

# DOOYOUNG

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## GREETINGS

Since est. 1990,

DooYoung Engineering has been a leading supplier of foundry specialized engineering, machineries and environmental related facilities in Korea.

DooYoung ENG is pursuing developing leading technologies and researching for new products in such field.

Now we are proudly introducing Casting Burring M/C, Casting Transport or Scrap Iron Transport System, Dust Disposal Systems and other product in Foundry businesses, and Global Markets.

DooYoung ENG will promise to the customers to meet their needs and requirements with our products.

And DooYoung ENG will move forward with innovative and creative sprit at all the time for our customer's needs.

Thank You

## COMPANY HISTORY

- 1990. 03. Est. DooYoung Foundry Engineering
- 1995. 05. Renamed DooYoung as company's name
- 2004. 10. Start the DooYoung ENG CO., LTD.
- 2005. 06. Registered Air Pollution Prevention Business
- 2005. 05. Patent registered – Return Scrap Transport System
- 2005. 05. Patent registered – Weigh Censored Turn Table system
- 2005. 04. Patent registered – Dust Disposal System
- 2005. 04. Patent registered – Furnace Dust Collecting Hood
- 2006. 09. Patent registered – Foundry Sand Recycling System
- 2008. 11. ISO 14001:2004 / KS A 14001:2004 Certified
- 2008. 06. Venture Company Recognized
- 2008. 05. Innovative Small Company (INNO-BIZ) Selected
- 2008. 03. Research Department Certified
- 2008. 01. Patent registered – Furnace Slag Removal Device
- 2012. 01. Acquired Grinding Machine Technical Divisions
- 2012. 02. Developed SPINDLE MOTOR (KD-62 MODEL)
- 2012. 10. Developed AUTO BURRING M/C (KD-62 MODEL)
- 2013. 01. Developed AUTO BURRING M/C (KD-70 MODEL)
- 2013. 02. Developed AUTO GANTRY LINE
- 2013. 06. Developed AUTO ROTOR GRIND & AUTO STOCKER LINE (ROBOT)
- 2013. 12. Achieved 5 Million US\$ export foundry project to USA
- 2014. 11. Achieved 5 Million US\$ export foundry project to India



# KD-62 AUTO BARRING M/C & Aluminum Die Casting

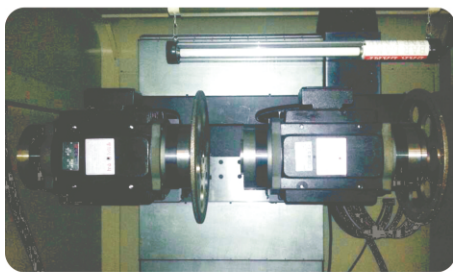
## Features

This KD-62 AUTO BARRING M/C equipped with six - axis rotating high speed diamond wheel and the grinding tools.

The spindle head can rotate to remove complex features and grind burs that are inside of castings



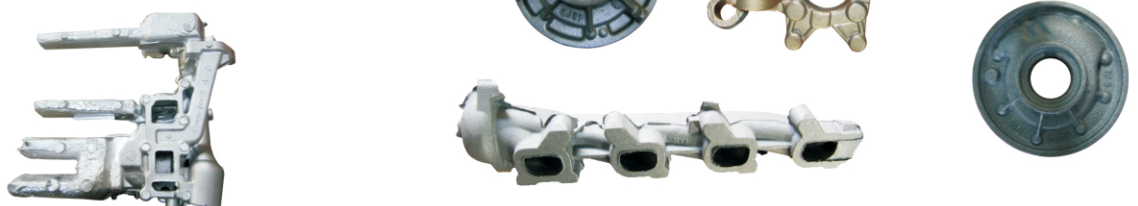
SPINDLE



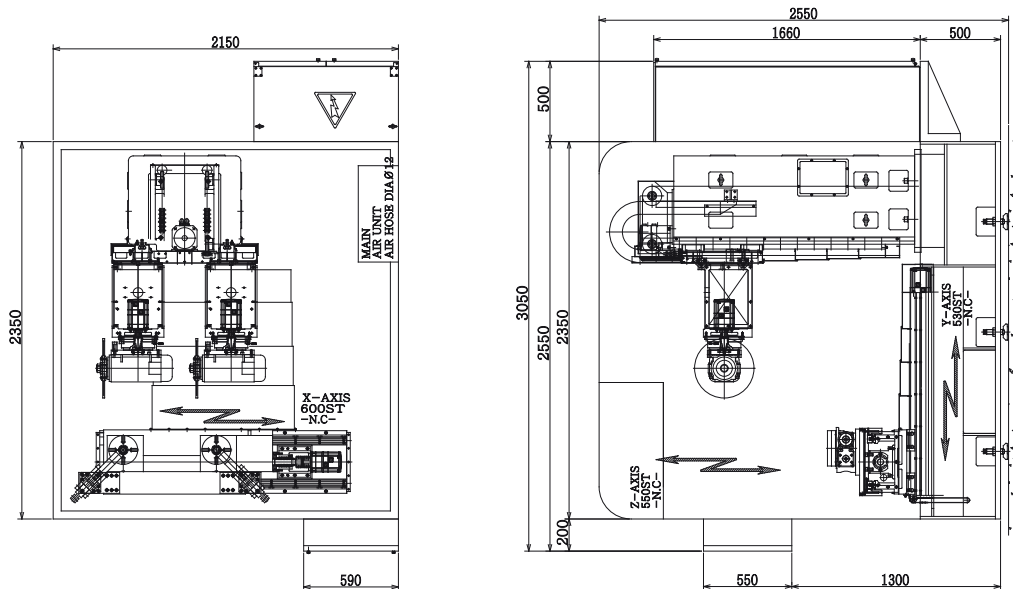
WORK(Steel)



WORK(Aluminum)



# MAIN PRODUCTS(Stand Mass Production)



| Specifications      |        | Unit    | KD-62             | Remark       |
|---------------------|--------|---------|-------------------|--------------|
| Table               |        |         |                   |              |
| Max. Travel         | X-Axis | mm      | 600               |              |
|                     | Y-Axis | mm      | 530               |              |
|                     | Z-Axis | mm      | 550               |              |
|                     | A-Axis | mm      | 0° ~360°          |              |
|                     | B-Axis | mm      | 0° ~360°          |              |
|                     | C-Axis | mm      | 0° ~360°          |              |
| Power Speed         | X-Axis | mm/min  | 0~30000           |              |
|                     | Y-Axis | mm/min  | 0~30000           |              |
|                     | Z-Axis | mm/min  | 0~15000           |              |
|                     | A-Axis | sec/rev | 1.6 sec/rev       | 80 : 1       |
|                     | B-Axis | sec/rev | 3.2 sec/rev       | 161 : 1      |
|                     | C-Axis | sec/rev | 3.2 sec/rev       | 161 : 1      |
| Main Spindle        |        |         |                   |              |
| Spindle Speed       |        | rpm     | 3600              | 50Hz<br>60Hz |
| Motor               |        |         |                   |              |
| Main Spindle Motor  |        | kw      | 11 or 15          |              |
| Tool                |        |         | Diamond Wheel     |              |
| Feed Motor          | X-Axis | kw      | 1.48 (NC-Siemens) |              |
|                     | Y-Axis | kw      | 2.29 (NC-Siemens) |              |
|                     | Z-Axis | kw      | 2.14 (NC-Siemens) |              |
|                     | A-Axis | kw      | 0.82 (NC-Siemens) | 80 : 1       |
|                     | B-Axis | kw      | 1.48 (NC-Siemens) | 161 : 1      |
|                     | C-Axis | kw      | 1.48 (NC-Siemens) | 161 : 1      |
| Floor Space (W × L) |        | mm      | 2200 × 3050       |              |
| Net Weight          |        | kg      | 8000              |              |



