

# Horizon

ROTARY DIE-CUT SYSTEM

# RD-N4055 RD-N4055DM

New rotary die-cut system  
increases production efficiency.

Horizon

# IMPROVE THE QUALITY AND PRODUCTIVITY OF THE DIE-CUTTING PROCESS.

Efficient production with new separator and card stacker for labor saving operation.



## BENEFITS

### HIGH EFFICIENCY

Die cutting, waste separation and stacking in one pass for efficient production.

### APPLICATION FLEXIBILITY

Business cards, greeting cards, labels and light packages... A wide range of applications can be processed.

### HIGH PRODUCTIVITY

Maximum 6,000 sheets can be processed. In the case of 21-up round corner business card application, it can be processed at 126,000 cards per hour.

### SIMPLE AND EASY OPERATION

Simple and easy operation without relying on a skilled operator.

### REDUCED DIE COST

Uniquely designed servo motor controlled "Repeat-cut" feature allows multiple-up applications from a single-up die to minimize die cost.

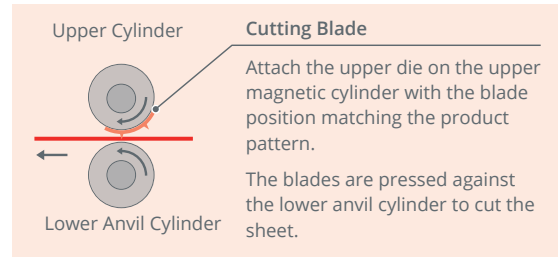
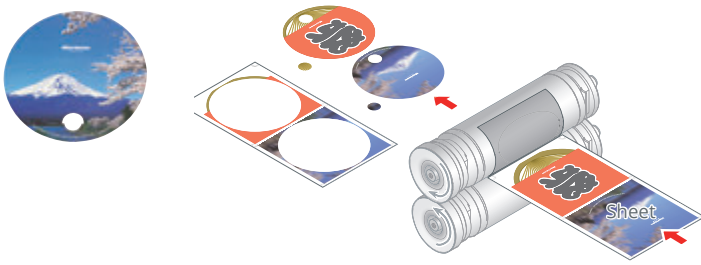
### SPACE SAVING

Rotary Die-cutter designed to meet the growing demand for short run product. The rotary die-cutters are ruggedly constructed, yet compact compared to normal die cutters.

### FLEXIBLE CONFIGURATION

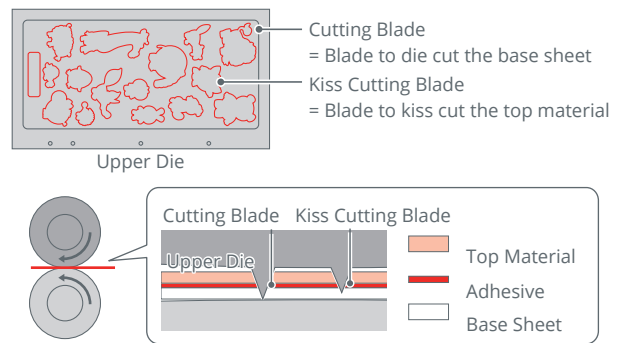
Various delivery options are available to process a wide range of applications. Simple delivery conveyor, card stacker and sheet stacker can be selected depending on needs.

# DIE-CUTTING MECHANISM



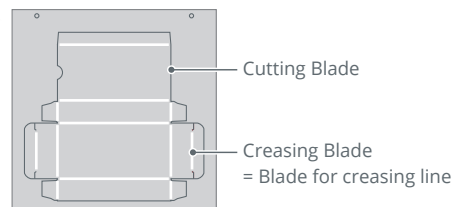
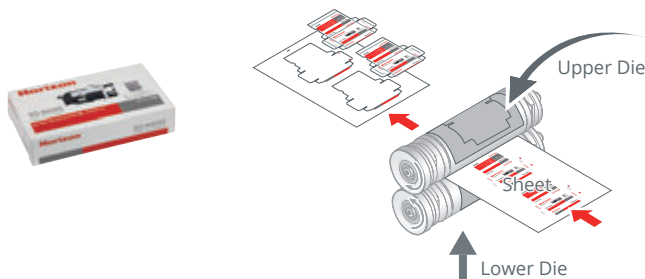
## KISS CUTTING

Die-cutting and Kiss cutting can be performed at the same time by using a die which has two different blade heights. Ideal for making stickers and labels.



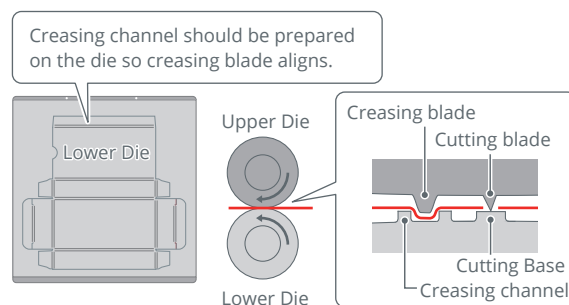
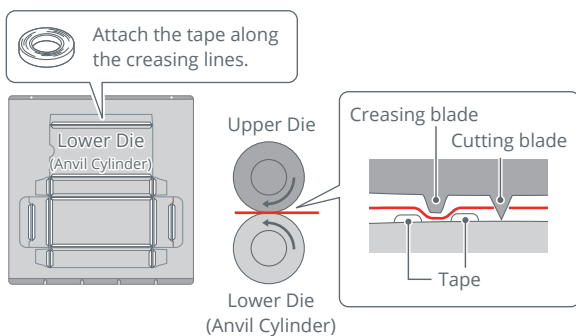
## CREASING

Crease can be achieved to avoid image cracking. Suitable for boxes, pocket folders and greeting cards which require additional folding processes after die cutting.



