

# Horizon

BINDING

# BQ-480

Automated  
perfect bound.



# ULTIMATE BINDING QUALITY.

New level of automation brings binding quality to next level.

## BENEFIT

### USER-FRIENDLY OPERATION

In addition to dimension based automation, the BQ-480 features customized automated setup accounting for paper type, signature vs. loose sheet, sewn book blocks, notch binding, and other key factors for higher quality with less effort.

### LABOR SAVING

Maximum production speed of 800 books per hour for book of one production. (Production speed changes depending on thickness change from book to book.)

### HIGH QUALITY

Uniquely designed book delivery mechanism delivers the book gently for high quality books, even with 65 mm or 2.56" thickness books or PUR bound books.

### EVA & PUR

The BQ-480 supports both EVA hotmelt glue and PUR hotmelt glue. Two different tanks are available for each glue type.



# KEY FEATURES.

Exclusive new features for improved production and quality.

## WIDE COLOR TOUCH PANEL



All setup and operation can be done through innovative color touch screen operation. New improve screen layout for easy operation.

## WEEKLY TIMER

Weekly timer is equipped as a standard feature for convenient operation. Timer can be programmed from the touchscreen.

## CUSTOM AUTOMATED SET-UP



Customized templates can be created according to desired book quality, paper type and other factors. These customized templates can be created by a key operator or technician who controls the quality. Once a template is created, the operator just selects the desired template to setup the system. This enables any operator to produce consistent quality books with improved production efficiency and greater quality control.



Ergonomically designed slide operator console for operation efficiency, with loading and operation from either the left or right side.

## INCREASED JOB MEMORY CAPACITY

999 jobs can be stored in memory, for easy job recall and set up.

## AUTO CALCULATION SYSTEM

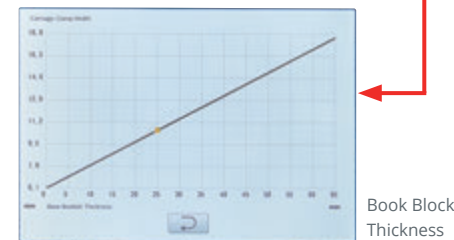


All sections including milling guide, spine glue, side glue, nipping station, cover feeder, scoring rollers and delivery are setup automatically. New automation adds to increased quality with increased spine and side glue control and auto nipper height adjustment.

### Thinnest Book Block    Thickest Book Block



Fine Adjustment Value for Carriage Clamp



To create a template, set-up for the thinnest book and thickest book and it automatically calculates the value in between.

The set values for the following items can be included in custom template.

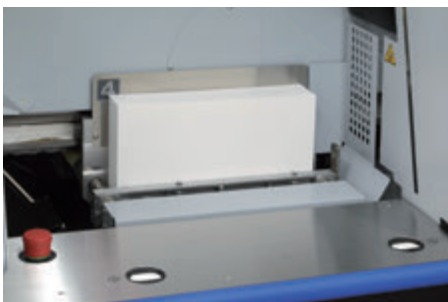
- Cycle Speed
- Carriage Clamp Width
- Milling Speed
- Milling Guide Width
- Nipper Width
- Nipper Height
- Nipping Delay Time
- Nipping Time
- Spine Glue Cut Off
- Spine Glue Amount
- First Glue Roller Height
- Second Glue Roller Height
- Scrape Roller Height
- Side Glue Width
- Side Glue Amount
- Side Glue Cut Off
- Registering Scoring Roller
- Adjustable Scoring Roller
- Delivery Guides

# DETAILS FOR EACH DEVICE.

System features various functions to improve production and quality.



## 1 BOOK FEEDING SECTION



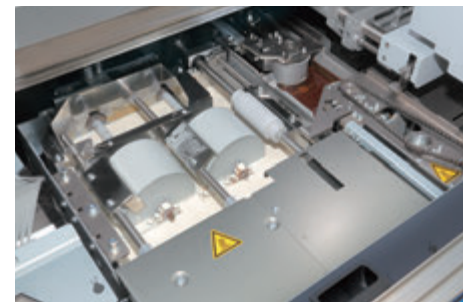
A rigid clamping system holds the book block firmly in position during the milling and nipping process to produce a quality finished book. The safety beam ensures risk-free operation.

