Gauge Auto Calibrator Supplied & Installed
2014. 02.	DONGKUK Steel Dangjin Plate Mill Flatness Gauge Replacement of Laser contracted
	DONGKUK Steel Pohang No.2 Plate Mill Flatness Gauge Auto Calibrator installed contracted
	DONGKUK Steel Pohang No.2 Plate Mill Optic Measuring System Replacement of Laser & Overhaul & Calibration contracted

2013. 12.	HYUNDAI STEEL Incheon Large Section Mill Profile Measuring System contracted
	HYUNDAI STEEL Dangjin A Hot Rolled Mill SPM Width Gauge supplied
2013. 11.	HYUNDAI STEEL Dangjin C Hot Rolled Mill carried out Optic Measuring System Training
	HYUNDAI STEEL Dangjin C Hot Rolled Mill Precision Inspection of Special Measuring System completed
2013. 10.	DONGKUK Steel Pohang No.2 Plate Mill RM Width Gauge contracted
2013. 09.	HYUNDAI STEEL Dangjin C Hot Rolled Mill Precision Inspection of Special Measuring System contracted
2013. 08.	DONGKUK Steel Dangjin Plate Mill Plate Dimension Measurement System (Width/ Length/ Camber/ Perpendicularity) Replacement of Laser completed
2013. 07.	HYUNDAI STEEL Dangjin A / C Hot Rolled Mill carried out Optic Measuring System Training
2013. 06.	DONGKUK Steel Pohang Section Shape Profile Measuring System completed
2013. 05.	HYUNDAI STEEL Dangjin A Hot Rolled Mill SPM Width Gauge contracted
2013. 04.	POSCO Mexico RCL Width Gauge completed
2013. 03.	HYUNDAI STEEL Dangjin C Hot Rolled Mill Precision Inspection of Special Measuring System contracted & completed
	POSCO Gwangyang Plate Mill T2 Flatness Gauge Auto Calibrator supplied & installed
2013. 02.	DONGKUK Steel Pohang No.2 Plate Mill Optic Measuring System Laser & Overhaul completed
2012. 12.	POSCO MEXICO RCL Width Gauge supplied
	POSCO Gwangyang Plate Mill Flatness Gauge Auto Calibrator contracted
	DONGKUK Steel Pohang No.2 Plate Mill Plate Dimension Measurement System (Width / Length / Camber / Perpendicularity) / Flatness Gauge Replacement of Laser & Overhaul completed
2012. 11.	HYUNDAI STEEL Dangjin C Hot Rolled Mill carried out Optic Measuring System Training
2012. 10.	DONGKUK Steel Pohang No.2 Plate Mill Re-correction Cold Leveler Flatness Gauge Auto Calibrator supplied
	DONGKUK Steel Pohang No.2 Plate Mill Plate Dimension Measurement System (Width / Length / Camber / Perpendicularity) / Flatness Gauge / Slab Width & Length Gauge Replacement of Laser & Overhaul contracted
2012. 08.	POSCO Pohang STS No.2 CRM APF Width Gauge completed
	HYUNDAI STEEL Dangjin Plate Mill Press Leveler Flatness Gauge completed
	POSCO Pohang No.1 PM Length Extension Work of Plate Dimension Measurement System (Width / Length / Camber / Perpendicularity) contracted & completed
2012. 07.	POSCO MEXICO RCL Width Gauge contracted
	HYUNDAI STEEL Dangjin C Hot Rolled Mill carried out Optic Measuring System Training
	HYUNDAI STEEL Dangjin C Hot Rolled Mill periodical precision inspection of Special Measuring System contracted & completed
2012. 06.	POSCO Pohang STS No.2CRM APF Width Gauge supplied & installed
	DONGKUK Steel Pohang No.2 Plate Mill Re-correction Plate Dimension Measurement System (Width / Length / Camber / Perpendicularity) contracted
2012. 05.	DONGKUK Steel Dangjin Plate Mill Plate Dimension Measurement System & Flatness Gauge Overhaul completed
