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MERITEC

COMPANY PROFILE

MESSAGE FOR CLIENTS

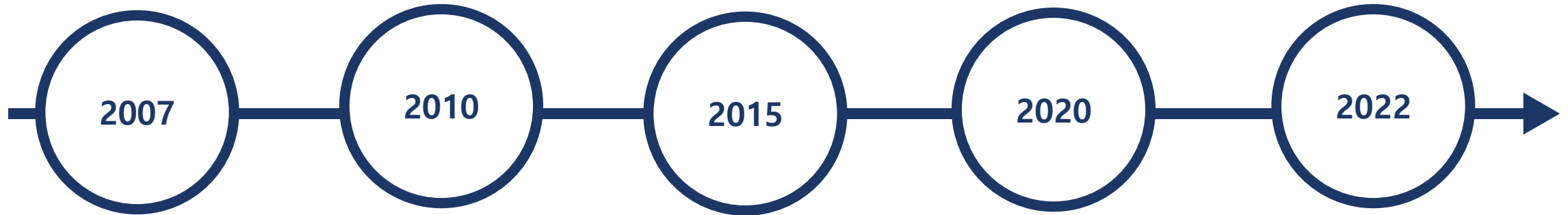
Out of your sight with a heart
of one's own, customer-centered mind
I'll be a company.

We provide solutions for press automation and factory FA.
As the best engineer to respond faithfully to the needs of various customers
We promise to provide a reasonable solution



HISTORY

“The Metritech industry’s challenge to the future never stops.”



2007.
Meritech Industrial
Co., Ltd
Establishment

2008.
Development
NC LEVELLER FEEDER
(L-TYPE 3.2T)

2009.
Development
NC LEVELLER FEEDER
(L-TYPE 4.5T)

2010.
Development
NC LEVELLER FEEDER
(L-TYPE 6.0T)

2012.
Development
SEMI-SHUTTLE TRANSFER

2013.
Development 3D TRANSFER

2014.
Development SHUTTLE TRANSFER

2015.
Development Single-tuned robot

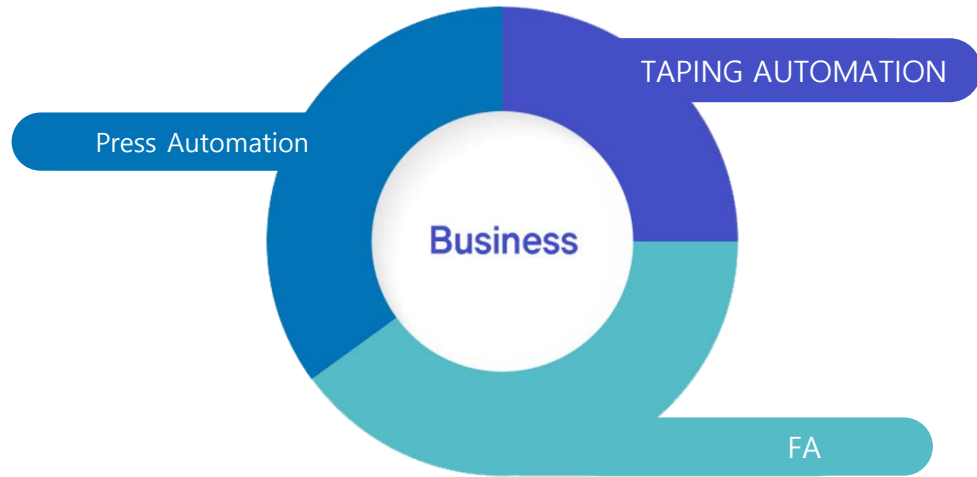
2016.
Development of single-acting
Variable transfer

2019.
Development
3D TRANSFER(1000TON)
Development
3D TRANSFER(2000TON)

2021.
Development of mass production
Automation of hydrogen car parts

2022.
Building a multi-joint robot
line system

ENTERPRISE STATUS

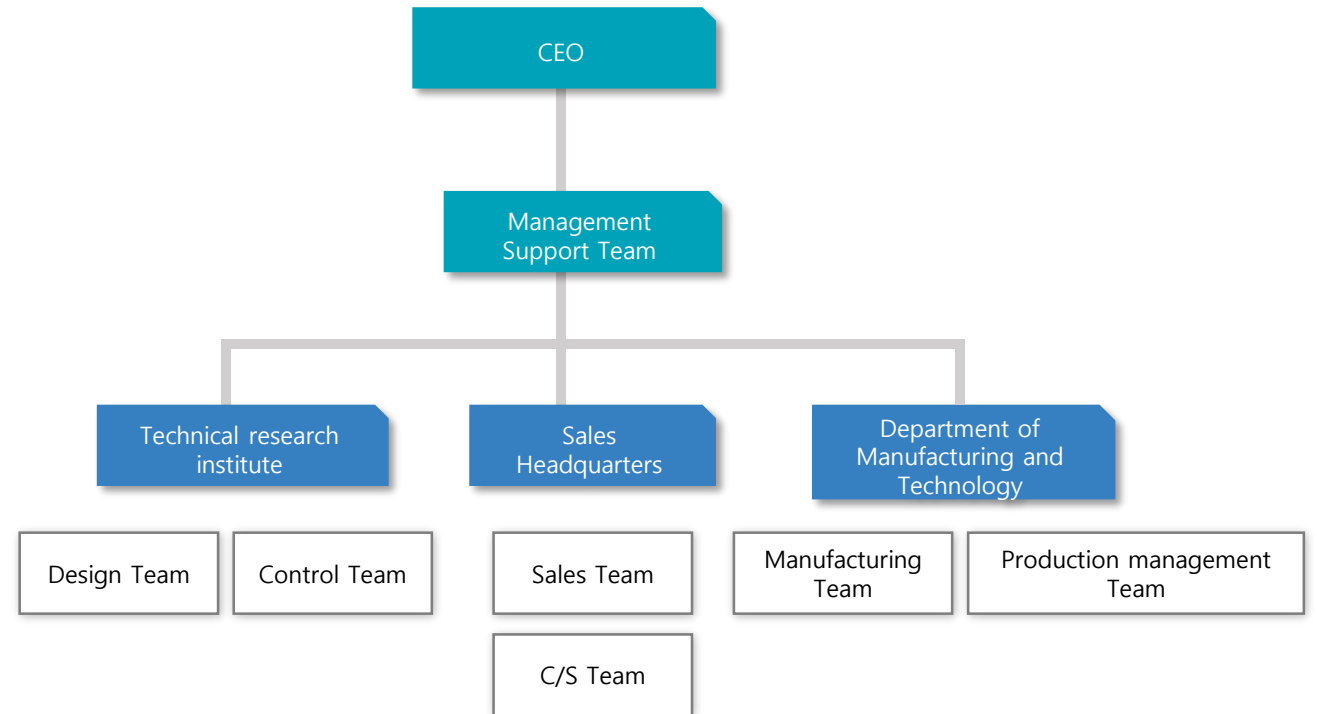


23, Jiwon-ro 115 beon-gil, Danwon-gu, Ansan-si, Gyeonggi-do
<http://meritecind.com>