## 2 MILLING SECTION



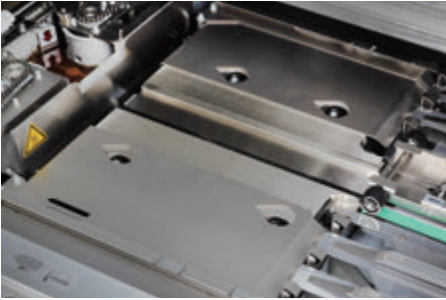
Powerful servo motor driven milling and notching mechanism mills the spine of a book block or signature for optimum glue penetration and adhesion. Milling rotation speed can be adjusted automatically according to book thickness and custom template. Milling depth can be adjusted from 0 to 4 mm or 0" to 0.157".

## 3 GLUE TANK SECTION



Dual application rollers and side gluing rollers ensure superior glue application to the spine and excellent adhesion of the cover for consistent quality binding. Glue roller height, wiper opening and cut-off timing, scraper roller height, and side glue roller width are automated.

## 4 NIPPING SECTION



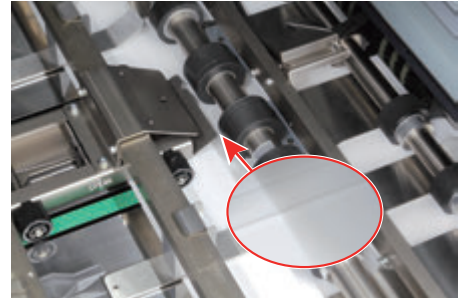
A strong rigid nipping mechanism and positive jogging guarantees precise alignment of the cover to the book block and square spines. Nipping width, height, operating time and delay time are adjusted automatically according to book thickness.

## 5 COVER REGISTRATION SECTION



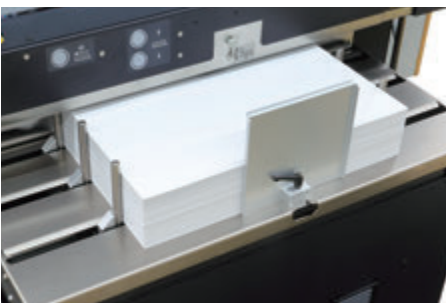
After transport to the nipping section, the cover is registered precisely with the fore-edge guide and tail edge positioner.

## 6 SCORING SECTION



The scoring width and position are automatically set-up according to book block thickness and cover registration. Scoring is performed on thick covers for professional binding with sharp, square spines and hinge scores.

## 7 COVER FEEDING SECTION



The high capacity cover feed station has a maximum pile height of 150 mm or 5.9" for continuous binding operation. The cover feeder can handle a wide range of covers:  
Bond Paper 81.4 to 302.4 gsm  
Coated Paper 104.7 to 348.9 gsm.

## 8 BOOK DELIVERY SECTION



Uniquely designed delivery eliminate damage to the spine. Even 65 mm or 2.56" thickness books or PUR bound books can be delivered without damage or marking.

Delivery conveyor to lift the books to a comfortable height for easy off-loading and handling.

# OPTIONS.

Performance Enhancing Options.

## AUTOMATED BOOK BLOCK FEEDING SYSTEM FOR BQ-480.

Newly developed BBF-480 automated book block feeder enables fully integrated perfect binding. Maximize productivity for book of one and very short run production.



## BENEFIT OF EL-480+BBF-480

### HIGH PRODUCTIVITY

Book blocks are fed automatically at high speed. The maximum speed is 1,000 book blocks per hour.

### EFFICIENT AND HIGH SECURITY PRODUCTION

- This system features various functions for efficient and high security production.
- Book thickness caliper is equipped to setup the binder.
- Optional book block and cover matching system is available.
- Optional cover reject function is available to reject mis-matched covers.

### USE AS OFFLINE

- System can be converted to an offline manual feeding system. Uniquely designed bridge conveyor and slide track enables quick and easy change from an inline to offline system.