2012. 04.	DONGKUK Steel Pohang No.2 Plate Mill Re-correction Plate Dimension Measurement System (Width / Length / Camber / Perpendicularity) supplied
	HYUNDAI STEEL Dangjin Plate Mill Press Leveler Flatness Gauge supplied
	HYUNDAI STEEL Dangjin C Hot Rolled Mill No.3&4 SPM Width Gauge completed
2012. 03.	DONGKUK Steel Pohang No.2 Plate Mill Re-correction Cold Leveler Flatness Gauge completed
	DONGKUK Steel Dangjin Plate Mill Plate Dimension Measurement System & Flatness Gauge Overhaul contracted
2012. 02.	DONGKUK Steel Pohang No.2 Plate Mill Re-correction Cold Leveler Flatness Gauge supplied & installed
	POSCO Pohang STS No.2CRM APF Width Gauge contracted
2011. 12.	HYUNDAI STEEL Dangjin C Hot Rolled Mill No.4 SPM Width Gauge supplied
	POSCO Guangdong CGL Williamson Pyrometer supplied
	POSCO Pohang Width Gauge & Shape Meter SW Development for qualityinfra establishment lengthwise completed

2011. 11.	DONGKUK Steel Pohang Section Shape Profile Measuring System supplied & installed
	HYUNDAI STEEL Dangjin A Hot Rolled Mill SPM Width Gauge Rolling Data Display completed
	Flatness Gauge Auto Calibration System developed
	Backlight (LED Projection) Type Width Gauge developed
2011. 10.	POSCO Pohang Plate Mill Plate Dimension Measurement System & SW Development for quality infra establishment lengthwise completed
	POSCO Electrical Mill 1DRL Width Gauge supplied & installed
	DONGKUK Steel Pohang No.2 Plate Mill Re-correction Press Leveler Flatness Gauge supplied & installed
2011. 09.	POSCO Pohang Plate Mill Plate Dimension Measurement System & SW Development for quality infra establishment lengthwise contracted
	HYUNDAI STEEL Dangjin A Hot Rolled Mill SPM Width Gauge Rolling Data Display contracted
	POSCO Guangdong CGL Williamson Pyrometer contracted
	HYUNDAI STEEL Dangjin C Hot Rolled Mill No.3 SPM Width Gauge supplied
	POSCO Electrical Mill 2DRL Width Gauge supplied & installed
	PALMATECH/ Marubeni Protechs Corporation (JAPAN) Mutual Business Agreement sign
2011. 08.	HYUNDAI STEEL Dangjin Plate Mill Press Leveler Flatness Gauge contracted
	HYUNDAI STEEL Dangjin A Hot Rolled Mill SPM Width Gauge Relocation & of Equipment Panel & System Tuning Supervising completed
	DONGKUK Steel No.2 Plate Mill Optic Measuring System Overhaul contracted
	POSCO Electrical Mill 2DRL Width Gauge Construction Part Supplied & Installed
2011. 07.	DONGKUK Steel Pohang No.1 Plate Mill Width & Length Gauge completed
	DONGKUK Steel Pohang No.2 Plate Mill Optic Equipment Cooling System reconstruction completed
2011. 06.	POSCO Pohang No.2 Electrical Mill No.1&2 DRL Width Gauge contracted
	DONGKUK Steel Pohang No.2 Plate Mill Re-correction Plate Dimension Measurement System (Width / Length / Camber / Perpendicularity) contracted
	DONGKUK Steel Pohang No.2 Plate Mill Optic Equipment Cooling System reconstruction contracted
2011. 05.	DONGKUK Steel Pohang No.1 Plate Mill Width & Length Gauge supplied
	HYUNDAI STEEL Dangjin C Hot Rolled Mill No.3&4 SPM Width Gauge contracted
2011. 04.	POSCO Pohang Width Gauge & Shape Meter SW Development for quality infra establishment lengthwise contracted
	DONGKUK Steel Pohang No.1 Plate Mill Width & Length Gauge contracted