RD-N4055

RD-N4055DM

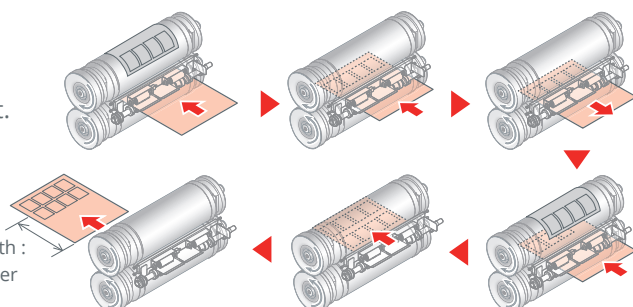


## REPEAT CUT

Repeat-cut function enables the running of multiple up imposed applications with a smaller die to reduce die cost. (Up to 8 repeats)



Required Gripping Width :  
170 mm (6.69") or longer



# DETAILS FOR EACH DEVICE.



## 1 TOUCH PANEL

Both setup and control can be done through the intuitive touch screen. After mounting the upper and lower die, the system can be set up by simply inputting sheet size and product size. The graphical illustrations on the screen are simple and easy to understand.



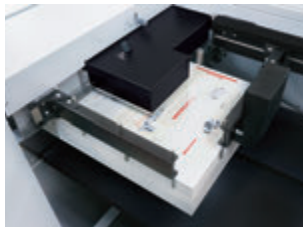
## 3 TRANSPORT SECTION

Sheets are registered by vacuum belt and position is firmly secured with gripper rollers for accurate and consistent register. Servo motor driven gripper rollers ensure the die cut position without effecting processing speed. The optional alignment detection sensor ADS-N4055 detects the alignment error for additional quality control.



## 2 FEED SECTION

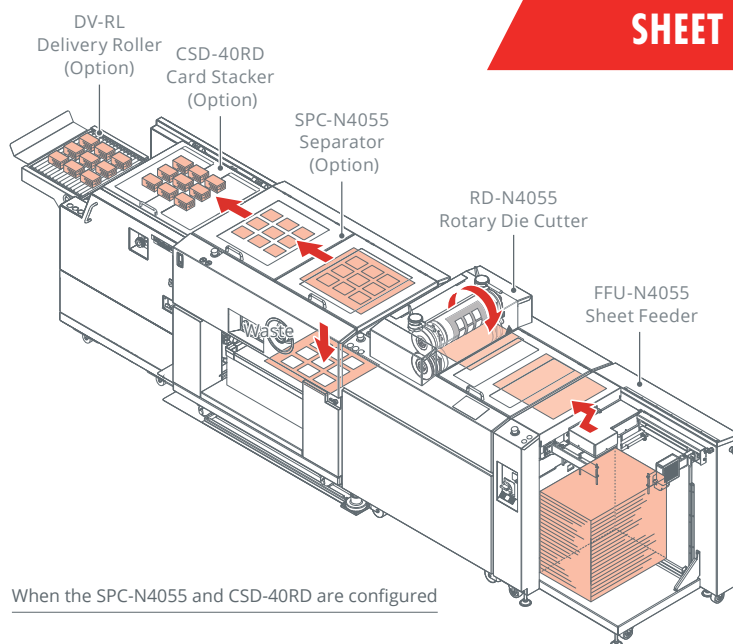
Vacuum belt feeding enables superior feeding with easy setup and operation. An ultrasonic sensor is used for double feed detection on a wide range of substrates. The optional code reader BR-N4055 enables job separation for easy handling.



## SHEET FLOW



FFU-N4055  
Sheet Feeder



When the SPC-N4055 and CSD-40RD are configured

### 4 DIE CUTTING SECTION

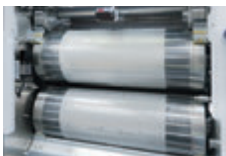
Rigid magnetic upper roller and solid lower anvil cylinder ensure high quality die cutting. Uniquely designed die cutting section enables easy and quick die setting.



#### Attaching the Lower Die

The lower die can be attached on the lower cylinder to make crease lines.

- RD-N4055  
Prepare the lower die by making grooves on the stainless sheet using a tape. The lower die is attached on the anvil cylinder.
- RD-N4055DM  
The lower die is attached on the lower magnetic cylinder.



### 5 SEPARATOR SPC-N4055 OPTION

The connected separator removes the waste from the finished product and delivers to the waste bin. The newly designed suction transport belt ensures stable transport of cut product.