# OPTIONS.

## Performance Enhancing Options.

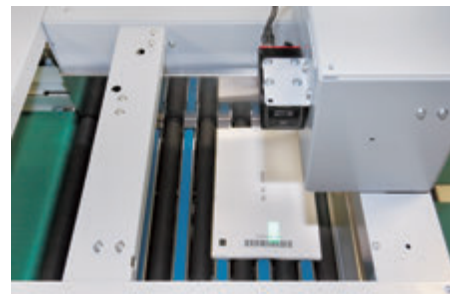
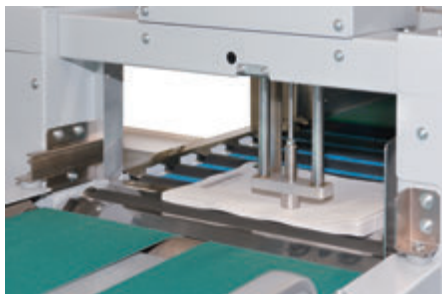


### 1 ELEVATOR CONVEYOR EL-480



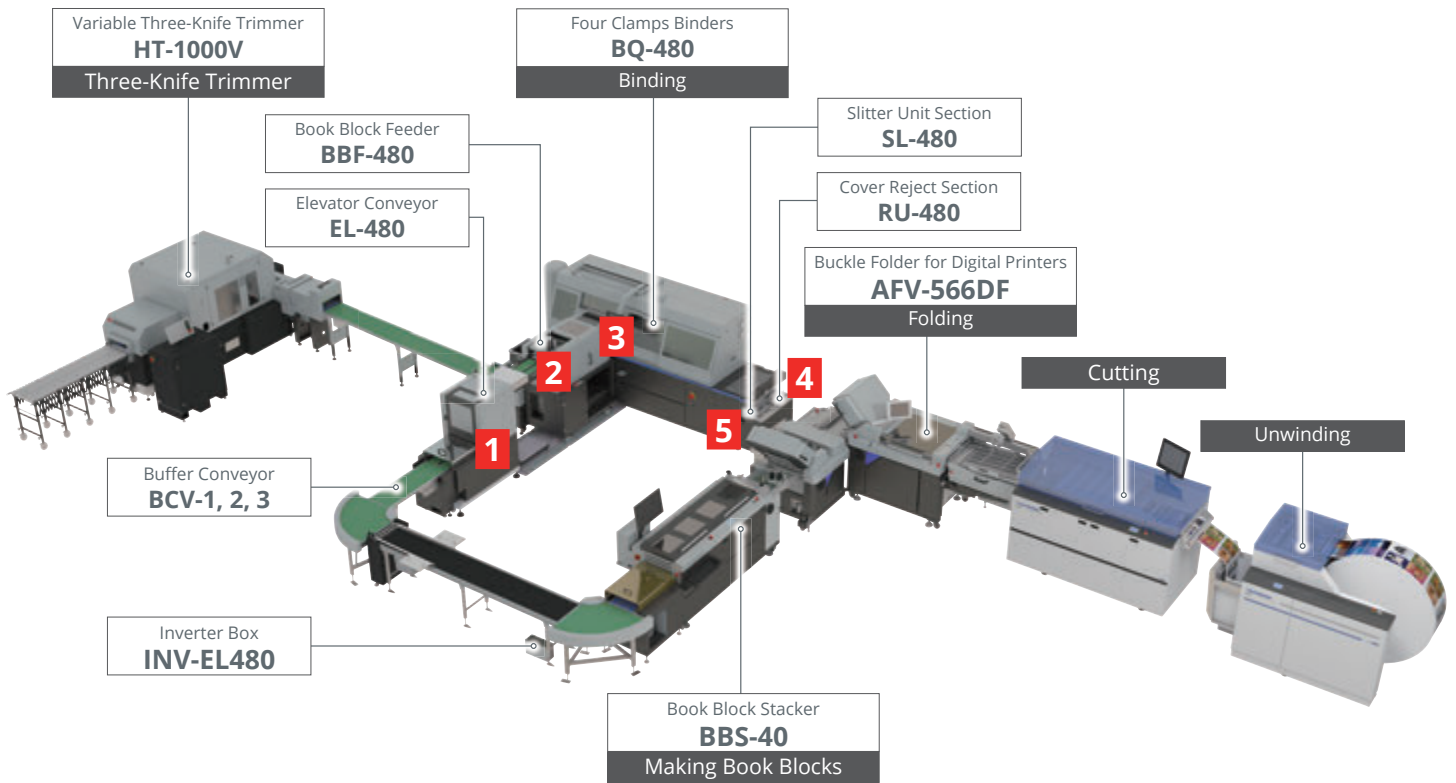
This system elevates the book block from upstream conveying to the in-feed height of the BBF-480.