Meritech Industrial Co., Ltd

A map of South Korea with a red dot in the northwest region, connected by a red line to the address text. A small icon of a factory is placed near the red dot.

ORGANIZATION



PRESS AUTOMATION SYSTEM

SMALL PRESS AUTOMATION

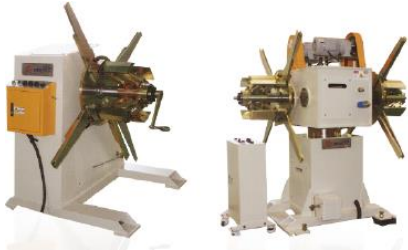
■ MICRO TYPE



DETAIL

- ① We had developed small controller system and it makes compact and competitive price.
- ② It is easy to adjust transfer length.
- ③ It operates smoothly high speed rotation.
- ④ It adapts end sensor material.

■ UNCOILER



DETAIL

- ① It is easy material install.
- ② It is excellent absorb ability of rotation inertia as a result of material weight.
- ③ It is various option according to materials and work.
- ④ It smooths coil material annealing according to precision concentricity.
- ⑤ Material annealing, Emergency stop of extreme inter-Lock.

■ UNCOIL _ LEVELLER



DETAIL

- ① It is useful for small space.
- ② Lubrication : Central supply system or individual injection.
- ③ It can adapt leveler tailor made approaching materials.
- ④ It had improved machinery high strength and durability with high safety design.(grind treatment of major part and gear)
- ⑤ All goods are standardization and it can choose various modles according to materials thickness.

■ STAND TYPE



DETAIL

- ① It adapts high effectiveness AC Servo Motor and it assures correct transfer length.
- ② Mold operation height(pass-line) auto control.
- ③ It makes convenient auto and manual with remote controller.
- ④ When rear plate material work, it protects shake and twisted status.

■ PRECISION LEVELLER



DETAIL

- ① Levelling is easy possible to control and use for anyone.
- ② It can control speed (high,mid,low) freely.(inverter operation)
- ③ It is convenient for roll cleaning after operation as Leveller Head Open(Manual/Auto) system.
- ④ It had improved machinery high strength and durability with high safety design.(grind treatment of major part and gear)
- ⑤ It is possible material up and down dliection for materials work.(Pilot roll)

PRESS AUTOMATION SYSTEM

NC LEVELLER FEEDER

NC LEVELLER FEEDER

■ L - Series



■ M - Series



DETAIL

- ① It adapts high effective AC Servo Motor and it assures correct transfer length.
- ② It is easy to adjust transfer length.
- ③ It is useful for small space and it's convenient for process.
- ④ Mold pad line control is oil pressure type and it operates auto control system.
- ⑤ It is possible elaborate even work with correction rule up 4 and down 4.
- ⑥ Flame annealing treatment and short work maintain steady flame.

NC LEVELLER FEEDER

■ H - Series



■ T - Series



DETAIL

- ① It adapts high effective AC Servo Motor and it assures correct transfer length.
- ② It is easy to adjust transfer length.
- ③ Pass line adjusts and control auto operation with oil pressure very easily.
- ④ It is very easy oil pressure insert device up and down operation and rear plate materials lead in. (Protection, when worker coil insert)
- ⑤ We adapt strong pressure coil pusher double chain operation for more better working condition and rear plate material protection of coil release..

PRESS AUTOMATION SYSTEM

TRANSEFR AUTOMATION

TRANSFER LINE

SEMI SHUTTLE TRANSFER



DETAIL

- ① Press Equipped inside.
- ② Applied on servo 2 axis.
- ③ Improved the Mold for press single process and Applied on Auto linkage process. (productivity improvement and Protection of safety accident)
- ④ Possible to work together with few presses along with the process.
- ⑤ Applied on synchronous control system and Available for productivity-up.

SINGLE VARIABLE TRANSFER



DETAIL

- ① Material transfer robot installed exclusively on the outside of the press. (Applies servo 3~5 axes)
- ② Application of inversion and rotation process between work processes. (Applicable to process calibration device)
- ③ Material supply Smooth supply by applying a 2-stage distacker.
- ④ Up/Down stroke left and right variable setting suitable for non-standard metallization molds.
- ⑤ Easy to set up between processes by applying remote control for closure(optional)

TRANSFER LINE

3D TRANSFER



DETAIL

- ① High – Tech 3D NC Transfer Line.
- ② Ensures high speed feeding through Multi Stage Die into Press.
- ③ Minimizes vibration and noise by adopting all motion of Servo motors.

SHUTTLE ROBOT



DETAIL

- ① Free to select feeding pitch.
- ② Can minimize the space for installation by direct feeding between presses.
- ③ Maximizes productivity with full automatic line structure.