	DONGKUK Steel Dangjin Plate Mill No. 1 Flatness Gauge Relocation of Equipment / Plate Dimension Measurement System HMI Separation / Measuring System Overhaul supervising & completed
2011. 03.	POSCO Gwangyang Plate Mill Heating Furnace Williamson Pyrometer supplied
2011. 02.	DONGKUK Steel Dangjin Plate Mill No. 1 Flatness Gauge Relocation of Equipment / Plate Dimension Measurement System HMI Separation / Measuring System Overhaul contracted
2011. 01.	POSCO Gwangyang Plate Mill Heating Furnace Williamson Pyrometer contracted
2010. 12.	HYUNDAI STEEL Dangjin B Hot Rolled Mill SPM Width Gauge Display Upgrade Supervising completed
2010. 11.	HYUNDAI STEEL Dangjin B Hot Rolled Mill SPM Width Gauge Display Upgrade contracted
	DONGKUK Steel Pohang Profile Measuring System contracted
2010. 10.	POSCO Gwangyang Cold Rolled Mill 2TCM Width Gauge Air Purge System Supervising completed
	POSCO Gwangyang Plate Mill Width Gauge Calibration Tool Set (PMT-WG-CBT-A) supplied
	HYUNDAI STEEL Dangjin C Hot Rolled Mill HDL Width Gauge Supervising(PAT) completed
2010. 09.	DONGKUK STEEL Pohang Plate Mill Cold Leveler Flatness Gauge contracted
	DONGKUK STEEL Pohang Plate Mill Press Leveler Flatness Gauge contracted
	POSCO Gwangyang Cold Rolled Mill 2TCM Width Gauge Air Purge System (PMT-APS-C/L) 4EA supplied
	POSCO Gwangyang Plate Mill Plate Dimension Measurement System (Width / Length / Camber / Perpendicularity) Supervising completed
	POSCO Gwangyang Plate Mill Plate Flatness Gauge 2set Supervising completed

2010. 09.	POSCO Gwangyang Plate Mill Plate Slab Width & Length Gauge Supervising completed
	HYUNDAI STEEL Dangjin C Hot Rolled Mill HDL Width Gauge Supervising completed
2010. 08.	HYUNDAI STEEL Dangjin A Hot Rolled Mill Width Gauge supplied & Supervising completed
	HYUNDAI STEEL C Hot Rolled Mill Slab Width & Length & Camber Gauge Supervising(PAT) completed
	HYUNDAI STEEL C Hot Rolled Mill HSL Width Gauge Supervising(PAT) completed
2010. 07.	HYUNDAI STEEL C Hot Rolled Mill HDL Width Gauge Supervising completed
	POSCO Gwangyang Plate Mill Plate Dimension Measurement System (Width / Length / Camber / Perpendicularity) Supervising(PAT) completed
	POSCO Gwangyang Plate Mill Flatness Gauge 2set Supervising(PAT) completed
	DONGKUK STEEL Dangjin Plate Mill Plate Dimension Measurement System & Flatness Gauge Spare supplied
2010. 06.	HYUNDAI STEEL Dangjin C Hot Rolled Mill Slab Width & Length & Camber Gauge supplied & Supervising completed
	HYUNDAI STEEL Dangjin B Hot Rolled Mill Slab Width & Length & Camber Gauge Supervising(FAT) completed
	POSCO Gwangyang Plate Mill Slab Width & Length Gauge Supervising(PAT) completed
	POSCO Gwangyang Plate Mill Plate Dimension Measurement System (Width / Length / Camber / Perpendicularity) Supervising completed
	POSCO Gwangyang Plate Mill Flatness Gauge 2set Supervising completed
	DONGKUK STEEL Pohang Plate Mill Gauge Overhaul & Calibration completed
2010. 05.	DONGKUK STEEL Pohang 2 Plate Mill Williamson Pyrometer Spare 1Set supplied
	POSCO Gwangyang Plate Mill Plate Dimension Measurement System (Width / Length / Camber / Perpendicularity) Supervising completed
	POSCO Gwangyang Plate Mill Flatness Gauge 2set Supervising completed
	DONGKUK STEEL Dangjin Plate Mill Gauge Spare Part contracted
	DONGKUK STEEL Pohang Plate Mill Gauge Overhaul & Calibration contracted