### 2 BOOK BLOCK THICKNESS CALIPER / BARCODE READER **Option**



The book block thickness caliper is equipped on the BBF-480. This caliper measures the thickness of the book block accurately for automatic setup of the BQ-480 perfect binder. Optional barcode reader BC-BBF480 is available to match book block and cover for higher security production. The BC-BBF480 is also capable of comparing the actual book block thickness measured at the caliper to that in the data, if provided via barcode.





### 3 INFED SECTION



Uniquely designed feeding mechanism enables feeding and registering of variable thickness book blocks automatically.

### 4 COVER REJECT SECTION



Optional cover reject device is available to reject the cover in case the cover does not match the book block.

### 5 SLITTER UNIT SECTION



Optional cover slitting device to slit both edges of the cover to eliminate cover over hang for easy handling and increased accuracy at the three knife trimmer.

# OPTIONS.

## Performance Enhancing Options.

### L-470 MANUAL SIMPLE LIFTER

- The L-470 is a hand lifter for easy and safe tank replacement.



### F-470 FORK FOR LIFTER

- The F-470 fork is a custom-fit attachment to the lifter that holds the glue tank firmly in position for easy and safe tank replacement.



### S-470 STAND FOR MELT TANK UNIT

- The S-470 stand is designed to receive and hold the glue tank unit after replacement.



### M-470 GLUE MELTING HEATER

- The M-470 is a laboratory oven used to premelt the PUR hotmelt glue.



### PM-470 PREMELT TANK (18 LITTER)

- The PM-470 is the premelt tank for EVA hotmelt glue.



### B-470 TEFLON COATED BEAKER

- The B-470 teflon coated beaker can be used to premelt the PUR hotmelt glue to refill the glue tank.



### CN-480 PRE-MELT TANK CONNECTION KIT

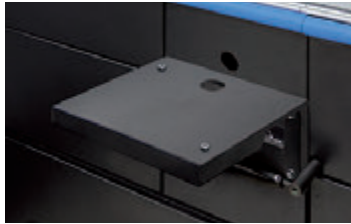
- This is required to connect the PM-470 with the BQ-480.

### VS-280 SMOKE EXTRACTOR

- This deodorizes the smell of hotmelt glue.

## ET-480 EXTRA TABLE

- This table is required to install the SI-470A. You can also use this table as a work table.



## EBT-480 SUPPORT TABLE

- This extends the table on the book block feed section 90 mm or 3.54" to the front.



## BC-480-1D 1D CODE READER

- This supports both 1D and 2D codes on the book block. But this supports 1D code only on the cover sheet.

## BC-480-2D 2D CODE READER

- This supports both 1D and 2D codes on both book block and cover sheet.

## SI-470A BOOK THICKNESS INPUT CALIPER

- The SI-470A is a book thickness measuring and input device for further operation efficiency.



## BOOK OF ONE PRODUCTION.

Book of one, variable thickness book production capability is a standard feature of the BQ-480.

The system maintains a high production speed even with book of one production.

### Variable production speed :

5 mm changeover	800 cycles per hour
30 mm changeover	660 cycles per hour
65 mm changeover	500 cycles per hour

### BOOK THICKNESS INPUT CALIPER SI-470A

The SI-470A is used to measure the book block thickness and transfer the thickness information for auto setting of all critical binding steps.



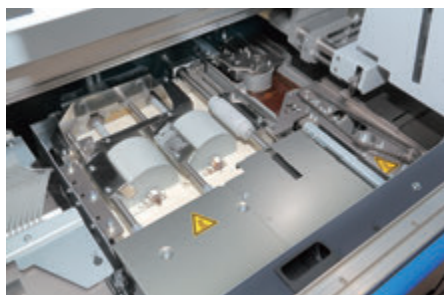
# PUR TANK AND EVA TANK.

The BQ-480 incorporates a precision PUR binding station and features an interchangeable glue tank, for both EVA and PUR adhesives.



## PUR MU-480PUR

Polyurethane reactive adhesive suitable for coated stock. Lay-flat binding can be performed.

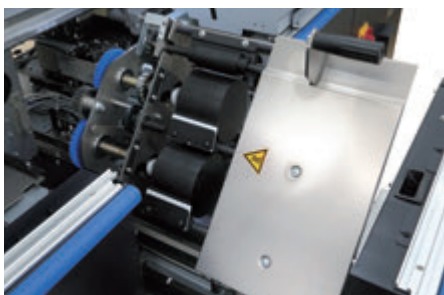


## EVA MU-480EVA

Commonly used for many types of binding. The melted glue can be used repeatedly so there's no need to clean the tank after operation.