### 6 DELIVERY SECTION OPTION

#### SPC-N4055

\*Without the CSD-40RD and GST-50RD  
SPC-N4055 is equipped with a conveyor to deliver the products after separation. The angle of the receiving conveyor can be adjusted to receive a wide range of products.



Delivery section of SPC-N4055

#### CSD-40RD

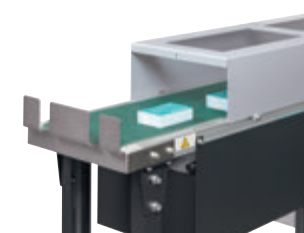
\*Connected to the SPC-N4055  
The optional card stacker can stack up to 40 mm in height for efficient and labor saving production.



SPC-N4055 + CSD-40RD + DV-RL

#### GST-50RD

\*Connected to the SPC-N4055  
The optional gathering stacker can gather into one stack up to 50 mm in height for efficient quality checking and packing.



SPC-N4055 + GST-50RD + DC-GST1

# OPTIONS.

Selective options for the delivery unit.

## SPC-N4055 SEPARATOR

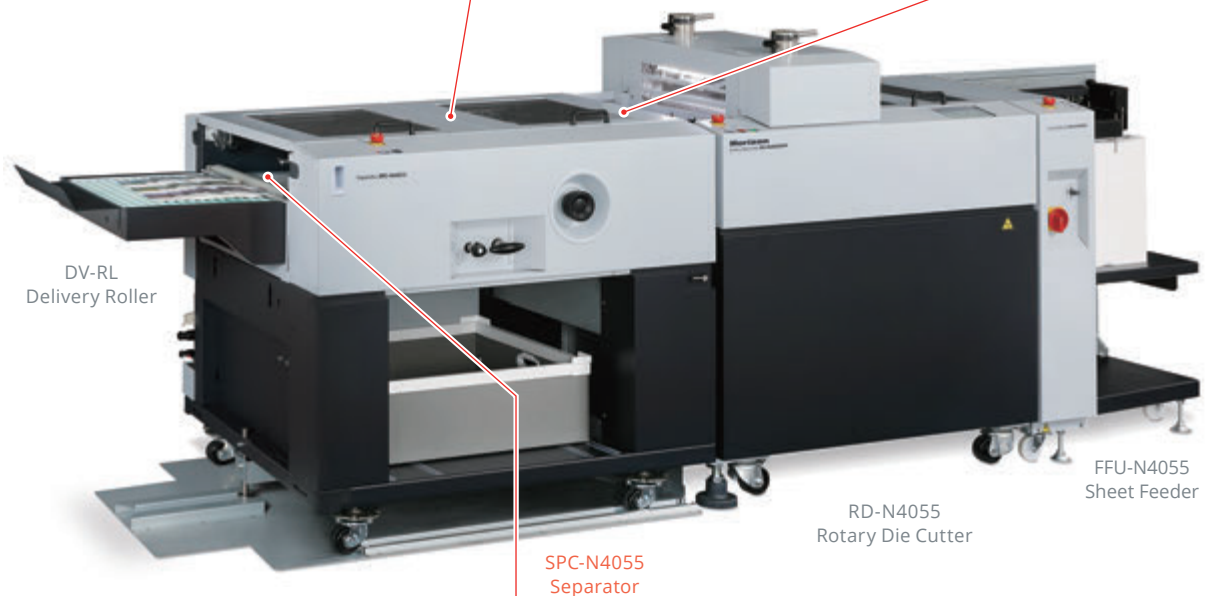
- Newly designed separation module which includes stripper guides, blowing air, and knock-out pistons ensure clean separation of the product from the waste.
- Suction belt transportation provides smooth consistent transport of cut product.

### COUNT SENSORS

Up to five sensors can be used to count the cut pieces to ensure all products are delivered. The counted number can be verified on the touch screen to check which pieces are missing.

### INFEEED SECTION

The infeed height can be adjusted for smooth sheet transfer from the RD-N4055. Air blowing feature assists in separating the sheets from the die.



### DELIVERY SECTION

Die cut products are neatly stacked on the delivery conveyor. The conveyor speed can be adjusted for smooth delivery for a wide range of applications.