	Section Shape Profile Gauge Development & Demonstration completed
	DONGKUK STEEL Dangjin Plate Mill.NO.3 Flatness Gauge Supervising (FAT) completed
2010. 04.	POSCO Gwangyang Plate Mill Plate Dimension Measurement System (Width / Length / Camber / Perpendicularity) Supervising completed
	POSCO Gwangyang Plate Mill Flatness Gauge 2set Supervising completed
	DONGKUK STEEL Pohang Plate Mill NO.3 Horizontal Position Measuring System Contract & Supervising completed
	HYUNDAI STEEL Dangjin A Hot Rolled Mill SPM Width Gauge contract
	DONGKUK STEEL Pohang Plate Mill Spare Pyrometer contract
2010. 03.	POSCO Gwangyang Plate Mill Slab Width & Length Gauge Supervising (PAT) completed
	DONGKUK STEEL Pohang Williamson Pyrometer Technical Seminar completed
	DONGKUK STEEL Pohang 2 Plate Mill Plate Dimension Measurement System / Flatness Gauge / Slab Width & Length Gauge Spare supplied
2010. 02.	HYUNDAI STEEL Dangjin B Hot Rolled Mill New Plan SPM Width Gauge Supervising(FAT) completed
	POSCO Gwangyang Plate Mill Slab Width & Length Gauge Supervising completed
	HYUNDAI STEEL Dangjin C Hot Rolled Mill SLAB Width & Length & Camber Measurement System supplied
	HYUNDAI STEEL Dangjin C Hot Rolled Mill HSL & HDL Width Gauge 2set supplied
	DONGKUK STEEL Dangjin Plate Mill Original SLAB Entry Weigher Width & Length Measurement System Supervising(FAT) completed
	DONGKUK STEEL Dangjin Plate Mill NO.1 PlateDimension Measurement System (Width / Length / Camber / Perpendicularity) Supervising(FAT) completed
2010. 01.	DONGKUK STEEL Dangjin Plate Mill NO.2 Plate Dimension Measurement System (Width / Length / Camber / Perpendicularity) Supervising(FAT) completed
	DONGKUK STEEL Dangjin Plate Mill NO.1 On-Line Flatness Gauge Supervising(FAT) completed
	DONGKUK STEEL Dangjin Plate Mill NO.2 On-Line Flatness Gauge Supervising(FAT) completed
	POSCO Gwangyang Plate Mill Plate Dimension Measurement System (Width/Length/Camber/Perpendicularity) supplied

2010. 01.	POSCO Gwangyang Plate Mill Plate Flatness Gauge 2set supplied
	HYUNDAI STEEL Dangjin B Hot Rolled Mill New Plan SPM Width Gauge Supervising completed
	ISO 9001 certification Acquired
	Building dedication ceremony completed
2009.12.	HYUNDAI STEEL Dangjin B Hot Rolled Mill New Plan SPM Width Gauge supplied
	POSCO Pohang Electrical Steel Mill NO.2 HCL Edge Flare Measurement System supplied & Supervising completed
	POSCO Gwangyang CGL Williamson Pyrometer 1 set supplied
	POSCO Pohang Hot Rolled Mill 2HSL Width Gauge Upgrade completed
	HYSCO Suncheon CGL Width Gauge upgrade contacted/completed
2009. 11.	POSCO Pohang Electrical Steel Mill 2HCL Edge Flare Measurement System contracted
	POSCO Gwangyang CGL Williamson Pyrometer 1set contracted
	ZHANGJIAGANG POHANG STAINLESS STEEL Width Gauge Technical Presentation & Meeting completed
	DONGKUK STEEL Dangjin Plate Mill NO.3 Flatness Gauge Supervising (PAT) completed
	DONGKUK STEEL Dangjin Plate Mill Slab Width & Length Measurement System Supervising (PAT) completed
2009. 10.	POSCO Pohang 2 Hot Rolled Mill 2HSL Width Gauge Upgrade contracted
	DONGKUK STEEL Dangjin Plate Mill Plate Dimension Measurement System / Flatness Gauge Spare supplied
	POSCO Pohang Laser Module(Green/Red Laser Module) Spare