## CLEANING AND REPLACEMENT

### MU-480PUR



The application drums and back spinner lift and latch to provide easy access for cleaning of the tank.



Install the special drain for glue run-off. The PUR tank and drums are teflon coated so that the remaining glue can be easily peeled off after cooling.



Sliding rail glue tank for easy replacement. Pull out the tank and remove it with the optional lifting trolley.

# STRONG, ENVIRONMENTALLY FRIENDLY PUR SOLUTION.

Polyurethane Reactive, also called PUR, is a polyurethane adhesive attracting attention for binding strength and eco-friendliness.

## STRONG AND FLEXIBLE BINDING

As printing methods become more varied, there is growing demand for binding with coated and digitally printed sheets. EVA hotmelt glue has difficulty binding coated stock firmly, and does not currently provide good spine flexibility and lay-back qualities. However, PUR hotmelt glue can provide adequate binding strength and a lay-flat quality for both offset and digital print on a wide range of paper stocks.\*1

## DURABLE AGAINST TEMPERATURE

PUR hotmelt glue retains durability and flexibility in both high and low temperatures. The temperature resistance for PUR hotmelt glue ranges from -20 to 120 degrees Celsius versus 0 to 45 degrees Celsius for EVA hotmelt glue. This allows PUR bound books to be handled in almost any climate or location.

## ECOLOGY

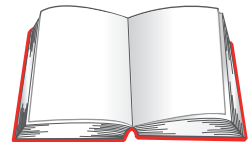
PUR adhesive is environmentally friendly, allowing PUR-bound books to be recycled. PUR also has a lower melting point (120 degrees Celsius) than EVA for operational energy savings.

### ADVANTAGES OF PUR OVER EVA

PUR hotmelt glue provides the best page spread compared to traditional EVA hotmelt glue. High binding strength allows for the application of a small amount of glue, allowing the pages to lay flatter when the book is opened.\*1



EVA



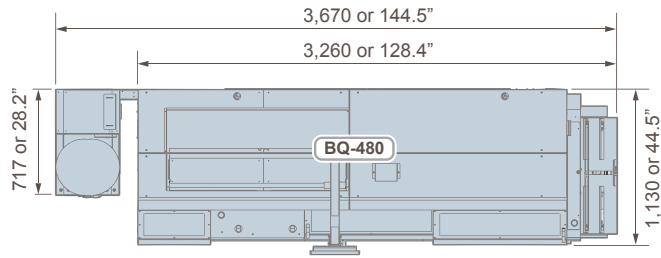
PUR

(\*1: Depends on the binding conditions.)