# KD-70 AUTO BARRING M/C

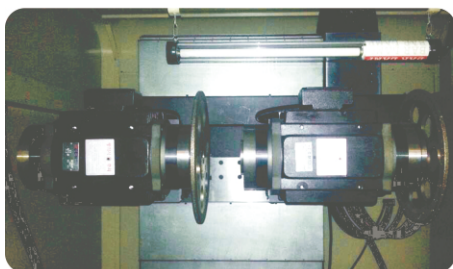
## Features

This KD-70 AUTO BARRING M/C equipped with seven – axis rotating high speed diamond wheel and the grinding tools.

The spindle head can rotate, and the Index can be set up individually to work for more complex shapes and features of grinding burs that are inside of castings.



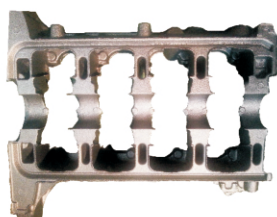
SPINDLE



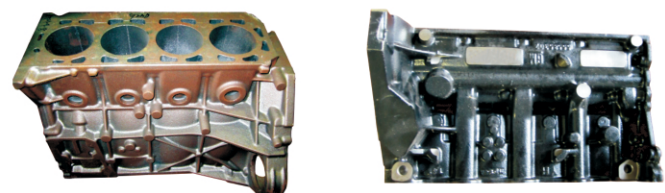
WORK(Steel)



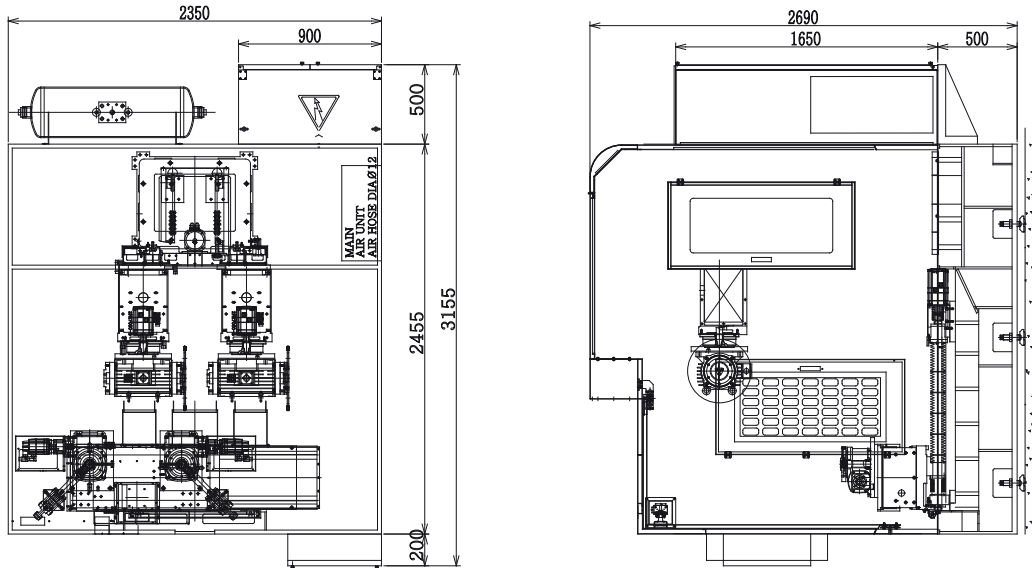
Bed Plate



Engine Block



# MAIN PRODUCTS(Stand Mass Production)



| Specifications      |        | Unit    | KD-70             | Remark       |
|---------------------|--------|---------|-------------------|--------------|
| Table               |        |         |                   |              |
| Max. Travel         | X-Axis | mm      | 600               |              |
|                     | Y-Axis | mm      | 530               |              |
|                     | Z-Axis | mm      | 550               |              |
|                     | A-Axis | mm      | 0° ~ 360°         | 2-Axis       |
|                     | B-Axis | mm      | 0° ~ 360°         |              |
|                     | C-Axis | mm      | 0° ~ 360°         |              |
| Power Speed         | X-Axis | mm/min  | 0~30000           |              |
|                     | Y-Axis | mm/min  | 0~30000           |              |
|                     | Z-Axis | mm/min  | 0~15000           |              |
|                     | A-Axis | sec/rev | 1.6 sec/rev       | 80 : 1       |
|                     | B-Axis | sec/rev | 3.42 sec/rev      | 171 : 1      |
|                     | C-Axis | sec/rev | 3.42 sec/rev      | 171 : 1      |
| Main Spindle        |        |         |                   |              |
| Spindle Speed       |        | rpm     | 3600              | 50Hz<br>60Hz |
| Motor               |        |         |                   |              |
| Main Spindle Motor  |        | kw      | 15 or 22          |              |
| Tool                |        |         | Diamond Wheel     |              |
| Feed Motor          | X-Axis | kw      | 2.29 (NC-Siemens) |              |
|                     | Y-Axis | kw      | 2.29 (NC-Siemens) |              |
|                     | Z-Axis | kw      | 3.3 (NC-Siemens)  |              |
|                     | A-Axis | kw      | 0.82 (NC-Siemens) | 80 : 1       |
|                     | B-Axis | kw      | 1.48 (NC-Siemens) | 171 : 1      |
|                     | C-Axis | kw      | 1.48 (NC-Siemens) | 171 : 1      |
| Floor Space (W × L) |        | mm      | 2350 × 3155       |              |
| Net Weight          |        | kg      | 8500              |              |



# GANTRY LOADER LINE FOR AUTO BURRING MACHINE

## Features

This line set up is for Auto Supply system of casting for 2 or more Auto Burring machines.

This line set up reduces the intensity of labor and chance accident occurred by the workers in the job site.

Also this system will boost up the productivity of the casting grinding line.