PRESS AUTOMATION SYSTEM

TRANSEFR AUTOMATION

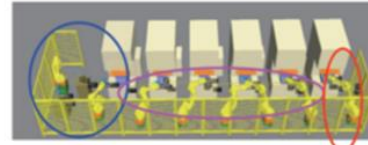
An articulated robot LINE



DETAIL

- ① Establishment of operating system to meet customer's mold conditions.
- ② Operate a variety of programs in consideration of customer's conditions
- ③ Free movement of magnet makes it easy to load materials
- ④ Realize the stability of the mold with perfect detection of two sheets
- ⑤ Secure centering by position unit

Press Handling Robots



- | DESTACKER/
CENTERING | PRESS
TENDING | UNLOADING &
BELT CONVEYOR |
|---|---|--|
| <ul style="list-style-type: none"> - Handling robot HH-050-01 - Robot base - Robot hand - 센터기 - Centering / 2개 고정 - Robot control - Safety fence | <ul style="list-style-type: none"> - Handling robot HH-050-01 - Robot base - Robot hand - Robot control - System control | <ul style="list-style-type: none"> - Handling robot HH-050-01 - Robot base - Robot hand - Robot control - Belt conveyor |

Robot 동작 유형

| 프레스 인접 이동 | 프레스 측면 이동 | 속연이동 + 회전 |
|--|---|--|
| | | |
| | | |
| <p>0-11 SPM</p> <ul style="list-style-type: none"> - 장애물 회피가능 - 속도 증가가 어렵다 - main axis motion | <p>11-14 SPM</p> <ul style="list-style-type: none"> - 가장 많이 적용되는 방식 - 라인 속도에 대응 | <p>15-16 SPM</p> <ul style="list-style-type: none"> - 180도 회전 - 속도 최우량식 - main motion (Z-axis) - 소용 적용에 적합 |

Destacker



- Magnet floater
- Air blow

Centering



- Magnet floater
- Air blow

Robot Gripper

- Gripper
- Master holder for robot
- Joining adapter
- Special tool for product



기타 설비



LOGISTICS SYSTEM

One-Stop Solution Integrator for Intelligence and Smart Logistics

Laser SLAM Autonomous Mobile Robots (자율주행로봇)

- Robot Bases (AMB)
- Jacking Robots
- Forklift Robots
- Picking Robots
- Customized Robots (Manipulator, Roller/Belt Conveyor)

Auto Storage and Retrieval System (자동창고시스템)

- Mini-Load AS/RS
- Pallet AS/RS
- Mini Shuttle System
- Pallet Shuttle System (MDPS)

Auto Sorting System (자동분류시스템)

- Cross-Belt Sorter / Roulette Sorter
- Swivel Wheel Sorter
- Pivot Sorter

Conveyor System (이송시스템)

- Motor Roller
- Roller, Belt Conveyor System
- Diversers



Laser SLAM 자율주행로봇 (AMRs)



Automatic Warehouse System / Shuttle System



Automatic classification System



Conveyor System

PRESS AUTOMATION SYSTEM

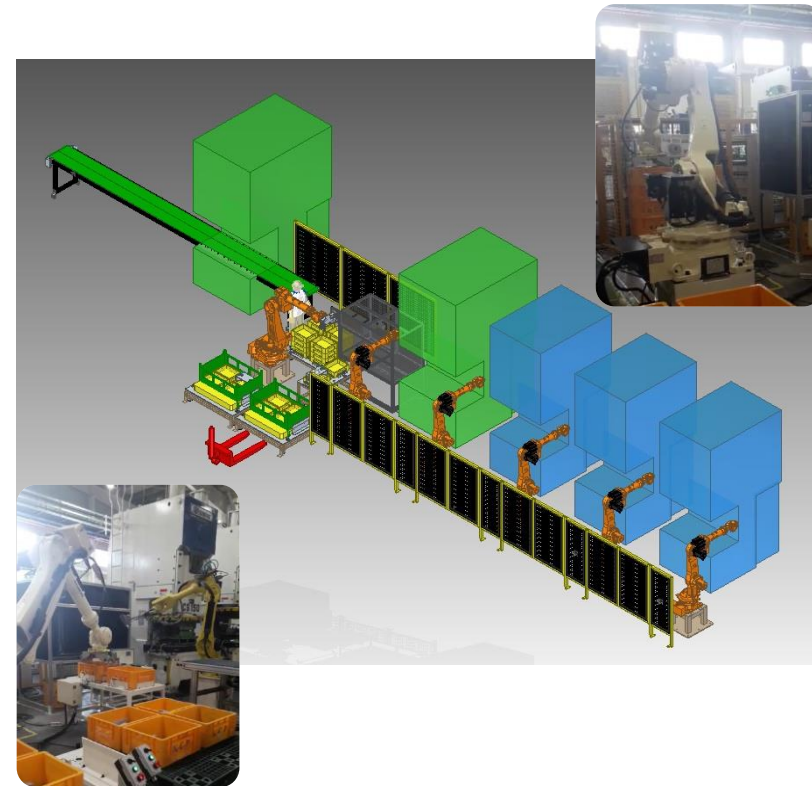
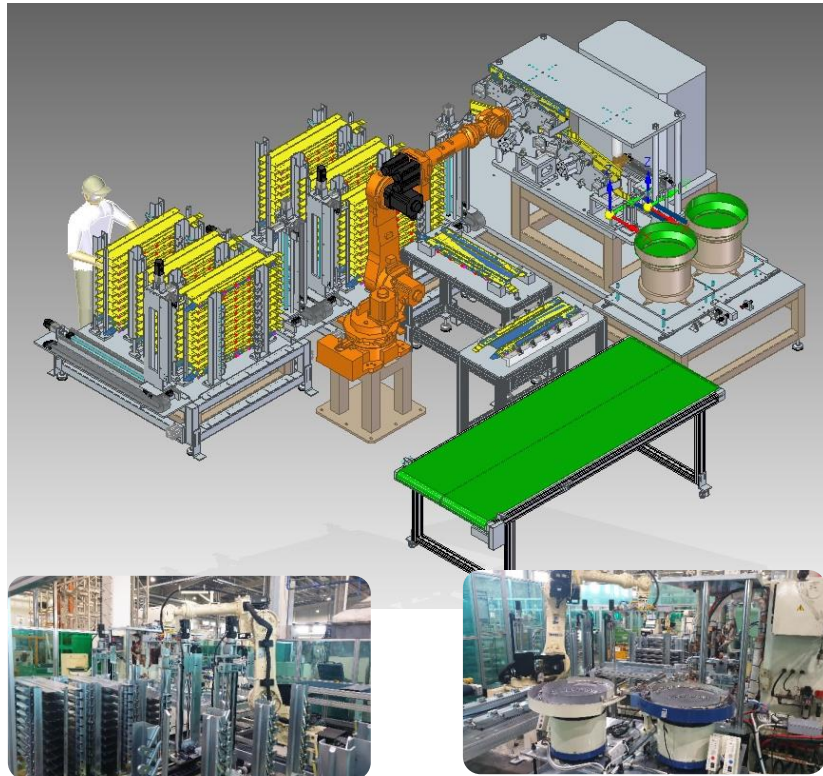
CASE NUT WELDING SYSTEM