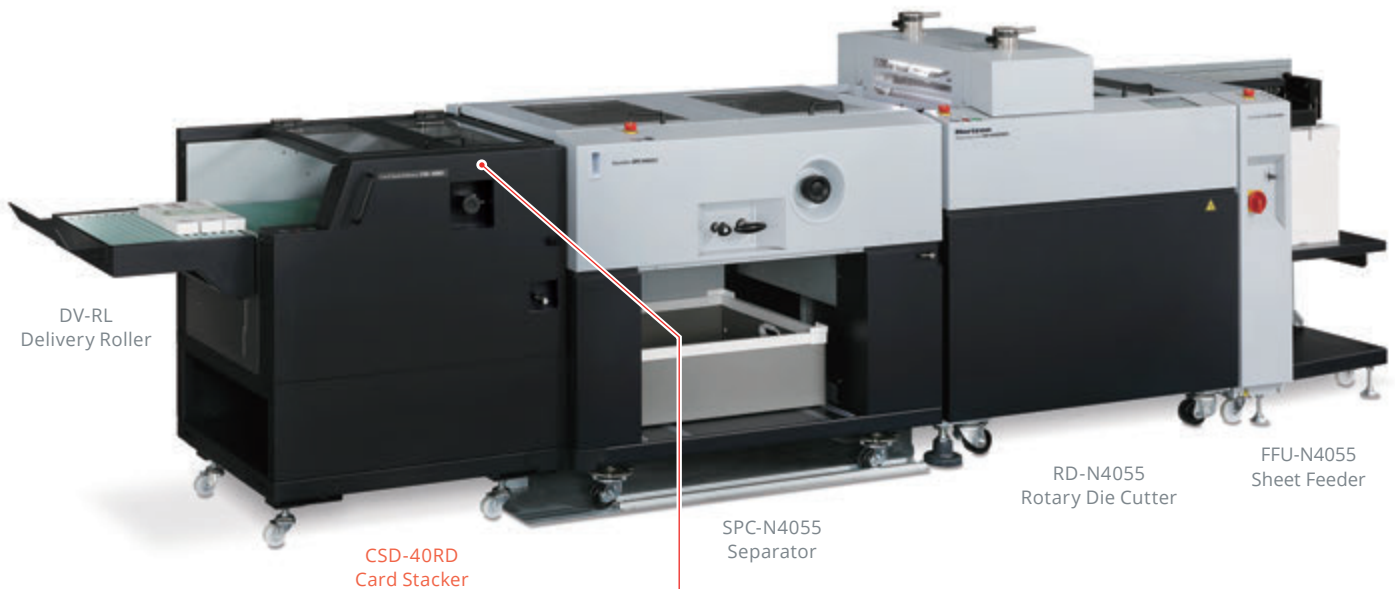
Prepare the compressor to meet the following specifications :

### SPECIFICATIONS FOR COMPRESSOR WITH SPC-N4055

Rated Output of Prime Mover (Reference)	0.75 kW
Required Pressure	0.55 to 0.95 MPa
Required Discharge	85 Liters per minute
Type	Oil-free Type

## CSD-40RD CARD STACKER

- The CSD-40RD stacks the pre-set number of sheets for easy handling of small applications such as business cards, tags, and door hangers.
- The delivery unit enables easy switching from the separator SPC-N4055 to the card stacker CSD-40RD for a wide range of applications.



### COUNT SENSORS

Up to five count sensors can be used for checking the number of finished pieces.

If the counted number of pieces does not match with the pre-set number, the system automatically stops and the error position can be checked on the touch screen of the RD-N4055.

\*When the CSD-40RD is connected, the count sensors on the SPC-N4055 are not activated.



### SPECIFICATIONS.

CSD-40RD	
<b>Compatible Machines</b>	SPC-N4055
<b>Sheet Size</b>	Max. W297 × L210 mm or W11.69" × L8.26" A4 Landscape Min. W80 × L50 mm or W3.15" × L1.97" W50 × L80 mm or W1.97" × L3.15"  When the stack counter is used to count products, the imposition is limited.
<b>Production Speed</b>	Based on the RD-N4055
<b>Voltage / Frequency</b>	Single Phase 200 to 240 V, 50 or 60 Hz (Supplied from the SPC-N4055)
<b>Machine Dimensions</b>	W1,273 × D820 × H1,020 mm or W50.2" × D32.3" × H40.2" *When the optional DV-RL is installed
<b>Machine Weight</b>	118 kg or 260.0 lb

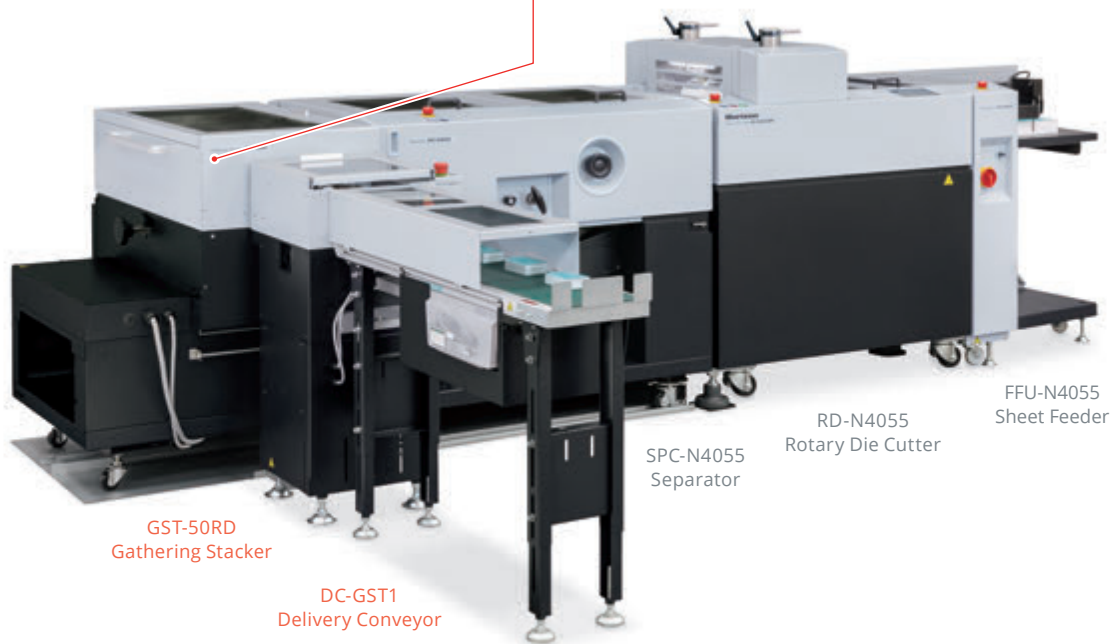
# GST-50RD GATHERING STACKER

- The GST-50RD gathers separated applications into one stack up to 50 mm height for efficient production of as business and greeting card applications.