GLIPPER (Crank Shaft)



GLIPPER (Engine Block)

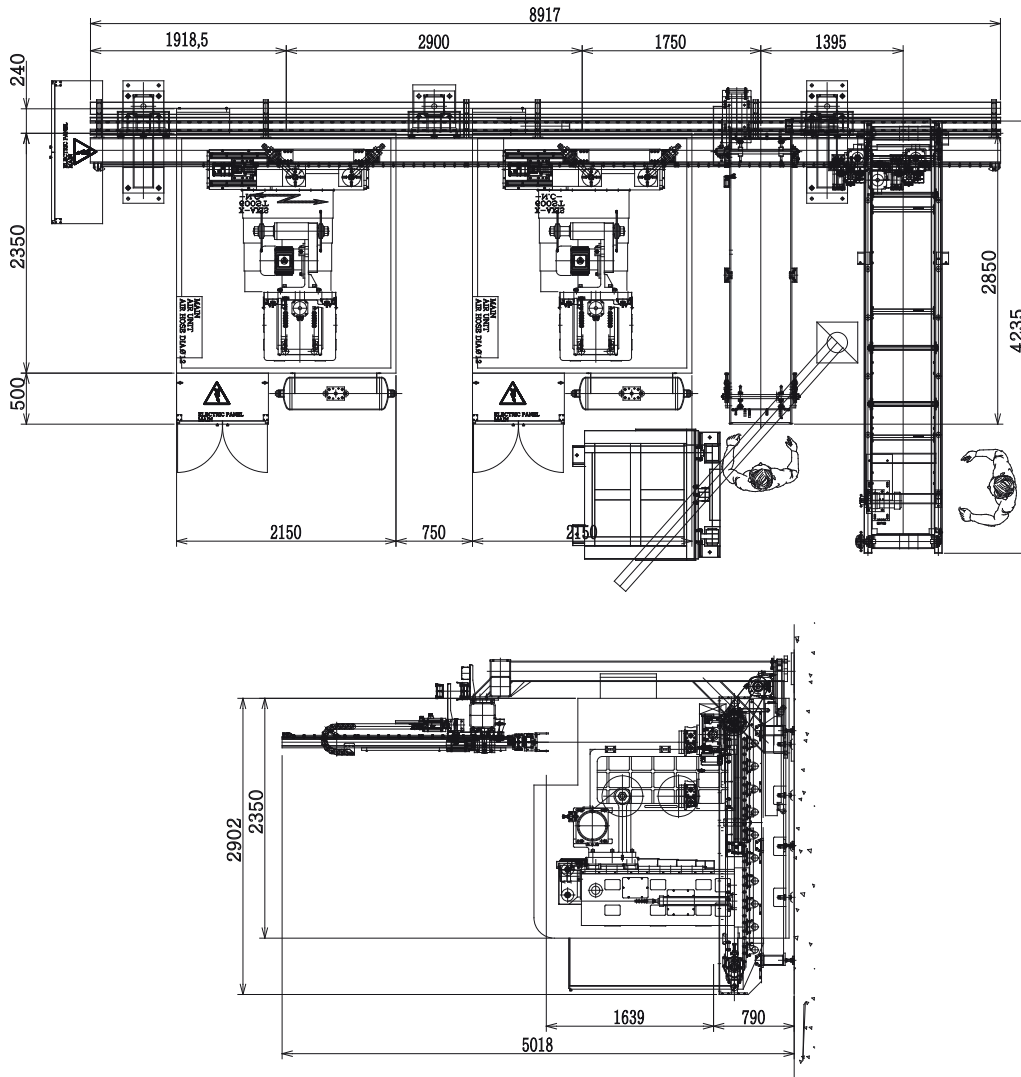


GLIPPER (Diff Case)





# MAIN PRODUCTS(Dedicated Line)



MODEL : KD-62, KD-70 AUTO BURRING MACHINE

| Specifications      | Unit     | GANTRY | Remark      |
|---------------------|----------|--------|-------------|
| Table               |          |        |             |
| Max. Travel         | Y-Axis   | mm     | 3000~10000  |
|                     | Z 1-Axis | mm     | 1500~2500   |
|                     | Z 2-Axis | mm     | 1500~2500   |
| Power Speed         | Y-Axis   | mm/min | 0~70000     |
|                     | Z 1-Axis | mm/min | 0~120000    |
|                     | Z 2-Axis | mm/min | 0~120000    |
| Motor               |          |        |             |
| Feed Motor          | Y-Axis   | kw     | 1.5 (Servo) |
|                     | Z 1-Axis | kw     | 1.5 (Servo) |
|                     | Z 2-Axis | kw     | 1.5 (Servo) |
| Floor Space (W × L) | mm       |        |             |
| Net Weight          | kg       | 5000   |             |



# KDPHS-80 TRIMMING PRESS

## Features

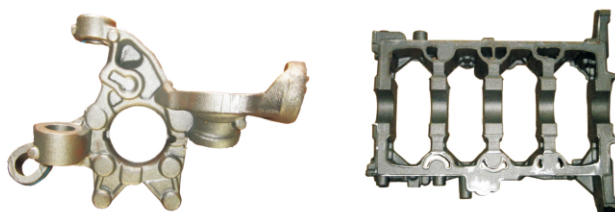
This Bur removing press is patent registered;  
it will remove various parts of BURs on one casting at once.  
The press has capacity of 80tons depending on the type of the castings.



CONTROLL PANEL  
(TOUCHSCREEN)