■ BASIC OVERVIEW

- WORK : CASE PANEL
- C/T : 25 SEC
- MODEL : 1 EA (LH / RH)

■ PROCESS

- IN-STOCKER (Material Manual loading)
- Product sorting device
- Sensor system product orientation check
- Automatic Pin supply
- SPOT Automatic Welding



PRESS PALLETIZING SYSTEM

■ BASIC OVERVIEW

- WORK : COVER
- C/T : 8 SEC
- MODEL : 3 EA

■ PROCESS

- Transfer products using 6-axis Robot
- VISION Automatic inspection
- BOX Manual supply
- Automatic PALLETIZING

ASSEMBLY AUTOMATION SYSTEM

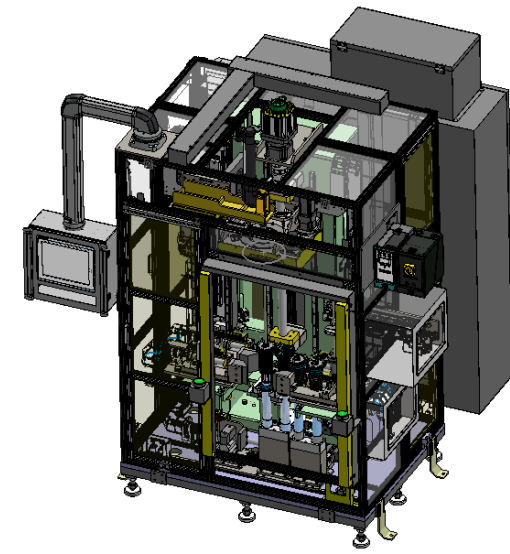
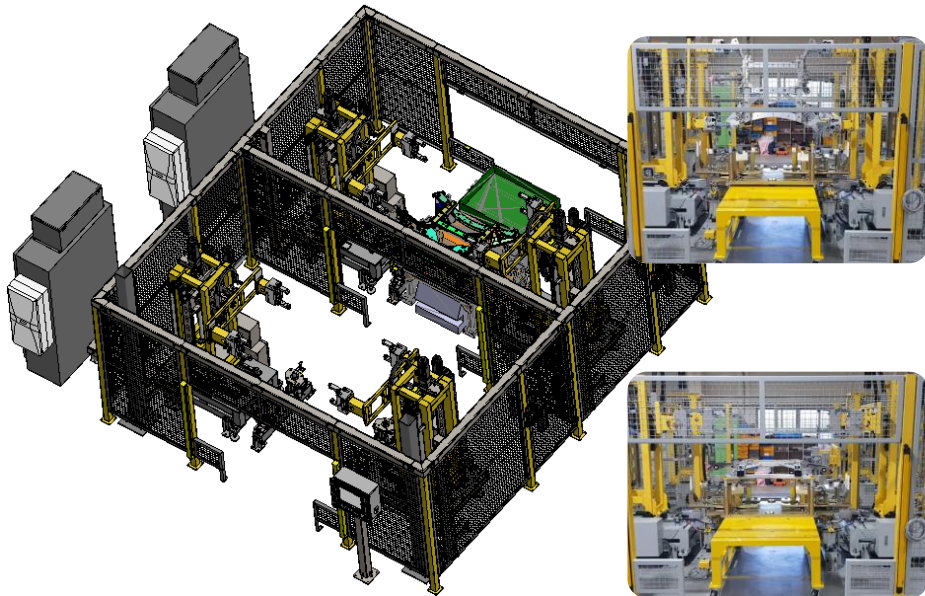
CRADLE TURN-OVER M/C

■ BASIC OVERVIEW

- WORK : CHRYSLER WL CRADLE
- C/T : 47 SEC
- MODEL : 2 EA

■ PROCESS

- AGV SKID LIFTER
- L/R Equipment Symmetry configuration
- CRADLE product CLAMP configuration
- Before/after L/R equipment, up/down rotation, 3-axis Servo synchronization drive
- AGV SKID LIFTER confirms normal rise
- CRADLE inverting input confirmation



FRONT SHOCK ABSORBER 조립 장비

■ BASIC OVERVIEW

- WORK : SHOCK ABSORBER
- C/T : 47 SEC
- MODEL : 8 EA (L/R)

■ PROCESS

- Composition of JIG automatic conversion servo with lower seating by product type
- Configuring the front/back/right automatic conversion servo for each type of spring guide
- SHOCK ABSORBER BODY CLAMP device configuration
- Insulator GUIDE automatic supply and discharge Equipment composition
- Configuring the Upper insulator automatic angle correction rotation servo device
- Nut Runner up/down automatic Fastening device
- Configuration of the automatic spring compression servo device by model
- Configuration the snape Ring assembly Gap check sensor