	HYUNDAI STEEL Dangjin Laser Module(Red Laser Module) Spare contracted/supplied
	JEONAN HI-TUBE Williamson Pyrometer 1set supplied
	POSCO Gwangyang Plate Mill Williamson Pyrometer 4set supplied
	HYSCO Suncheon CGL/CAL Pin Hole Detector System Upgrade supplied
	DONGKUK STEEL Dangjin Plate Mill NO.1 Plate Dimension Measurement System (Width / Length / Camber / Perpendicularity) Supervising (PAT) completed
	DONGKUK STEEL Dangjin Plate Mill NO.2 Plate Dimension Measurement System (Width / Length / Camber / Perpendicularity) Supervising(PAT) completed
	DONGKUK STEEL Dangjin Plate Mill NO.1 On-Line Flatness Gauge Supervising (PAT) completed
	DONGKUK STEEL Dangjin Plate Mill NO.3 Flatness Gauge Supervising (PAT) completed
	DONGKUK STEEL Dangjin Plate Mill Original Plate Slab Width & Length Measurement System Supervising completed
	DONGKUK STEEL Dangjin Plate Mill NO.3 One Press Leveler Flatness Gauge Supervising completed
2009. 09.	HYUNDAI STEEL Dangin Dangjin C Hot Rolled Mill Width Gauge 2set contracted
	DONGKUK STEEL Dangin Plate Mill Plate Dimension Measurement System / Flatness Gauge spare contracted
	POSCO Gwangyang Plate Mill Slab Width & Length Gauge supplied
	POSCO Gwangyang CGL Williamson Pyrometer 1setsupplied
	HYSCO Suncheon Pin Hole Detector Spare supplied
	POSCO Pohang No.2 Plate Mill Slab Width & Length Gauge Auto Calibrator supplied
	DONGKUK STEEL Pohang No.2 Plate Mill Flatness Gauge Auto Calibrator supplied
	DONGKUK STEEL Dangjin Plate Mill Original Plate Slab Width & Length Measurement System Supervising completed
	POSCO VIETNAM PL/TCM Width Gauge Supervising (Final) for PAT completed
	POSCO VIETNAM CAL Width Gauge Supervising (Final) for PAT completed
	POSCO VIETNAM PL Welder Position Control System Supervising (2nd) for fine tuning completed
2009. 08.	HYUNDAI STEEL Dangin C Hot Rolled Mill SLAB Width & Length & Camber Measurement System contracted
	POSCO Gwangyang CGL Williamson Pyrometer 1Set contracted
	HYSCO Dangin Cold Rolled Mill PL/TCM Width Gauge Up-Down Type Upgrade completed
	DONGKUK STEEL Dangin Plate Mill NO.1 Plate Dimension Measurement System (Width / Length / Camber / Perpendicularity) Supervising completed
	DONGKUK STEEL Dangin Plate Mill NO.1 On-Line Flatness Gauge Supervising completed

2009. 08.	DONGKUK STEEL Dangjin Plate Mill NO.2 Plate Dimension Measurement System (Width / Length / Camber / Perpendicularity)Supervising completed
	DONGKUK STEEL Dangjin Plate Mill NO.2 Plate Dimension Measurement System (Width / Length / Camber / Perpendicularity)Supervising completed
	DONGKUK STEEL Dangjin Plate Mill NO.2 On-Line Flatness Gauge Supervising completed
2009. 07.	POSCO VIETNAM PL/TCM Width Gauge Supervising (3rd) for trial run & education completed
	JEONGAN HI-TUBE Williamson Pyrometer 1set contracted
2009. 06.	POSCO Pohang 1 Cold Rolled Mill 2RCL r-ray Thickness Gauge supplied
	DONGKUK STEEL Dangjin Plate Mill Press Leveler Flatness Gauge Measurement System Supplied
	DONGKUK STEEL Dangjin Plate Mill Entry Weigher Slab Width & Length Measurement System Supplied
	Venture Company Confirmation (Technical Company Confirmation)
	ISO 9001 Education Completed
2009. 05.	DONGKUK STEEL Dangjin Plate Mill NO.1 Plate Dimension Measurement System (Width / Length / Camber / Perpendicularity) supplied