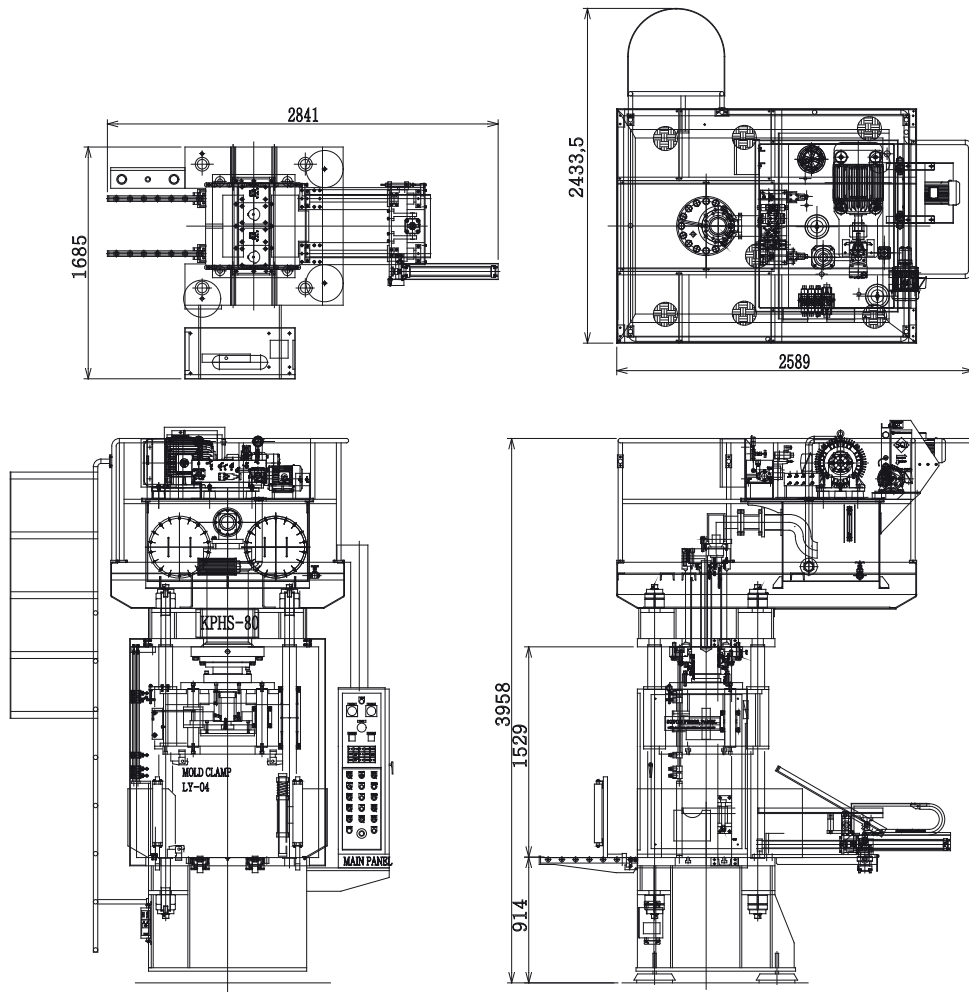
WORK



HYD' TANK



# MAIN PRODUCTS(Stand Mass Production)



| NO              | Item                 | Specifications                                | Remark           |
|-----------------|----------------------|---|------------------|
| 1               | Model                | KDPHS-80                                      |                  |
| 2               | Capacity             | 80 ton  |                  |
| 3               | MAIN CYLINDER (HYD') | $\phi 240 \times \phi 80 \times 500\text{st}$ |                  |
| 4               | Working Press        | Max : 240 kg/cm                               |                  |
| Nor : 180 kg/cm |                      |   |                  |
| 5               | Open Height          | 752 mm  |                  |
| 6               | Stroke               | 500 mm  |                  |
| 7               | Speed                | Descending                                    | 180 mm/sec       |
| 8               |                      | Pressing                                      | 10 ~ 15 mm/sec   |
| 9               |                      | Ascending                                     | 180 mm/sec       |
| 10              | Table Area           | 900 × 700 mm                                  |                  |
| 11              | Power                | Main  | Option           |
| 12              |                      | Operate                                       | AC 220W 1 $\phi$ |
| 13              | HYD' Motor           | 22 kw × 4p                                    |                  |
| 14              | Floor Space          | 1200 × 2300 mm                                |                  |
| 15              | Net Weight           | 7600 kg                                       |                  |



# KDPHS-100 & 120 TRIMMING PRESS

## Features

This Bur removing press is patent registered; it will remove various parts of BURs on one casting at once. The press has capacity of 100tons and 120tons depending on the type of the castings.



CONTROLL PANEL  
(TOUCH SCREEN)