ASSEMBLY AUTOMATION SYSTEM

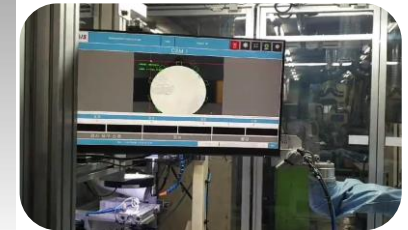
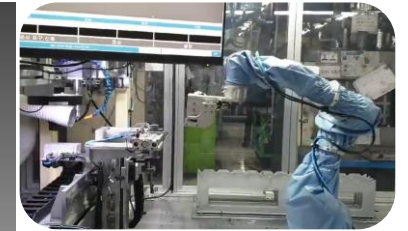
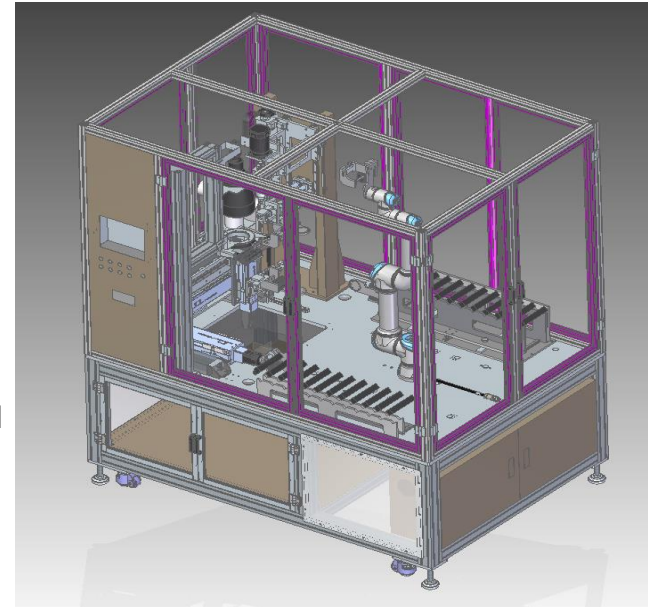
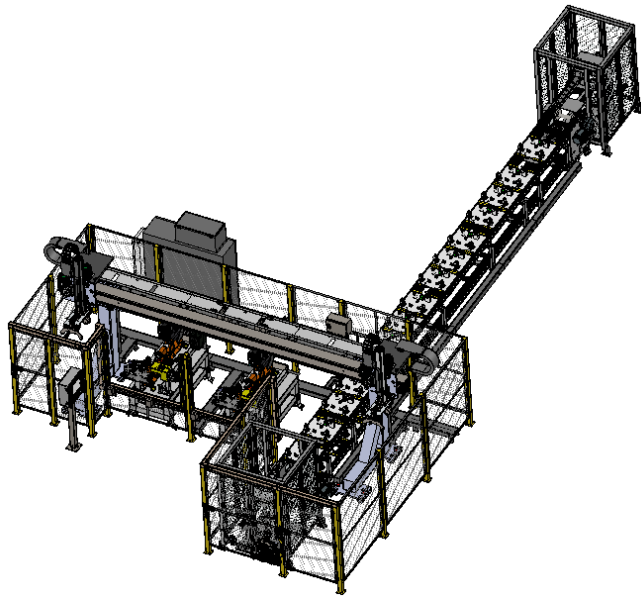
DIFF BUSH PRESS LINE

■ BASIC OVERVIEW

- WORK : DIFFERENTIAL GEAR HOUSING
- C/T : 47 SEC
- MODEL : 20 EA

■ PROCESS

- Assembly confirmation device
- Configuring BUSH press-fitting servo press
- Configuring the BUSH press-fitting verification device
- Product transfer GANTRY 2 head configuration
- Product emission two-stage skid return method conveyor configuration



HOUSING GUIDE RING Assembly Automation

■ BASIC OVERVIEW

- WORK : HOUSING GUIDE RING
- C/T : 20 SEC
- MODEL : 1 EA
(MAIN : 1종 / BLOCK 1종)

■ PROCESS

- SUPPLY : IN-STOCKER
- WORK ROADING : Cooperative ROBOT
- WORK Positioning : VISOIN
- WORK Positioning
- CENTERING Processing (1500 rpm)
- DISCHARGE : OUT-STOCKER

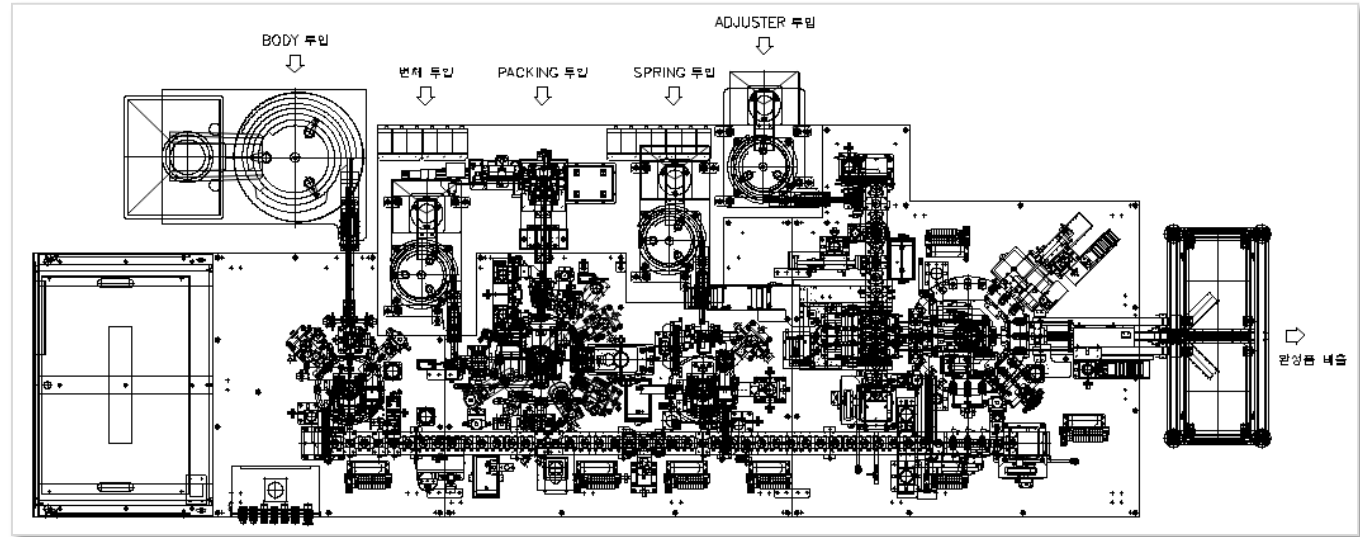
ASSEMBLY AUTOMATION SYSTEM

RELIEF VALVE ASSEMBLY AUTOMATION LINE

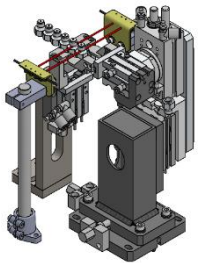
■ BASIC OVERVIEW

- WORK : RELIEF VALVE
- C/T : 1 EA / 2 SEC
- MODEL : 1 EA

■ PROCESS

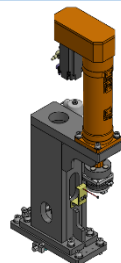


BODY SUPPLY ASS'Y



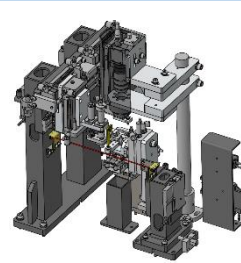
SUPPLY FEEDER → SUPPLY TURN → AIR BLOW → OK DISCHARGE → CHECK PRODUCT REMNANTS → MIAN CARRIER → OIL APPLICATION