- Delivery direction can be chosen according to user's needs : either front or back side delivery.

## STACKING SECTION

The cut products are stacked in rows through SPC-N4055 and gathered into one stack by pusher, saving time during packing and inspection.



GST-50RD  
Gathering Stacker


DC-GST1  
Delivery Conveyor

SPC-N4055  
Separator

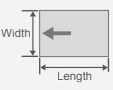
RD-N4055  
Rotary Die Cutter

FFU-N4055  
Sheet Feeder

## OPTIONS.

NAME	MODEL	DESCRIPTIONS
Delivery Conveyor	DC-GST1	Extend conveyor for GST-50RD.
Stacking Unit for Two Ups	GST-2UP	Guide units to stack finished applications on a slant before they are combined into one pile. They need to be replaced depending on the imposition layout.
Stacking Unit for Three Ups	GST-3UP	Refer to the User's Manual for required imposition information.
Stacking Unit for Four Ups	GST-4UP	 Stack Unit for Two Ups GST-2UP
Stacking Unit for Five Ups	GST-5UP	
Conveyor for Waste	ECV-CSD	Conveyor to eject the waste from the SPC-N4055.

## SPECIFICATIONS.

GST-50RD	
Compatible Machines	SPC-N4055
Sheet Size	 W55 × L91 mm or W2.2" × L3.6" W91 × L55 mm or W3.6" × L2.2" W51 × L89 mm or W2.00" × L3.50" W89 × L51 mm or W3.50" × L2.00" W148 × L100 mm or W5.83" × L3.94" W148 × L105 mm or W5.83" × L4.14" W100 × L148 mm or W3.94" × L5.83" W105 × L148 mm or W4.14" × L5.83" W88.9 × L127 mm or W3.50" × L5.00" W177.8 × L127 mm or W7.00" × L5.00"
Sheet Weight Range	Based on the RD-N4055
Production Speed	Based on the RD-N4055
Stack Capacity	Max. 50 mm or 1.96"
Receiving Transport Thickness	Max. 5 mm or 0.19"
Voltage / Frequency	Single Phase 200 to 240 V, 50 or 60 Hz (Supplied from the SPC-N4055)
Rated Current	Single Phase 200 to 240 V, 50 or 60 Hz, 0.5 A
Machine Dimensions	W2,300 × D789 × H979 mm or W90.6" × D31.1" × H38.6" *When the required option DC-GST1 is connected



## ST-4055 STACKER

- ST-4055 stacks a wide range of substrates and applications such as thin sheets or complicated shapes which can be difficult to separate.
- Vacuum belt transport ensures smooth delivery without separating die cut pieces.
- Offset stacking function is available by pre-set number.
- Delivery tray slides out for easy removal of finished pile.
- Maximum stack capacity : 170 mm or 6.69"

\*To connect the ST-4055, remove the SPC-4055.



ST-4055  
Stacker

RD-N4055  
Rotary Die Cutter

FFU-N4055  
Sheet Feeder

## SPECIFICATIONS.

### ST-4055

Compatible Machines	RD-N4055 / RD-N4055DM	
Sheet Size		Max. W400 × L550 mm or W15.74" × L21.65" Min. W200 × L275 mm or W7.88" × L10.83"
Sheet Weight Range	Normal Paper, Coated Paper, Cardboard Material Thickness : Max. 0.5 mm or 0.02", 127.9 to 400 gsm	
Production Speed	Offset Stacking : 3,000 sheets per hour In the stacking speed reduction mode : 3,000 sheets per hour Straight Stacking without speed reduction mode : 6,000 sheets per hour (This production speed is limited according to the sheet thickness, sheet size, and the number of nicks.)	
Stack Capacity	Maximum Stack Height : 170 mm or 6.69" Max Load. 48 kg or 105.8 lb	
Voltage / Frequency	Single Phase 200 to 240 V, 50 or 60 Hz Single Phase 208 V, 60 Hz (Only for the United States)	
Machine Dimensions	W1,520 × D830 × H1,030 mm or W58.7" × D32.7" × H40.6"	
Machine Weight	About 306 kg or 674.0 lb	
Recommended Air Source	Mover (Reference) : 0.75 kW Required Pressure : 0.55 to 0.95 MPa Required Discharge : 85 Liters per minute, 3.01 cfm Type : Oil-free Type	

\*The optional BR-N4055 cannot be used when connecting the ST-4055.