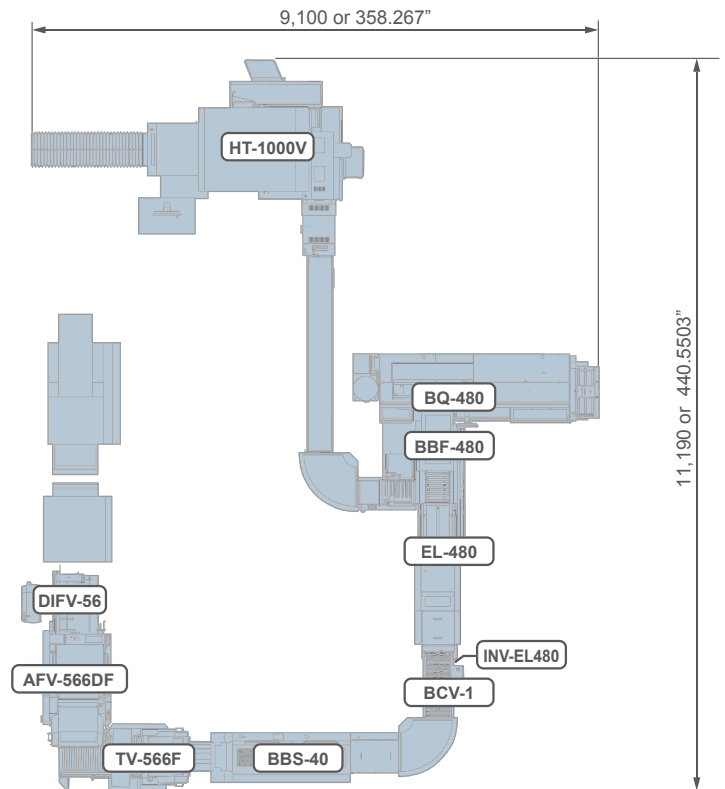
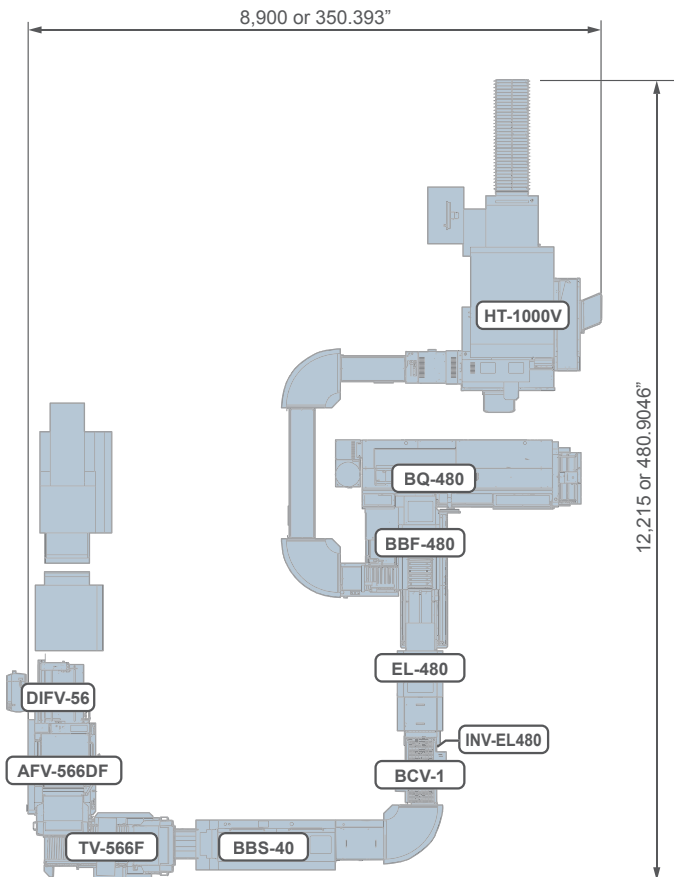
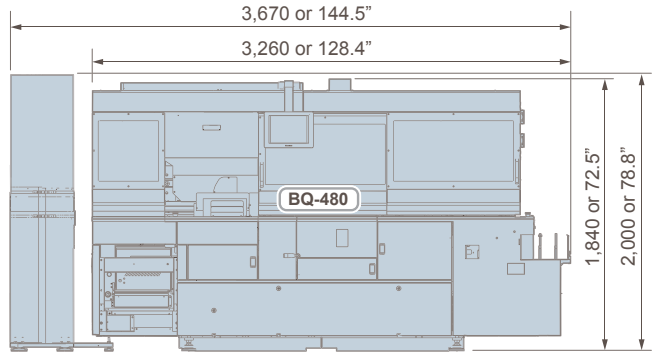
# SPECIFICATIONS.

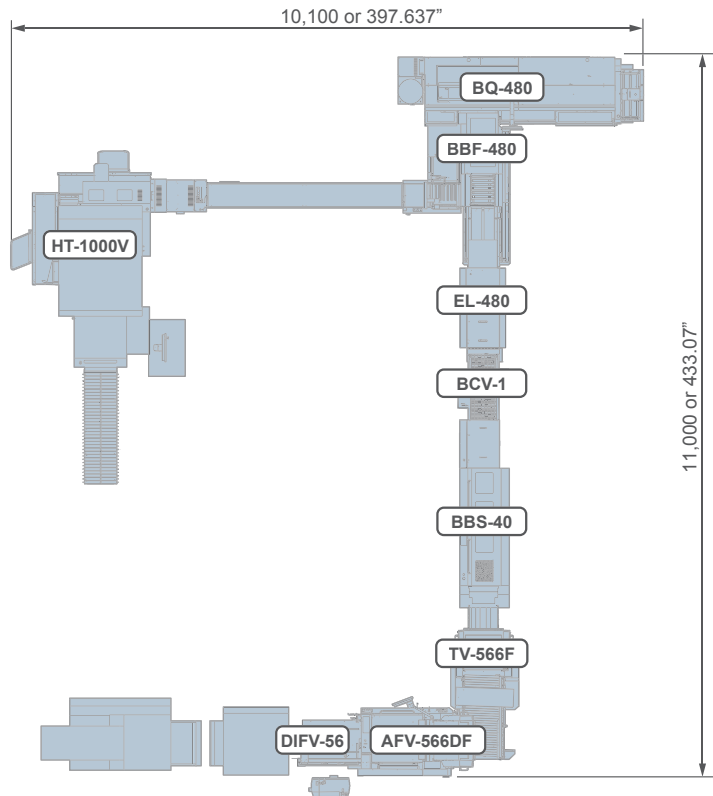
## Machine Dimensions. (Unit: mm or inch)