	DONGKUK STEEL Dangjin Plate Mill NO.1 On-Line Flatness Gauge supplied
	DONGKUK STEEL Dangjin Plate Mill NO.2 Plate Dimension Measurement System (Width / Length / Camber / Perpendicularity) supplied
	DONGKUK STEEL Dangjin Plate Mill NO.2 On-Line Flatness Gauge supplied
	POSCO VIETNAM CAL Width Gauge Supervising (1st) for installation & trial run completed
	POSCO VIETNAM PL/TCM Width Gauge Supervising (2nd) for installation & trial run completed
	POSCO MEXICO CGL Width Gauge Supervising (Final) for trial run & education completed
2009. 04.	DONGKUK STEEL Pohang 2Plate Mill NO.1 Plate Dimension Measurement System (Width / Length / Camber / Perpendicularity) completed
	DONGKUK STEEL Pohang 2 Plate Mill NO.1 On-Line Flatness Gauge completed
	DONGKUK STEEL Pohang 2 Plate Mill NO.2 Plate Dimension Measurement System (Width / Length / Camber / Perpendicularity) completed
	POSCO Gwangyang 2PCM Side Trimmer Width Gauge 2set completed
	DONGKUK STEEL Dangjin / Pohang Optical Measuring Equipment Education(Plate Dimension Measurement System / Flatness Gauge / Slab Width & Length Gauge)
2009. 02.	POSCO Gwangyang No.4 Plate Mill Flatness Gauge 2Set contracted
	POSCO Gwangyang No.4 Plate Mill Measurement System (Width / Length / Camber / Perpendicularity) 1Set contracted
	POSCO Pohang 1Cold Rolled Mill 2RCL r-ray Thickness Gauge contracted
	POSCO VIETNAM PL/TCM Width Gauge Supervising for Installation
	POSCO MEXICO CGL Width Gauge Supervising for Installation & trial run
2009. 01.	POSCO Pohang Electrical Steel Mill 3HCL Shape Meter supplied
	POSCO VIETNAM PL/TCM Width Gauge 2set supplied
	POSCO Pohang 2Cold Rolled Mill CSL Width & Shape Measurement System completed
	POSCO Pohang 1Cold Rolled Mill CSL Width & Shape Measurement System completed
	POSCO Pohang 2Cold Rolled Mill TCM Width Gauge completed
	POSCO Pohang 2Hot Rolled Mill 3HSL Width Gauge completed
	POSCO Pohang Electrical Steel Mill 1HCL Width Gauge completed
2008. 12.	POSCO Gwangyang 1CRM 1CAL Welder Position Control System supplied
	POSCO Gwangyang 3,4TCM Width Gauge 2set completed
2008. 11.	POSCO Pohang Electrical Steel Mill 2DRL Pin-Hole Detector supplied
	POSCO Pohang Electrical Steel Mill 3APL Width Gauge supplied
	POSCO Pohang Electrical Steel Mill 3HCL Pin-Hole Detector supplied
	POSCO Pohang Electrical Steel Mill 3HCL Width Gauge supplied
	POSCO Pohang No.2 Plate Mill On-Line Flatness Gauge completed

2008. 11.	POSCO Gwangyang No.4 Plate Mill Slab Width & Length Gauge contracted
	DONGKUK STEEL Dangjin Original Slab Width & Length Gauge contracted
	DONGKUK STEEL Pohang 2 Plate Mill NO.1 On-Line Flatness Gauge supplied
	DONGKUK STEEL Pohang 2 Plate Mill NO.1 Plate Dimension Measurement System (Width / Length / Camber / Perpendicularity) supplied
	DONGKUK STEEL Pohang 2 Plate Mill NO.2 On-Line Flatness Gauge supplied
	DONGKUK STEEL Pohang 2 Plate Mill NO.2 Plate Dimension Measurement System (Width / Length / Camber / Perpendicularity) supplied
2008. 10.	HYUNDAI STEEL Dangjin B Hot Rolled Mill New Plan SPM Width Gauge contracted
	POSCO Pohang Electrical Steel Mill NO.2 APL Width Gauge supplied
	POSCO Mexico Width Gauge Spare Parts supplied
	POSCO Pohang 2Cold Rolled Mill CSL Width & Shape Measurement System supplied