## BT-4055 RECEIVING TRAY

- BT-4055 is a bucket receiving tray to deliver non-separated die cut sheets in on the receiving tray.
- The angle of the receiving tray can be adjusted for smooth delivery.



BT-4055  
Bucket Receiving Tray

RD-N4055  
Rotary Die Cutter

FFU-N4055  
Sheet Feeder

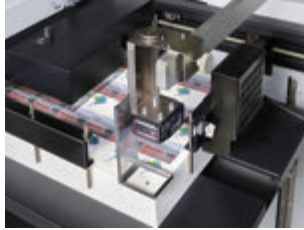
# OPTIONS.

## Performance Enhancing Options.

For FFU-N4055 Sheet Feeder

### BR-N4055 CODE READER

- Job separation by reading a barcode for easy and labor saving production.
- The BR-N4055 cannot be used when the ST-4055 is connected.



For RD-N4055 / RD-N4055DM Rotary Die Cutter

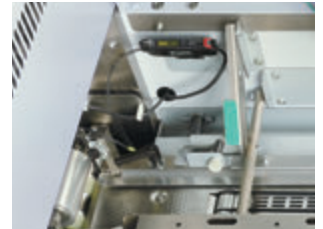
### MS-3346 MARK SENSOR

- The mark sensor reads the mark printed on the lead edge of the sheet. If the printing image shifts, the position is automatically corrected to process the sheet accurately.



### ADS-N4055 ALIGNMENT DETECTION SENSOR

- The sensor checks if the sheet is transported along the register guide. If the sheet is not aligned with guide, the system stops before feeding the sheets into the die cutting section.



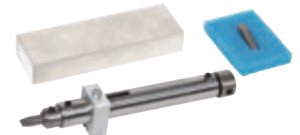
### LDK-4055 LOWER DIE TOOL KIT

- This kit includes the necessary tools and materials to help prepare the lower die efficiently.



### RD-NP NICK PUNCH

- The nick punch is a tool to make nicks on the die easily without damaging the die.



For SPC-N4055 Separator

### SPC-20UP 5×4 ROLLER FOR BUSINESS CARDS

- This unit holds the cut pieces of small applications such as business cards on the SPC-N4055 for smooth transportation.



- For imposition of cards : 5 × 4

### SPC-21UP 3×7 ROLLER FOR BUSINESS CARD

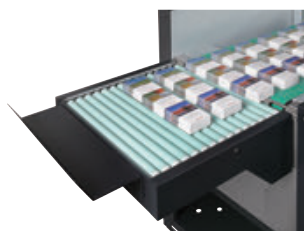
- This unit holds the cut pieces of small applications such as business cards on the SPC-N4055 for smooth transportation.



- For imposition of cards : 3 × 7

### DV-RL DELIVERY ROLLER

- Additional roller conveyor for the SPC-N4055 and CSD-40RD.

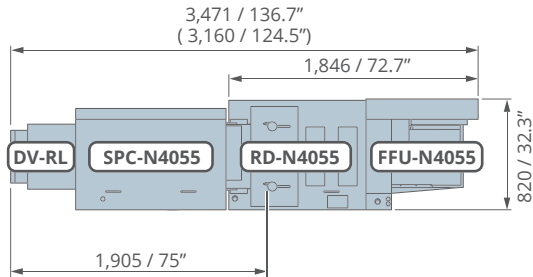


# SPECIFICATIONS.

## Machine Dimensions. (Unit : mm / inch)

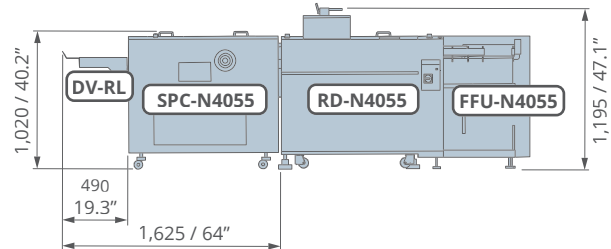
### RD-N4055 + SPC-N4055

(Top View)



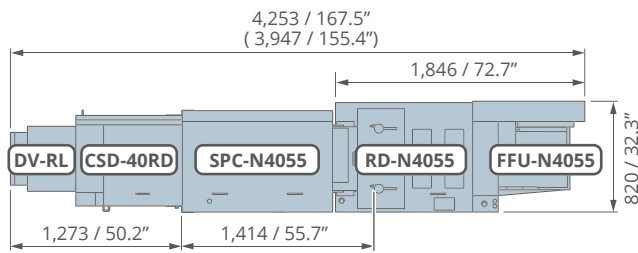
\*Inside ( ) is the dimension when using the normal tray.