DEAD BODY ASS'Y



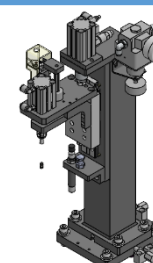
SUPPLY FEEDER → SUPPLY SHUTTLE & TURN → CORKING → AIR BLOW → VISION INSPECTION → OK DISCHARGE TURN → MAIN CARRIER → PRESSURIZATION AND CONFIRMATION

PACKING ASS'Y



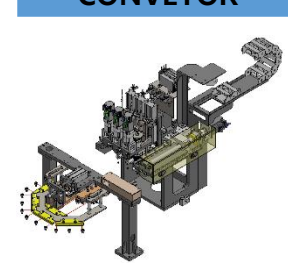
SUPPLY FEEDER → PUNCHING → VISION INSPECTION AND TURN SUPPLY

SPRING ASS'Y



SUPPLY FEEDER → ROTATION SUPPLY P&P → CHECK THE PRESSURE → INTERNAL DIAMETER TEST → OK DISCHARGE P&P → MIAN CARRIER

INPUT CONVEYOR



SUPPLY FEEDER → SUPPLY SHUTTLE / P&P → CORKING → AIR BLOW → VISION INSPECTION → ASSEMBLY ASS'Y

MEASUREMENT AUTOMATION SYSTEM

GEAR AUTOMATE MEASUREMENT AND GRADE CLASSIFICATION

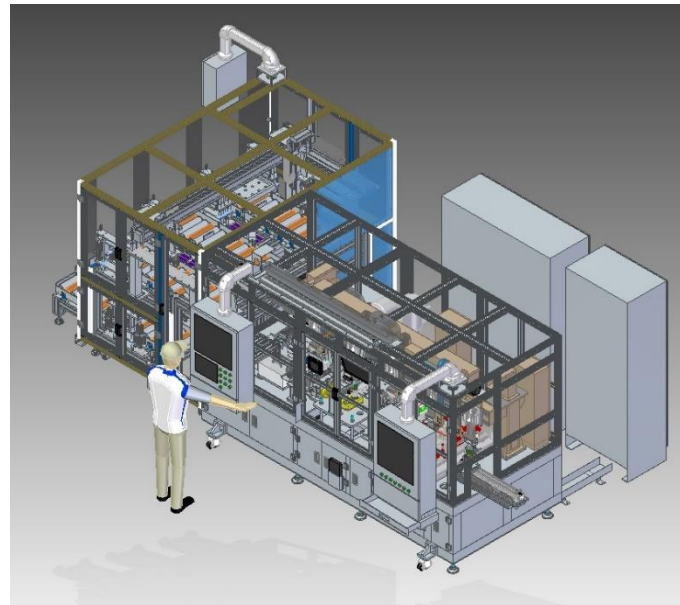
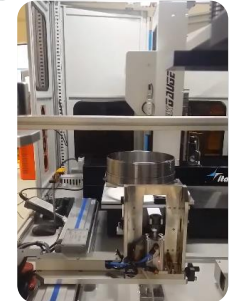
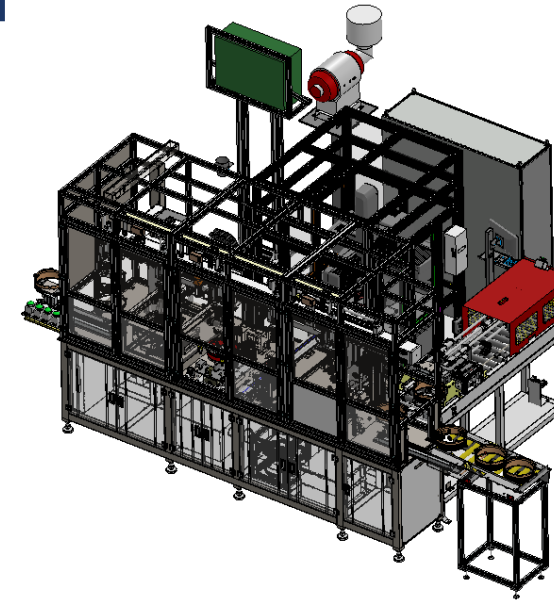
■ BASIC OVERVIEW

- WORK : GEAR
- C/T : 30 SEC
- MODEL : 7 EA
(MAIN : 4 species /
SUB 3 species)

■ PROCESS

- SUPPLY : PROCESSING MACHINE (Before M/C)
- MEASUREMENT OF TRANSMISSION ERROR
- GEAR ROLLING MEASUREMENT
- DIMENSION MEASUREMENT (In-line CMM)
- LASER MARKING & BARCODE READING
- NG DISCHARGE : BY Type
- CLASSIFICATION OF GRADES :

Box palletizing system



SUPPORT RING MEASUREMENT AUTOMATION

■ BASIC OVERVIEW

- WORK : MQ4-HEV, MQ4-PHEV
- C/T : 98 SEC
- MODEL : 2 EA

■ PROCESS

- SUPPLY : PROCESSING MACHINE (Before M/C)
- MULTI PICK & PLACE TRANSFER
- PRODUCT APPEARANCE AIR BLOW CLEANING
BOOTH CONFIGURATION
- DIMENSION MEASUREMENT (In-line CMM)
- LASER MARKING & BARCODE READING
- NG CONFIGURING DISCHARGE & LOAD CONVEYORS
- OK PRODUCT DISCHARGE SHUTTLE CONFIGURATION
- AIR CONDITIONER AND DEHUMIDIFICATION, HOT AIR
FAN, TEMPERATURE SENSOR COMPOSITION IN EQUIPMENT
- AIR BLOW & CLEANING DEPARTMENT MIST DUST
COLLECTION COMPOSITION