	POSCO Pohang 2Hot Rolled Mill 3HSL Width Gauge supplied
	POSCO Pohang 2Cold Rolled Mill TCM Width Gauge supplied
	POSCO Pohang 2Cold Rolled Mill CSL Pin-Hole Detector supplied
	POSCO Pohang 1Cold Rolled Mill 1CAL Pin-Hole Detector supplied
	POSCO Pohang 1Cold Rolled Mill 1CAL Shape Meter supplied
	POSCO Pohang NO.2 Plate Mill inspection line On-Line Flatness Gauge supplied
2008. 09.	POSCO Vietnam PL/TCM Width Gauge 2set contracted
	POSCO Pohang 1 Cold Rolled Mill CPL Width & Shape Measurement System supplied
	POSCO Gwangyang 2PCM Side Trimmer Width Gauge 2set supplied
	POSCO Pohang STS APF Width Gauge supplied
	POSCO Pohang NO.2 Plate Mill Slab Shape (Width & Length Profile) Measurement System completed
	POSCO Pohang NO.3 Plate Mill Slab Shape (Width & Length Profile) Measurement System completed
2008. 08.	POSCO Pohang 2 Plate Mill Heavy Plate Dimension Measurement System (Width / Length / Camber / Perpendicularity) supplied
	DONGKUK STEEL Pohang 2 Plate Mill Flatness Gauge 2set contracted
	DONGKUK STEEL Pohang 2 Plate Mill Plate Dimension Measurement System (Width / Length / Camber / Perpendicularity) 2set contracted
	POSCO Pohang No.3 Blast Furnace Williamson Pyrometer 3set supplied
2008. 07.	POSCO Vietnam Cold Rolled Mill CAL Width Gauge 2set supplied
	POSCO Pohang No.2 EGL Width Gauge supplied
2008. 06.	INNO-BIZ CONFIRMATION
	POSCO Pohang No.3 Plate Mill Slab Width & Length Gauge supplied
	POSCO Pohang Pohang Electrical Steel Mill 3ACL Pin-hole & Crack Detector Multi Vision controller with software (PMS-PHD-MVC-288-SW-C) supplied
2008. 05.	POSCO Gwangyang 4CGL Williamson Pyrometer supplied
	POSCO Pohang No.3 Blast Furnace Williamson Pyrometer supplied
	DONGKUK STEEL Pohang No.2 Plate Mill Slab Shape Measurement System completed
	POSCO Mexico CGL Width Gauge 2set supplied
	POSCO Pohang Electrical Steel Mill 1HCL Width Gauge supplied
	POSCO Pohang Electrical Steel Mill 3HCL Shape Meter contracted
2008. 03.	Venture Company Confirmation (Technical Company Confirmation)
	DONGKUK STEEL Dangjin Plate Mill Press Leveler Flatness Gauge contracted
2008. 02.	POSCO Gwangyang Blast Furnace Williamson Pyrometer 3set supplied
	POSCO Gwangyang 1CGL, 4CGL Williamson Pyrometer 2set supplied

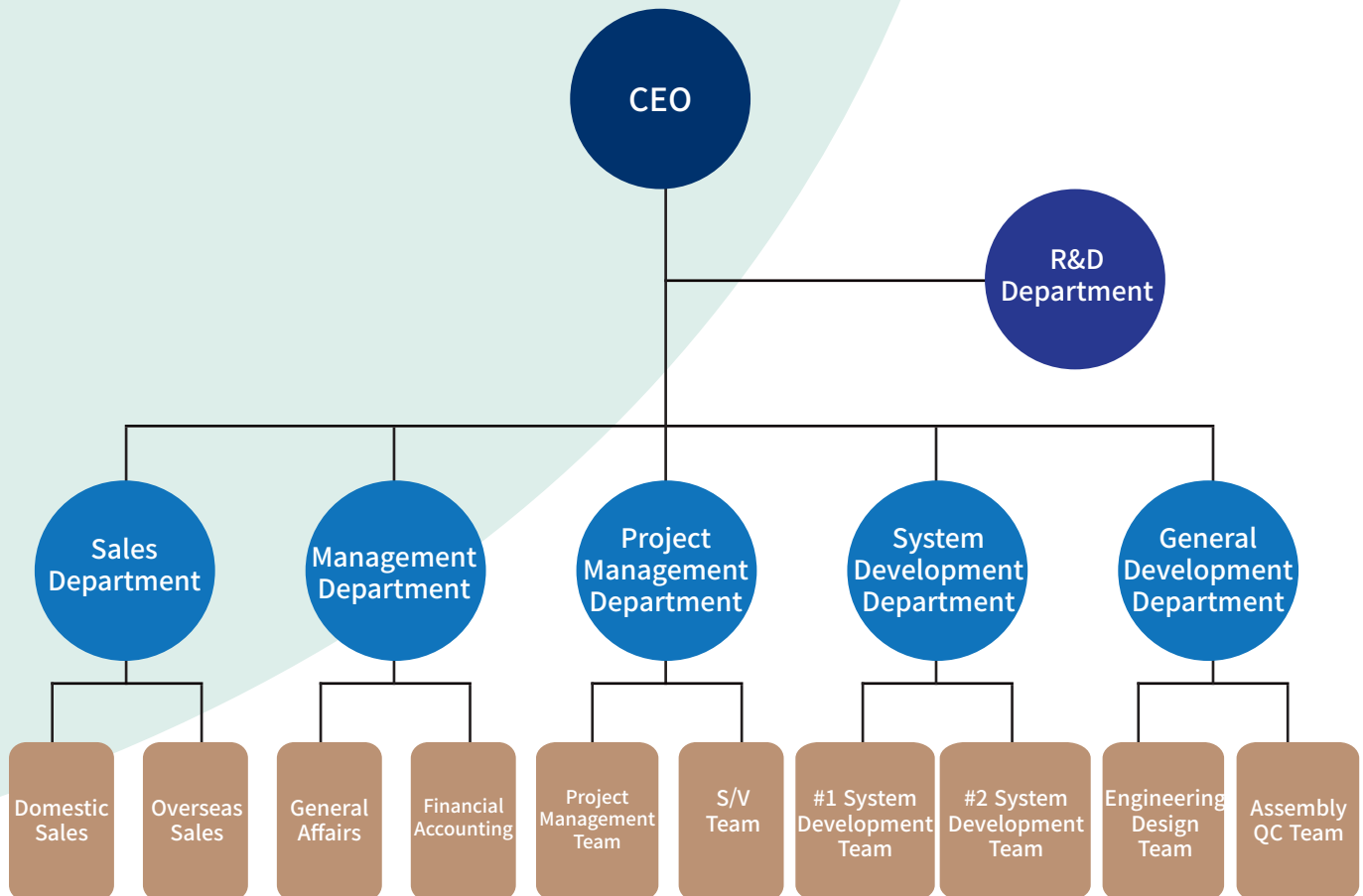
2007. 12.	POSCO Pohang No.2 Plate Mill heating furnace Slab Width & Length Gaugesupplied
2007. 11.	POSCO Pohang No.2CRM 3CAL, EGL Pin-Hole Detector 2set supplied
	POSCO Mexico Cold Rolled Mill CGL Width Gauge 2set contracted
	DONGKUK STEEL Pohang No.2 Plate Mill Slab Shape Measurement System contracted
	DONGKUK STEEL Dangjin Plate Mill Flatness Gauge 2set contracted
	HYSKO Dangjin Cold Rolled Mill SPM Calibration Tool supplied
	POSCO Vietnam Cold Rolled Mill CAL Width Gauge 2set contracted
	POSCO Gwangyang 2CGL Williamson Pyrometer 2set supplied
2007. 10.	HYUNDAI STEEL Dangjin B HRM SPM Width Gauge supplied
	POSCO Pohang No.2 Plate Mill Heavy Thickness Plate Dimension measurement System contracted (Width / Length / Camber / Perpendicularity)
2007. 09.	DONGKUK STEEL Dangjin Plate Dimension Measurement System 2set contracted(Width / Length / Camber / Perpendicularity)
	POSCO Pohang No.1CRM 2CAL Shape Meter 1set supplied