(Front View)



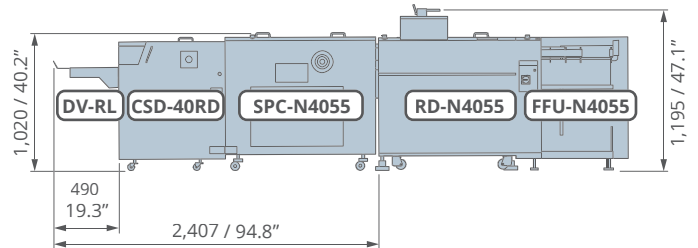
### RD-N4055 + SPC-N4055 + CSD-40RD

(Top View)



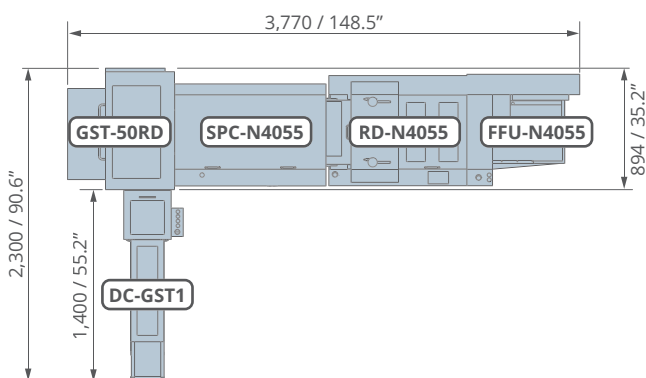
\*Inside ( ) is the dimension when using the normal tray.

(Front View)

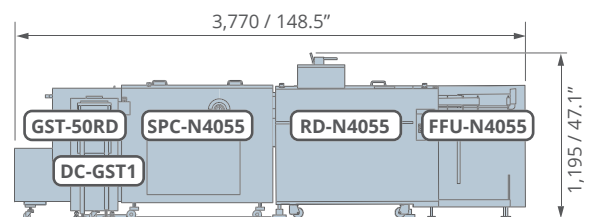


### RD-N4055 + SPC-N4055 + GST-50RD FRONT DELIVERY

(Top View)

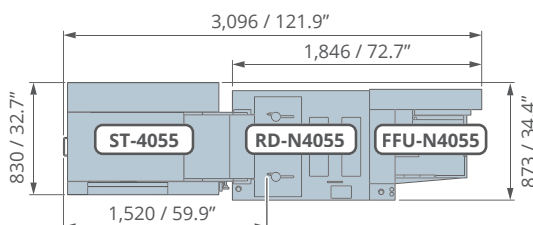


(Front View)

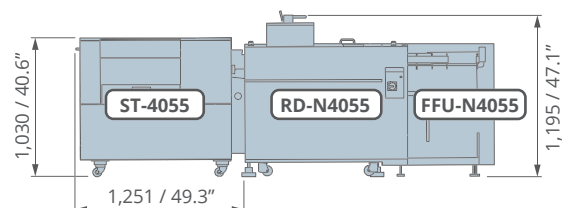


### RD-N4055 + ST-4055

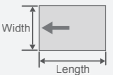
(Top View)



(Front View)



## RD-N4055 / RD-N4055DM

<b>Sheet Feeding System</b>	Air Suction Feed Belt		
<b>Sheet Size (Before Processing)</b>	 Max. W400 × L550 mm or W15.740" × L21.650" Min. W200 × L275 mm or W7.875" × L10.830"		
<b>Cut Product Size</b>	With SPC Without CSD (*1)	Max. W376 × L530 mm or W14.803" × L20.866" Min. W80 × L50 mm or W3.15" × L1.969" Min. W50 × L80 mm or W1.969" × L3.15"	
	With CSD (*2)	Max. W297 × L210 mm or W11.693" × L8.268" A4 Landscape Min. W80 × L50 mm or W3.15" × L1.969" Min. W50 × L80 mm or W1.969" × L3.15" When the stack counter is used to count products, the imposition is limited. See page 111 for details.	
	With GST (*3)	W55 × L91 mm or W2.2" × L3.6" W91 × L55 mm or W3.6" × L2.2" W51 × L89 mm or W2.00" × L3.50" W89 × L51 mm or W3.50" × L2.00" W148 × L100 mm or W5.83" × L3.94" W148 × L105 mm or W5.83" × L4.14" W100 × L148 mm or W3.94" × L5.83" W105 × L148 mm or W4.14" × L5.83" W88.9 × L127 mm or W3.50" × L5.00" W177.8 × L127 mm or W7.00" × L5.00"	
	Without SPC With BT (*4)	Max. W384 × L530 mm or W15.118" × L20.866" Min. Depending on die shape Size received on the bucket receiving tray Max. W400 × L550 mm or W15.748" × L22.047" Min. W200 × L275 mm or W7.875" × L10.830"	
	Without SPC With ST (*5)	Max. W384 × L530 mm or W15.118" × L20.866" Min. Depending on die shape Size received on the stack table Max. W400 × L550 mm or W15.748" × L22.047" Min. W200 × L275 mm or W7.875" × L10.830"	
	Normal paper, Coated paper, Cardboard The sheets below cannot be processed : Sheet whose back side is laminated (covered with polypropylene) Plastic film *There is a limitation depending on the conditions such as the shape of the die cutting, the thickness and the stiffness of the sheet to be cut.		
	<b>RD-N4055</b> 127.9 to 400 gsm Die Cutting : Max. 0.5 mm or 0.019" (In case of blade height : 0.8 mm or 0.031") Max. 0.3 mm or 0.011" (In case of blade height : 0.6 mm or 0.023") Creasing : Max. 0.4 mm or 0.015" (In case of blade height : 0.8 mm or 0.031")		
	<b>RD-N4055DM</b> 127.9 to 400 gsm Die Cutting : Max. 0.5 mm or 0.019" Creasing : Max. 0.3 mm or 0.011" *There is a limitation depending on the conditions such as the shape of the die cutting, the thickness and the stiffness of the sheet to be cut.		
	<b>Feeder Stack Height</b>	Maximum Feeder Stack Height : 500 mm or 19.68" Max Load : 100 kg or 220.5 lb	
	<b>Die Size - Upper Die</b>	Max. W400 × L560 mm or W15.748" × L22.047" Min. W160 × L100 mm or W6.30" × L3.937"	
<b>Upper Cutting Blade Height</b>	RD-N4055 : 0.6 or 0.8 mm / 0.0236 or 0.0315" RD-N4055DM : 0.8 mm / 0.0315"		