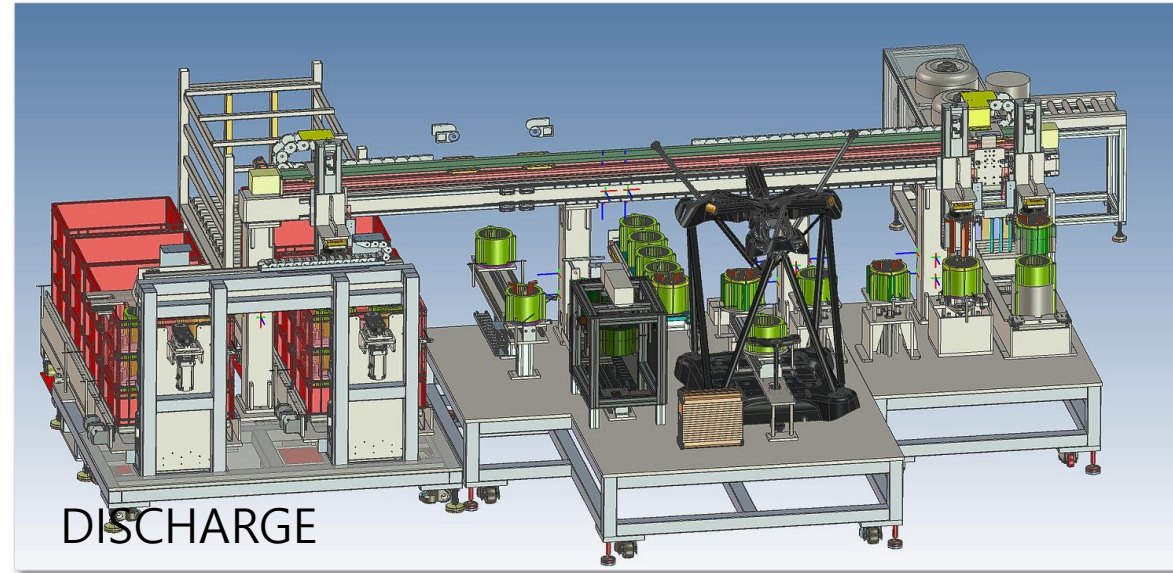
MEASUREMENT AUTOMATION SYSTEM

STATOR MEASUREMENT AUTOMATION

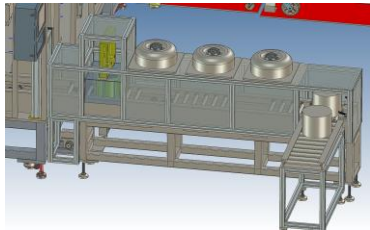
■ BASIC OVERVIEW

- WORK : STATOR
- C/T : 240 SEC
- MODEL : 3 EA

■ PROCESS

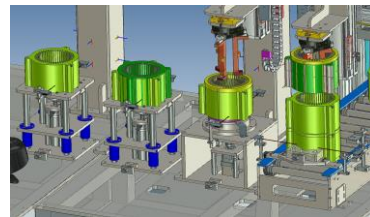


INPUT



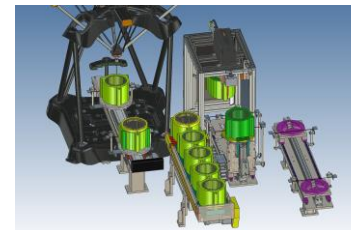
SUPPLY : PRESS (Before M/C)
1D HIGH-TEMPERATURE DISCHARGE :
VENTILATION SYSTEM
2D HIGH-TEMPERATURE DISCHARGE :
COOLING SYSTEM

INSPECTION



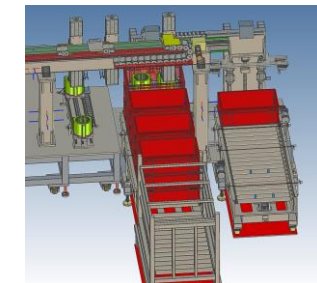
PICK & PLACE UNIT : 2AXIS SERVO
WORK POSITIONAL ALIGNMENT
1D SLOT PROSECUTOR : GO / NO
2D SLOT PROSECUTOR : GO / NO

MEASUREMENT



3D MEASUREMENT
NG DISCHARGE CONVEYOR
MARKING : LASER & BARCODE

OUTPUT



PICK & PLACE UNIT : 2AXIS SERVO
DISCHARGE: 3 TIER x 3ROW (1box / 2ea)
EMPTY BOX SUPPLY : 3TIER x 3ROW
POSITIONAL ALIGNMENT PUSHER UNIT