	POSCO Pohang No.2CRM 3CAL Width Gauge supplied
	POSCO Pohang No.3 Plate Mill Slab Width & Length Gauge contracted
2007. 08.	POSCO Gwangyang No.1CRM 1TCM Width Gauge supplied
2007. 07.	HYSKO Suncheon Cold Rolled Mill (CAL, CGL Line) Pin-Hole Detector 2set supplied
	POSCO Pohang No.1 Plate Mill Plate Dimension Measurement System supplied (Width / Length / Camber / Perpendicularity)
	POSCO Magnesium Mill Williamson Pyrometer 2set supplied
2006. 12.	POSCO Pohang Williamson Pyrometer Calibration Tool supplied
	POSCO Gwangyang Coating Mill 2CGL Williamson Pyrometer supplied
2006. 11.	POSCO Pohang No.2 CRM 2PCM Thickness Gauge supplied
2006. 10.	POSCO Pohang No.2 HRM RM LINE Hot Metal Detector supplied
	POSCO Pohang No.1 CRM 2RCL Width Gauge supplied
2006. 09.	POSCO Pohang No.2 Plate Mill Plate Dimension Measurement System Improvement completed
	POSCO Pohang Cold Rolled Mill Pin-Hole Detector Detector Module supplied
2006. 06.	POSCO Pohang No.3 Plate Mill Plate Dimension Measurement System supplied (Width / Length / Camber / Perpendicularity)
	POSCO Gwangyang No.2 CRM 2TCM Width Gauge supplied
	POSCO Gwangyang new preheating furnace Williamson Pyrometer System HMI System supplied
2006. 05.	POSCO Pohang No.2 HRM 1HSL Width Gauge supplied
2006. 02.	POSCO Pohang No.1, 2 HRM SSP LINE HMD supplied
2005. 12.	Width Gauge(C-Frame Type) supplied (POSCO Pohang Electrical Steel 3ACL) [2005.12] Slab Width Gauge (Using Green Laser) supplied (POSCO Pohang No.1 HRM)
	Hole & Crack Detector developed & supplied (POSCO Pohang Electrical Steel 2HCL, 3ACL)
2005. 11.	POSCO“Plate Mill Dimension Measurement Technology”technical transfer completed.
	Pin-Hole & Crack Detector developed using LED
2005. 05.	POSCO Pohang Plate Dimension Measurement System for No. 2 Plate Mill developed and supplied (Width / Length / Camber / Perpendicularity)
2005. 04.	Width gauge related contract (5 lines other than HYSKO & Dangjin-SPM)
2004. 11.	Williamson invited for a seminar. POSCO (Pohang, Gwangyang)
2004. 09.	Width gauge supplied (HYSKO Suncheon-CGL)
2004. 04.	Slab width and length gauge developed and supplied (POSCO-2PM)
2003. 07.	Width gauge(C-Frame) developed and supplied (POSCO-1CRM-1CAL-exitsection)
2003. 06.	TCM hole and width gauge (top-mount) developed and supplied (POSCO (K)-2

2000. 08.	LDV developed
2000. 03.	Pin-hole detector applying linear CCD camera developed
2000. 02.	3 cases of technological transfer including manufacturing method of steel sheet surface roughness measuring instruments (POSCO, RIST)
1999. 08.	The first year LDV completed
1998. 11.	PT111N-144 developed
1998. 07.	Laser velocimeter (LDV) R & D started
1998. 05.	Surface roughness defect (BUILD-UP) detector developed
1998. 01.	Optical research center established
1997. 12.	Dew point measuring instrument developed
1997. 09.	Measuring devices of sludge concentration in plating solution developed
1996. 07.	Incorporated as Palmatech Co.
1996. 02.	Alloying degree measuring instrument developed
1994. 06.	Company name changed to Palmatech
1993. 12.	Surface roughness detector developed
1992. 05.	Palma System established

PALMATECH Organization

Organization

1 Research Department / 5 Development Departments / 10 Teams



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