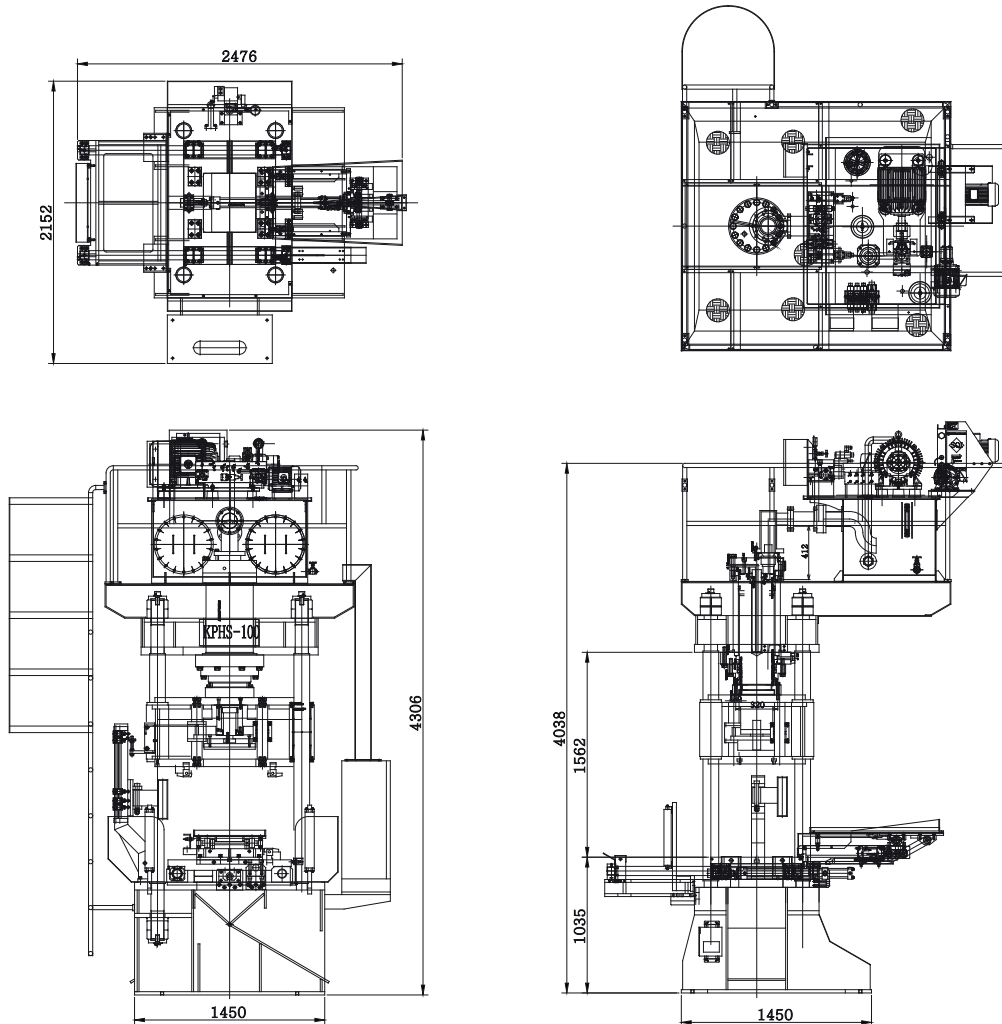
HYD' TANK



WORK



# MAIN PRODUCTS(Stand Mass Production)



| NO | Item                 | Specifications                                |   | Remark           |
|----|----------------------|---|---|------------------|
| 1  | Model                | KDPHS-100                                     | KDPHS-120                                     |                  |
| 2  | Capacity             | 100 ton                                       | 120 ton                                       |                  |
| 3  | MAIN CYLINDER (HYD') | $\phi 280 \times \phi 80 \times 500\text{st}$ | $\phi 300 \times \phi 80 \times 500\text{st}$ |                  |
| 4  | Working Press        | Max : 240 kg/cm                               | Max : 240 kg/cm                               |                  |
|    |                      | Nor : 160 kg/cm                               | Nor : 170 kg/cm                               |                  |
| 5  | Open Height          | 852 mm  | 794 mm  |                  |
| 6  | Stroke               | 500 mm  | 500 mm  |                  |
| 7  | Speed                | Descending                                    | 200 mm/sec                                    | 180 mm/sec       |
| 8  |                      | Pressing                                      | 10 ~ 15 mm/sec                                | 10 ~ 15 mm/sec   |
| 9  |                      | Ascending                                     | 220 mm/sec                                    | 200 mm/sec       |
| 10 | Table Area           | 1850 × 700 mm                                 | 1850 × 700 mm                                 |                  |
| 11 | Power                | Main  | Option  | Option           |
| 12 |                      | Operate                                       | AC 220W 1 $\phi$                              | AC 220W 1 $\phi$ |
| 13 | HYD' Motor           | 22 kw × 4p                                    | 30 kw × 4p                                    |                  |
| 14 | Floor Space          | 2150 × 2450 mm                                | 2150 × 2450 mm                                |                  |
| 15 | Net Weight           | 8000 kg                                       | 8000 kg                                       |                  |



# TILTING INDEX

## Features

VL - 180 - \*S - P\*\*

TILTING INDEX

CENTER HEIGHT

1S: 1SPINDLE

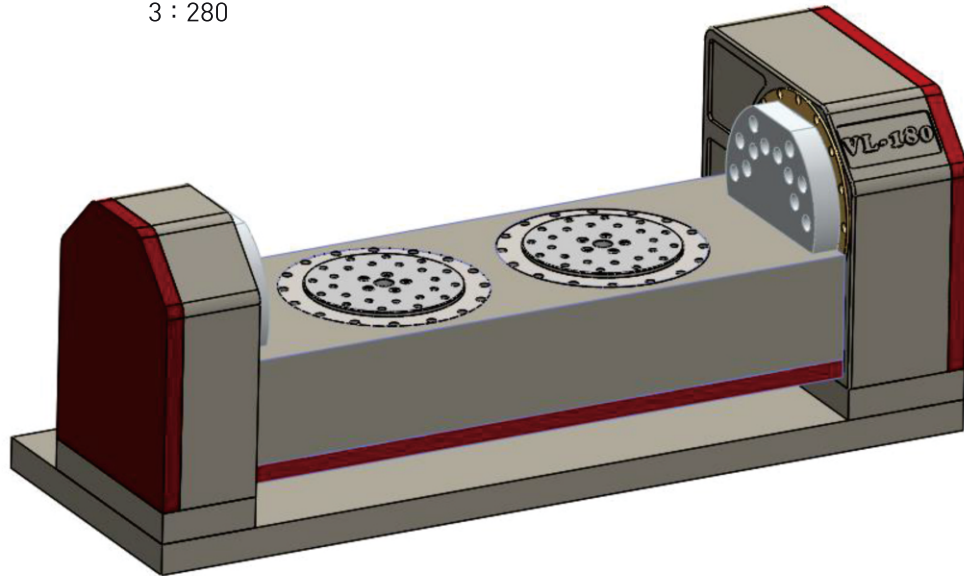
PICH : SPINDEL 축간거리

1 : 180

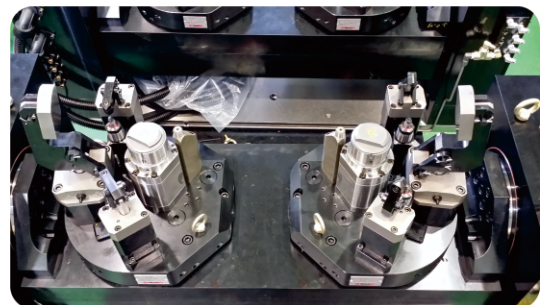
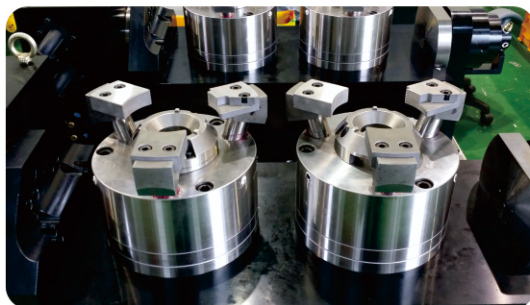
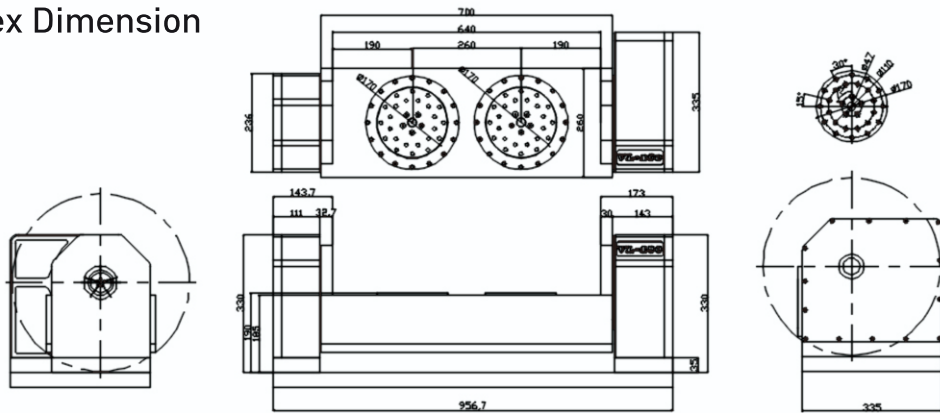
2S: 2SPINDLE

