

# Horizon

BINDING

# iCE BINDER BQ-500

Next Generation  
Perfect Binder





**i** = Intelligence, Integration, Interaction  
**C** = Connection  
**E** = Efficiency

All Connected...

Optimize the finishing process with automation and workflow.

The iCE series is a new product line-up which is designed to provide added value to our customers. A new operator interface for a more intuitive operation, and advanced automation to provide increased efficiency and productivity. In addition, connecting with an iCE LiNK workflow system provides an advanced and totally connected work environment.

# NEXT GENERATION BOOK BINDER WITH CONNECTED FEATURES.

New level of automation brings binding quality to the next level.



ICE TRIMMER HT-300  
Three-side Trimmer

## FEATURE

### HIGH PRODUCTIVITY

The BQ-500 excels at and is the most productive binder for book-of-one production. In addition, productivity is increased on longer runs with decreased set-up time and improved system efficiencies.

### HIGH QUALITY

A uniquely designed template feature produces high quality books even with a non-skilled operator. Knowledge from a skilled operator can be stored in custom templates to produce consistent high quality books by any operator.

### EVA & PUR

The BQ-500 supports both EVA and PUR hotmelt glue. Two different tanks are available and interchangeable for each glue type.

### CONFIGURATION FLEXIBILITY

The system can be connected with various options to extend capabilities. A cover slitting unit, cover reject unit, elevator unit, glued book block feeder, loose sheet book block feeder, and in-line three knife trimmer are all available options with the BQ-500.

### MANAGE YOUR BINDERY WITH HORIZON'S BINDERY CONTROL SYSTEM

The iCE Series can be enhanced with automated workflow from upstream to postpress with iCE LiNK, which uses cloud technology, and is Horizon's next generation bindery control system.



ICE BINDER BQ-500  
Perfect Binder

Scan QR code  
and watch the  
product video.



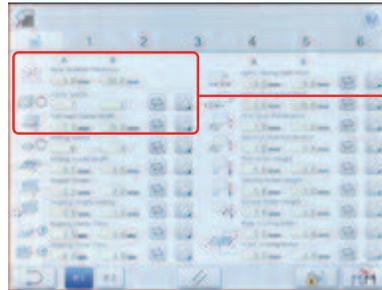
# DETAILED PROCESS FEATURES.

Exclusive new features for improved production and quality.

## 1 TOUCH PANEL DISPLAY

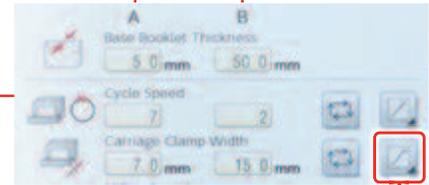


The 12.1 inch color touch-screen is icon-based for user-friendly operation. Setup, operation and fine tuning can be done at the touchscreen. Ergonomically designed slide operator console for operation efficiency, with loading and operation from either the left or right side.

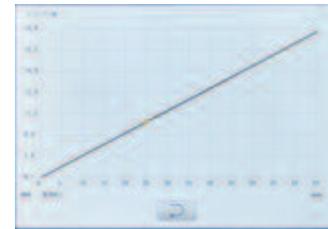


Customized templates can be created according to desired book quality, paper type and other factors. These customized templates can be created by a key operator or manager who controls the quality. Once a template is created, the operator just selects the desired template to setup the system. This enables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

Thinnest Book Block    Thickest Book Block



Fine Adjustment Value for Carriage Clamp

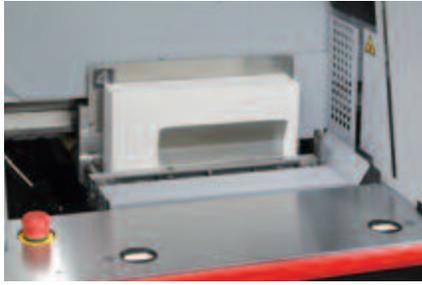


Book Block Thickness

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



## 2 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 curtain ensures risk-free operation.

## 3 MILLING SECTION



Powerful servo motor driven milling and notching mechanism mills the spine of the book block or signatures 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".

## 4 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.

## 5 NIPPING SECTION



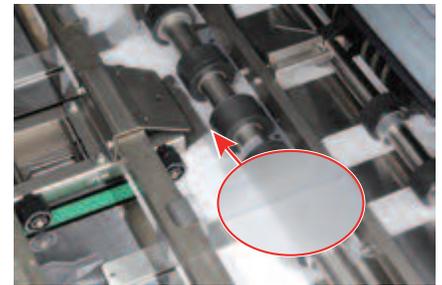
A strong rigid nipping mechanism and positive jogging guarantees precise alignment of the cover to the book block and square spines. Nipping width, height, operating time and delay time are adjusted automatically according to book thickness.

## 6 COVER REGISTRATION SECTION



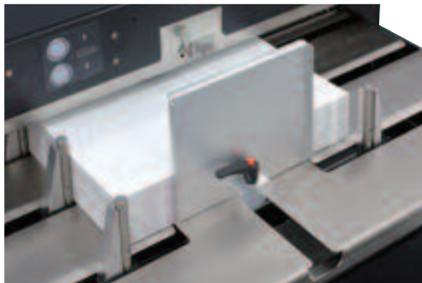
After transport to the nipping section, the cover is registered precisely with the fore-edge guide and tail-edge positioning guides.