<b>Production Speed</b>	Die cut roller 6,000 cycles per hour (When the ST-N4055 is connected, the number of processing sheets is 3,000 sheets per hour.) *There is a limitation depending on the conditions such as the shape of the die cutting, the thickness and the stiffness of the sheet to be cut.	
<b>Voltage / Frequency</b>	Single Phase 200 to 240 V, 50 or 60 Hz Single Phase 230 to 240 V, 50 or 60 Hz (For the machine with CE marking) Single Phase 208 V, 60 Hz (Only for the United States)	
<b>Machine Dimensions</b>	With SPC Without CSD (*1)	W3,471 (*6) (3,160) × D820 × H1,195 mm or W136.7" × D32.3" × H47.1" *Inside ( ) is the dimension when using the normal tray.
	With CSD (*2)	W4,253 (*6) × D820 × H1,195 mm or W167.5" × D32.3" × H47.1"
	With GST (*3)	W3,770 × D2,300 × H1,195 mm or W148.5" × D90.6" × H47.1"
	Without SPC With BT (*4)	W2,510 × D820 × H1,195 mm or W98.9" × D32.3" × H47.1"
	Without SPC With ST (*5)	W3,309 × D830 × H1,195 mm or W121.9" × D32.7" × H47.1"
<b>Machine Weight</b>	With SPC Without CSD (*1)	1,095 kg or 2,414.06 lb
	With CSD (*2)	1,165 kg or 2,568.82 lb
	With GST (*3)	1,332 kg or 2,933.93 lb
	Without SPC With BT (*4)	765 kg or 1,686.54 lb
	Without SPC With ST (*5)	1,026 kg or 2,261.943 lb
<b>Recommended Air Source</b>	With SPC Without CSD (*1)	Rated Output of Prime Mover (Reference) : 0.75 kW Required Pressure : 0.55 to 0.95 MPa Required Discharge : 85 Liters per minute Type : Oil-free Type
	With CSD (*2)	Rated Output of Prime Mover (Reference) : 0.75 kW Required Pressure : 0.55 to 0.95 MPa Required Discharge : 85 Liters per minute Type : Oil-free Type
	With GST (*3)	Rated Output of Prime Mover (Reference) : 0.2 kW Required Pressure : 0.55 to 0.95 MPa Required Discharge : 20 Liters per minute, 0.71 cfm Type : Oil-free Type
	Without SPC With BT (*4)	Rated Output of Prime Mover (Reference) : 0.2 kW Required Pressure : 0.55 to 0.95 MPa Required Discharge : 20 Liters per minute, 0.71 cfm Type : Oil-free Type
	Without SPC With ST (*5)	Rated Output of Prime Mover (Reference) : 0.75 kW Required Pressure : 0.55 to 0.95 MPa Required Discharge : 85 Liters per minute Type : Oil-free Type

- \*1 : With SPC, without CSD : FFU-N4055 + RD-N4055 / RD-N4055DM + SPC-N4055 + DV-RL
- \*2 : With CSD : FFU-N4055 + RD-N4055 / RD-N4055DM + SPC-N4055 + CSD-40RD + DV-RL
- \*3 : With GST : FFU-N4055 + RD-N4055 / RD-N4055DM + SPC-N4055 + GST-50RD + DC-GST1
- \*4 : Without SPC, with BT : FFU-N4055 + RD-N4055 / RD-N4055DM + BT-4055
- \*5 : Without SPC, with ST : FFU-N4055 + RD-N4055 / RD-N4055DM + ST-4055
- \*6 : The width of machine is longer 410 mm when the long tray is installed.

\*The machine design and specifications are subject to change without any notice.  
 \*Specifications may vary depending on the job, paper quality, environmental influences, and various other factors. Please do a test run before starting production.

# Horizon

Horizon International Inc.

1601 Asahi, Shinasahicho, Takashima,  
 Shiga, 520-1501, Japan  
 Phone : +81-740-25-4570  
 Fax : +81-740-25-5820  
 www.horizon.co.jp

Horizon GmbH

Pascalstrasse 20  
 25451 Quickborn / Germany  
 Phone : +49 4106 8042-0  
 Fax : +49 4106 8042-199  
 www.horizon.de



Scan this barcode  
for more detailed  
information.