2 : 250

3 : 280

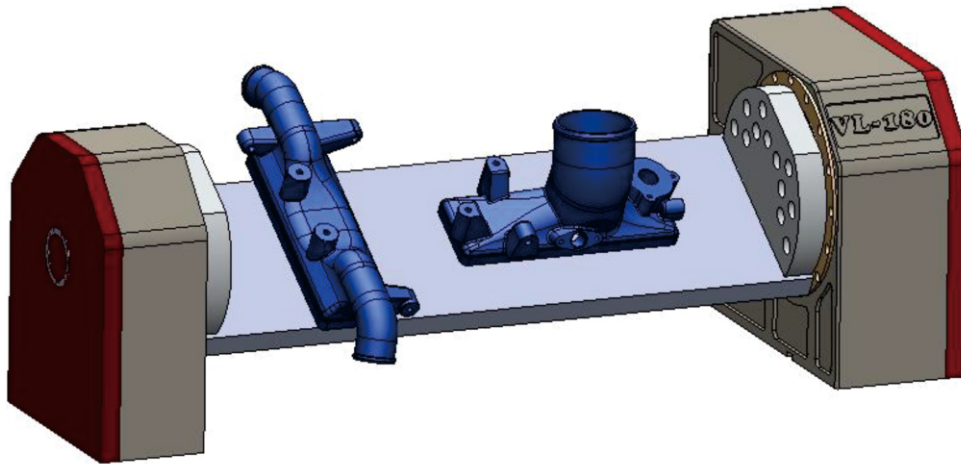


Tilting index Dimension

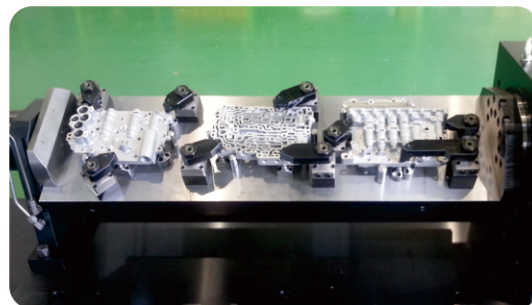
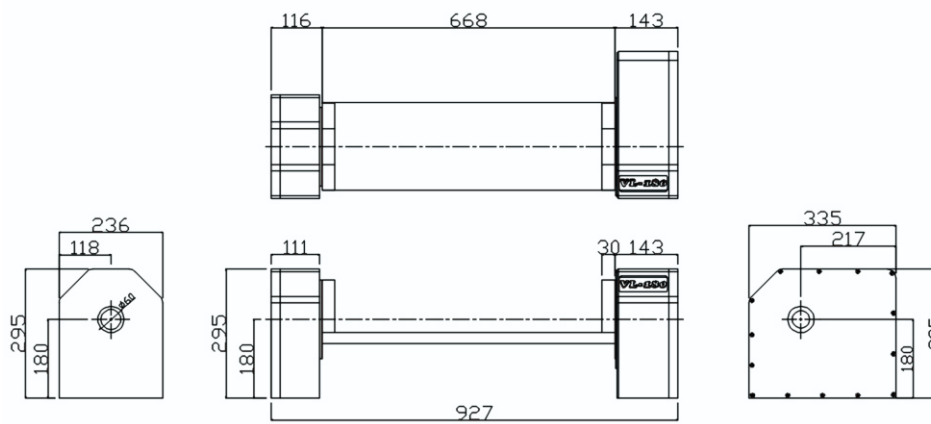


# TILTING INDEX

|               |   |               |   |                |   |           |
|---------------|---|---------------|---|----------------|---|-----------|
| VL            | - | 180           | - | H              | - | ST        |
| TILTING INDEX |   | CENTER HEIGHT |   | Tail Type      |   | Materials |
|               |   | 1 : 180       |   | H : Gear Brake |   | - AL      |
|               |   | 2 : 250       |   | T : None Brake |   | - STEEL   |
|               |   | 3 : 280       |   |                |   |           |



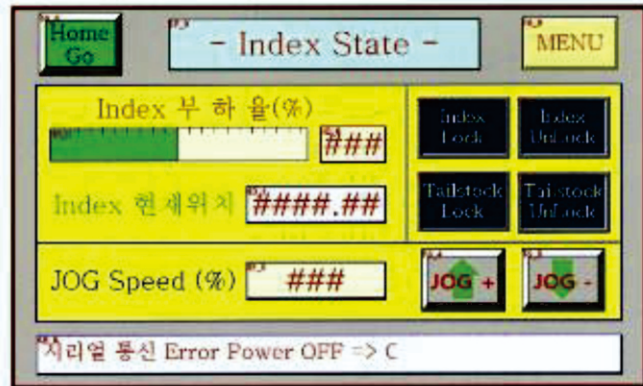
## Tilting index Dimension





# TILTING INDEX

## Index Table Touch Screen



### Index State

- Index Status can be controlled by Touch Screen OP panel.
- Index Working Load can be checked by Touch Screen OP panel.
- Index Clamp/Unclamp can be controlled by Touch Screen OP panel.
- Index Rotation can be operated by Touch Screen OP panel.



### Position Angle Set 1, 2

- Index Angle Display
- Simple and Easy Angle Adjustment and Angle Position Input



### PLC Input /Output

- PLC Input/Out signal is blinking which will give direct response for trouble shooting.

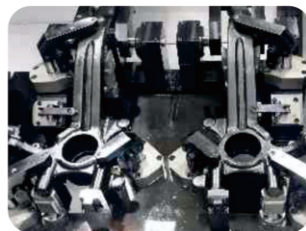
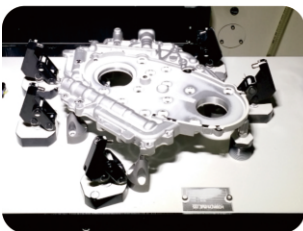
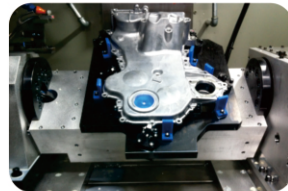
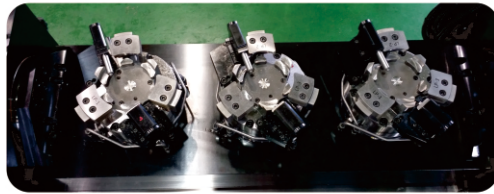
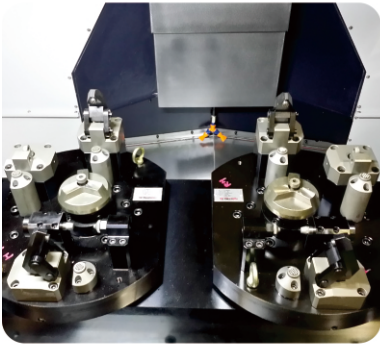
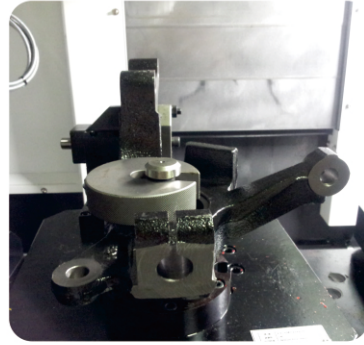
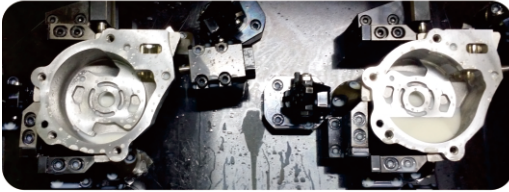
### Index Alarm

- Index Alarm will be displayed on Touch Screen OP Panel

### Touch Screen Advantages

- Simple Operation and Control
- Easy to notice all index operating status such as alarm, I/O signals displays.
- Servo axis card can be used.