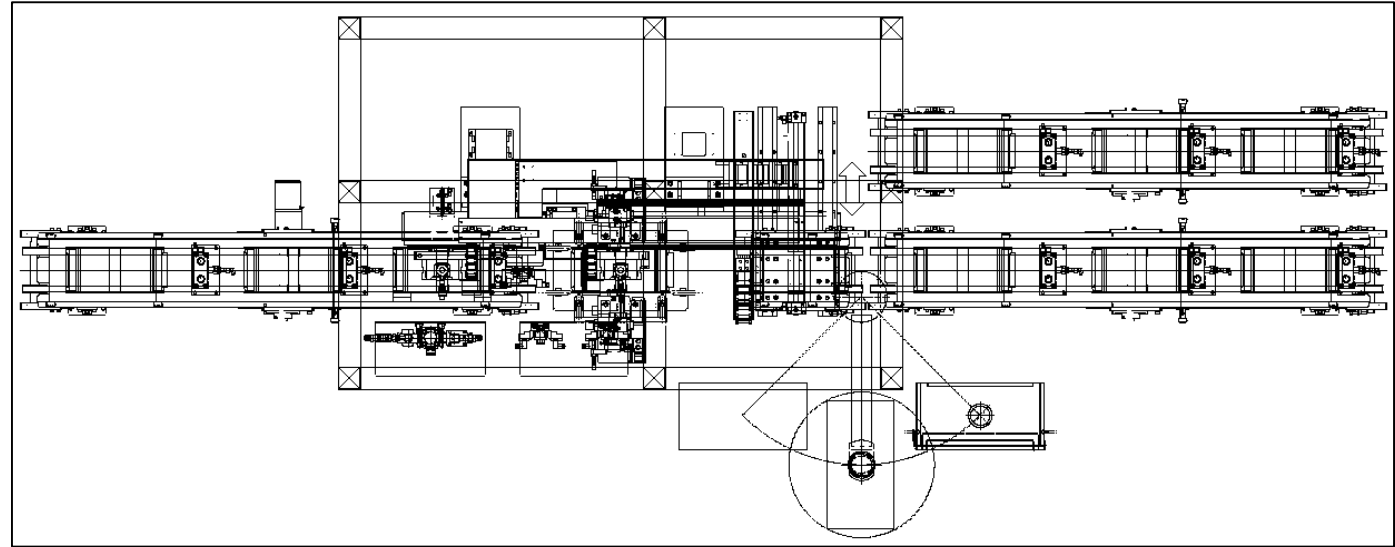
MEASUREMENT AUTOMATION SYSTEM

U FRAME or TOP PLATE MEASUREMENT AUTOMATION

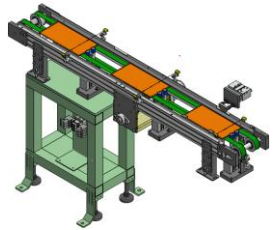
■ BASIC OVERVIEW

- WORK : U FRAME or TOP PLATE
- C/T : SEC
- MODEL : 1 EA

■ PROCESS

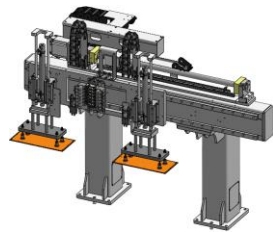


INPUT CONVEYOR



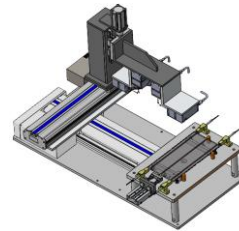
BELT CONVEYOR UNIT
ESCAPER UNIT
POSITIONAL ALIGNMENT
PUSHER UNIT

MULTI LOADER



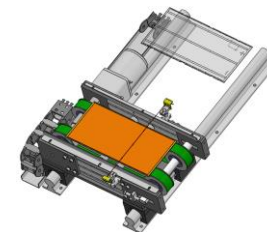
PICK & PLACE UNIT
X-AXIS SERVO DRIVE UNIT
Z-AXIS SERVO DRIVE UNIT
VACUUM PAD UNIT

MEASUREMENT



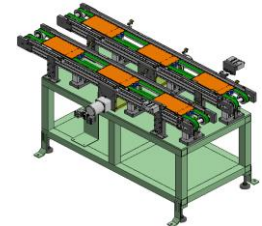
PRODUCT ALIGNMENT PUSHER
UNIT
SENSOR SERVO TRANSFER UNIT
LASER PROFILE SENSOR
LVDT SENSOR UNIT

OUTPUT SHUTTLE



BELT CONVEYOR UNIT
FRONT/BACK SHUTTLE UNIT

OUTPUT CONVEYOR



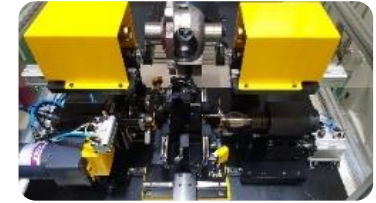
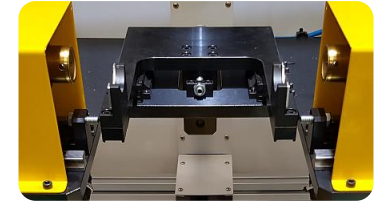
BELT CONVEYOR - NG
BELT CONVEYOR - OK
ESCAPER UNIT

MEASUREMENT AUTOMATION SYSTEM

CALIPER BODY A MEASURING INSTRUMENT

■ BASIC OVERVIEW

- WORK : CALIPER BODY
- C/T : 60 SEC
- MODEL : 1 EA
- MEASUREMENT ITEM : CONCENTRICITY/ PARALLEL/ RIGHT-ANGLED VIEW,ETC
- MEASUREMENT UNIT : INLINE 3D MEASURING INSTRUMENT



VALVE BODY A MEASURING INSTRUMENT

■ BASIC OVERVIEW

- WORK : CALIPER BODY
- C/T : 25 SEC
- MODEL : 1 EA
- MEASUREMENT ITEM : INTERNAL DIAMETER / EXTERNAL DIAMETER / RUN-OUT

LEAK AUTOMATION SYSTEM

AIR LEAK INSPECTION SCOPE

- ▶ HIGH PRESSURE : PRESSURE (5 bar) / PERMISSIBLE LEAK VALUE (0.4 cc/min)
- ▶ AUTOMOTIVE : PRESSURE (1~2 bar) / PERMISSIBLE LEAK VALUE (0.4 cc/min)
- ▶ ULTRA-LOW PRESSURE : PRESSURIZATION (1 kPa) /
ALLOWABLE LEAK VALUE (50 pa/min)



HIGH PRESSURE PUMP AIR LEAK INSPECTION DEVICE



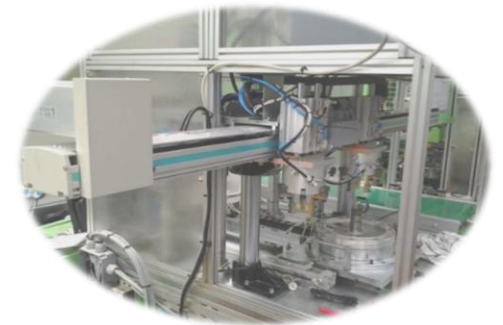
HIGH PRESSURE FULE PUMP LEAK CHECKER



W/PUMP AIR LEAK CHECKER



HOUSING AIR LEAK CHECKER



8SPEED COVER LEAK CHECKER

APPLICATION OF LEAK INSPECTION SYSTEMS
ACROSS DIFFERENT PRODUCT LINES

Installation case



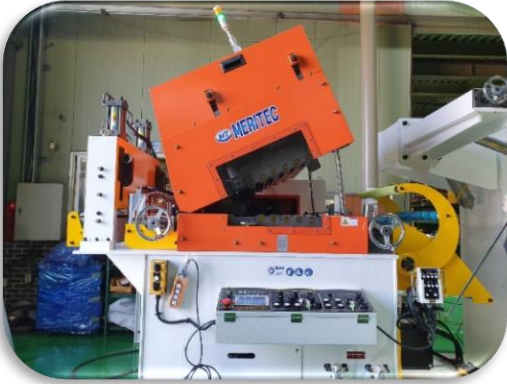
Installation case



Installation case



Installation case



Automation System

THANK YOU.