(Top View)

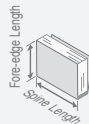


(Front View)





BQ-480	
<b>Binding Type</b>	Binding with milling, Binding without milling and Pad binding
<b>Glue Type</b>	EVA Glue or PUR Glue (Tank is optional)
<b>Number of Carriage Clamps</b>	4
<b>Book Block Size</b>	 <b>Spine Length x Fore-edge Length</b> Max. 320 x 320 mm or 12.59" x 12.59" Min. 145 x 105 mm or 5.71" x 4.14"
<b>Book Block Thickness</b>	Min. 1 mm or 0.04" Max. 65 mm or 2.56"
<b>Cover Size</b>	 <b>Length x Width</b> Max. 320 x 670 mm or 12.59" x 26.37" Min. 135 x 225 mm or 5.32" x 8.86"
<b>Cover Weight Range</b>	Bond Paper 81.4 to 302.4 gsm Coated Paper 104.7 to 348.9 gsm
<b>Cover Stack Height</b>	Max. 150 mm or 5.9"
<b>Glue Temperature</b>	Spine Glue Tank: EVA 150 to 200 °C or 302 to 392 °F Side Glue Tank: EVA 150 to 200 °C or 302 to 392 °F Spine Glue Tank: PUR 90 to 140 °C or 194 to 284 °F
<b>Cycle Speed</b>	Max. 1,350 cycles per hour (EVA) Max. 1,000 cycles per hour (PUR) Variable Binding Max. 800 cycles per hour (in 5 mm changeover) (You will need the optional SI-470A Book Thickness Input Caliper for this function.)
<b>Voltage/Frequency</b>	3-phase 200-208 V, 60 Hz 3-phase 200-230 V, 50 or 60 Hz 3-phase 400 V, 50 or 60 Hz The external transformer is necessary for 220 V or 400 V
<b>Machine Dimensions</b>	Delivery Conveyor (long type), and milling blower duct: W3,670 x D2,340 x H2,000 mm or W144.5" x D92.2" x H78.8" Without delivery stacker and milling blower duct: W3,260x D1,130 x H2,000 mm or W128.4" x D44.5" x H78.8"

BBF-480	
<b>Binding Type</b>	Type of Book Block: Sheet block unified by glue
<b>Book Block Size</b>	 <b>Spine Length x Fore-edge Length</b> Max. 320 x 320 mm or 12.59" x 12.59" Min. 145 x 105 mm or 5.71" x 4.14"
<b>Book Block Thickness</b>	Min. 1 mm or 0.04" Max. 65 mm or 2.56"
<b>Cycle Speed</b>	Max. 1,000 cycles per hour: With same thickness of book (EVA, at the maximum speed of carriage clamps) Max. 800 cycles per hour: With 5 mm variable thickness of book (EVA, at the maximum speed of carriage clamps) Max. 660 cycles per hour: With 30 mm variable thickness of book (EVA, at the maximum speed of carriage clamps) Max. 400 cycles per hour: With 64 mm variable thickness of book (EVA, with the auto setting according to the thickness of book)
<b>Voltage/Frequency</b>	3-phase 200-230 V, 50 or 60 Hz
<b>Machine Dimensions</b>	W1,080 x D1,730 x H1,610 mm or W42.6" x D68.2" x H63.4" (The rail plate is not included.) *The depth of machine changed according to the position of feeding unit.

Prepare the compressor to meet the following specifications:

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