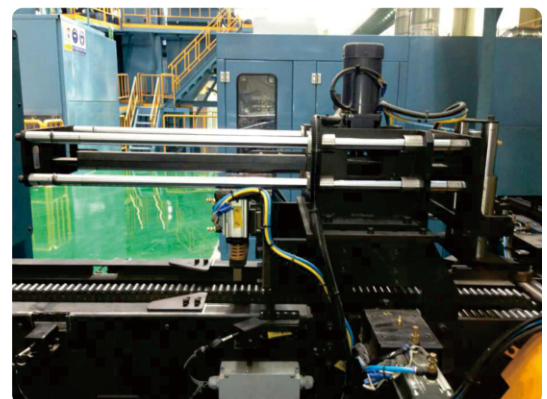




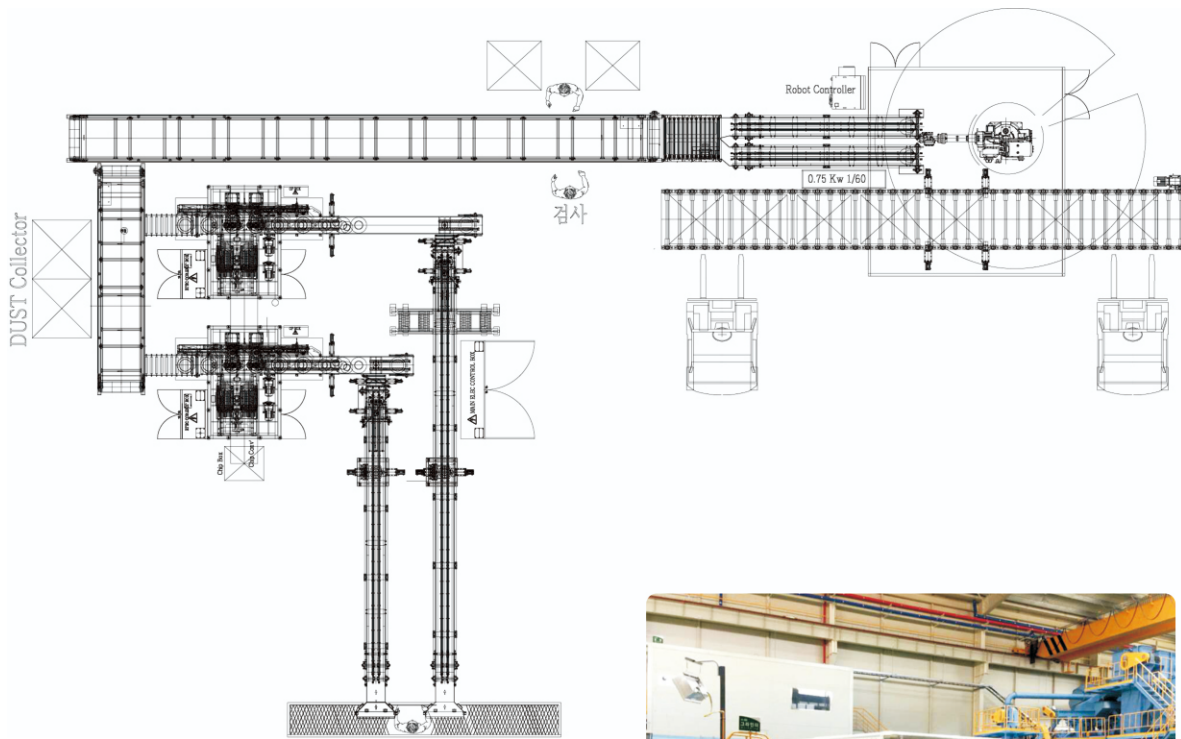
# Rotor Auto Grinding Machine and Auto Stocker Line

## Features

This fully automated system is for Rotor or circular casting to maximize the productivity with auto supplying unit by lot control with auto grinding process, and automated packaging using a robot unit.



# MAIN PRODUCTS(Stand Mass Production)

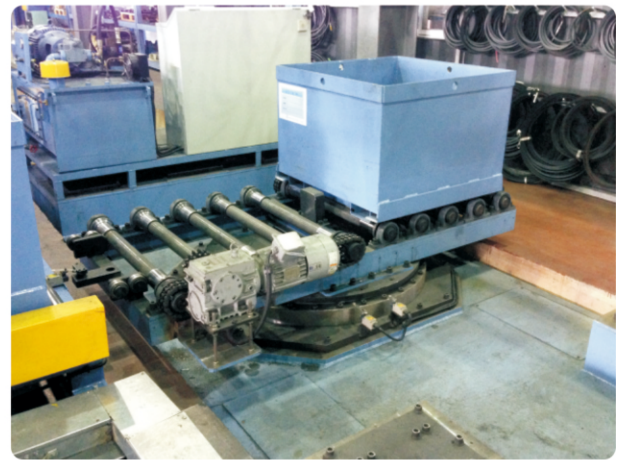




# Pallet Auto Transport and Discharging System with (Press and NC system)

## Features

This system is fully automated Pallet loading and transporting that the casting finishing can be managed with cost efficient and lot controls for each pallet.



# MAIN PRODUCTS(Stand Mass Production)





# Melting System

Charging Feeder  
(3~10 ton/Batch)



Transport Car For Meltern Iron  
(1~5 ton Batch)

Capture Hood  
(3~12 ton/FECS)



# Sand Plant & Moulding Line

Sand Plant System  
(150 ton/HR)



Moulding Line(200 Mould/HR)  
750×900×300/300

Cooling Drum &  
Casting Transport System





# Return Cast Iron Transport System

## Features

Foundry produces Cast Iron scraps as byproducts of final castings, and this huge amount of scraps can be transported to Melting Zone or Scrap Store Areas by fully automated system with selected Materials for each assigned area.

(Capacity : 5~10 TON/HR × 5 Assigned Materials)

Loading Return Cast Iron  
In the Transport Bucket



Moving Transport Bucket

Unloading Bunkear at  
Electric F. C. E. S Area





# Dust Disposer System

## Features

Sand dust or other dust materials can be produced as part of casting manufacturing, and each process required Dust Collectors at different positions. And it can be hard to process with clean condition of Dust Collecting site. The Dust Disposal System can solve such problems with Closed On Line System at each Dust Collecting Points.



Collecting Dust from each Dust Collecting points using by Suction Pipe Lines.



Central Dust Collecting System from Local Dust Collecting Points



Dust Mixer for Central Dust Processing Unit



Final Dust can be loaded on the disposal truck by loading device.



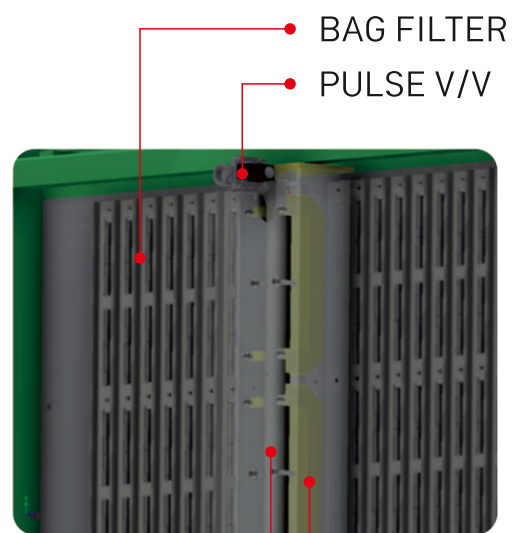
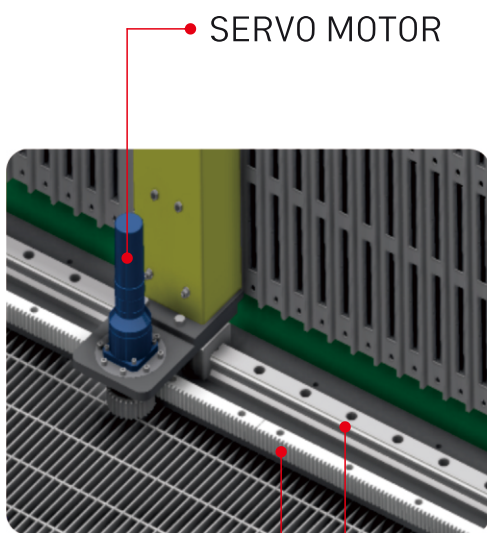
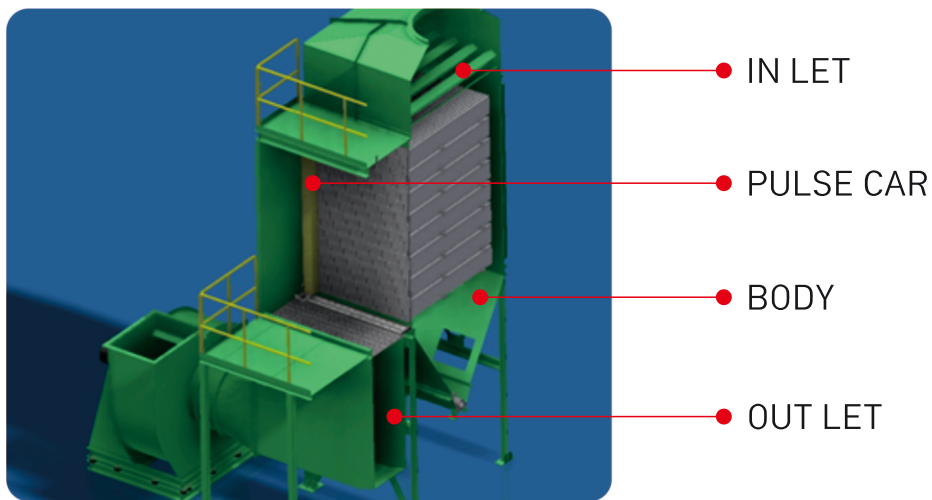
# Dust Collector System(Bag Filter)

## Features

To minimize attraction of dust by down current of air which is same direction of dust traveling.

Fixed PULSE V/V(multi type) to One Unit Type which is drove by SERVO MOTOR that moves precise control system.

Size Miniaturized by Standardization and Modularity.



## MOVING PULSE SYSTEM

## Pressure Change on the Filters

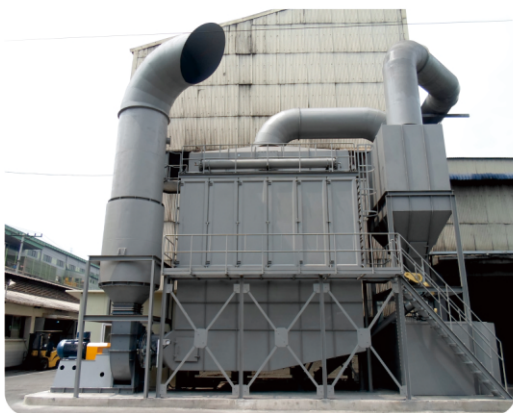
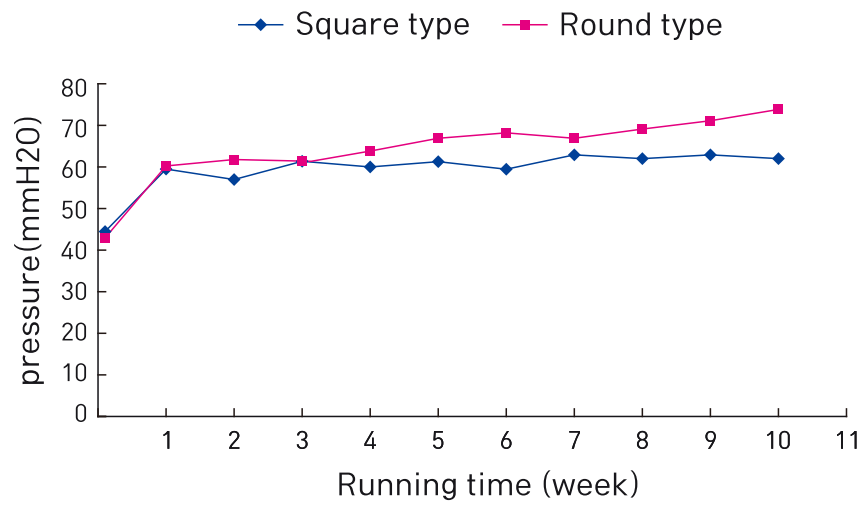
Round bag filter 6kgf/cm<sup>2</sup>,

square bag filter 4kgf/cm<sup>2</sup> run for 3months at the same time

Even low pressure on square filter,

it was running 15% ( $\Delta P = 11\text{mmH}_2\text{O}$ ) low compare to round filter

Therefore, the square bag type is more efficient than the round bag type



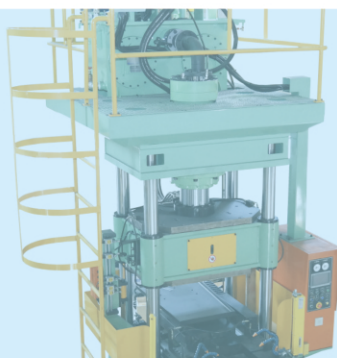
1200CMM



3000CMM



**DOO YOUNG ENG CO., LTD.**



#782-18, Gomo-ro, Hanlim-myeon, Gimhae-si,  
Gyeongsangnam-do, Republic of KOREA

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