## 7 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.

## 8 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 and Coated Paper 104.7 to 348.9 gsm.

## 9 BOOK DELIVERY SECTION



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

# OPTIONS.

## Automated Book Block Feeding System For the BQ-500.

### FEATURES 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 OFFLINE

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

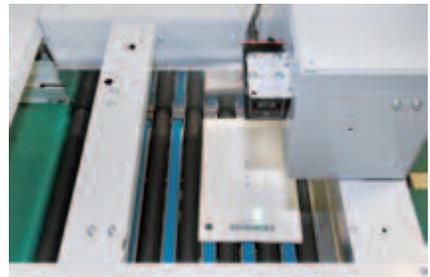
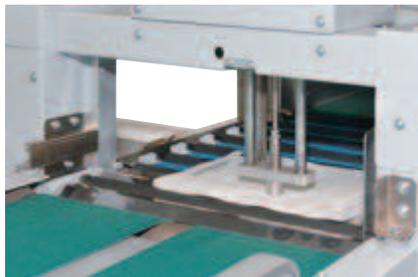


#### 1 EL-480 ELEVATOR CONVEYOR

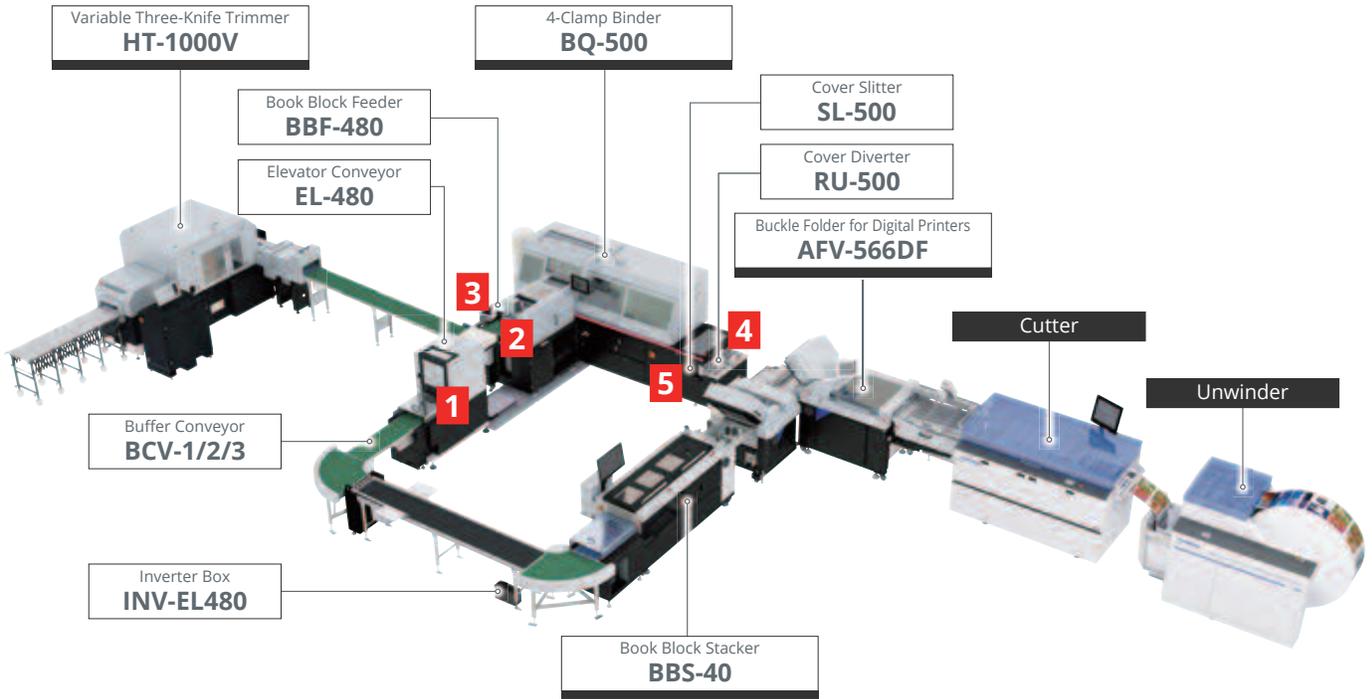


This system elevates the book block from upstream conveying to the infeed height of the BBF-480.

#### 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-500 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 INFEEED SECTION**



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

**Option for BQ-500**

**4 COVER REJECT SECTION (RU-500 COVER DIVERTER)**



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

**Option for BQ-500**

**5 SLITTER UNIT SECTION (SL-500 COVER SLITTER)**



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.

### **MU-500PUR** PUR SPINE GLUE TANK

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

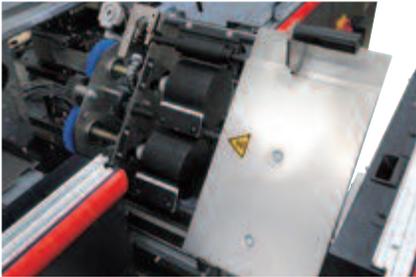


### **MU-500EVA** EVA SPINE GLUE TANK

- 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.



#### MU-500PUR: Cleaning and Replacement



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.

### **L-470** MANUAL SIMPLE LIFTER

- The L-470 is a lifting dolly for easy and safe tank replacement.



### **F-470** FORK FOR LIFTER

- The F-470 fork is a custom-fit attachment for 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-500.



## **VS-280** SMOKE EXTRACTOR

- This deodorizes the smell of hotmelt glue.



## **SI-500A** BOOK THICKNESS INPUT CALIPER

- The SI-500A is a book thickness measuring and input device for increased operational efficiency.



## **ET-500** EXTRA TABLE

- This table is required to install the SI-500A. You can also use this table as a work table.



## **EBT-500** SUPPORT TABLE

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



## **FLP-480** FLAP COVER KIT

- The fold lines for the flap covers can be scored in-line. The flap covers are folded inward along the scoring lines after binding.

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

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

Code Types:

Barcode CODE39, CODE128, EAN, JAN

2D Code QR Code, Data Matrix

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

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

Code Types:

Barcode CODE39, CODE128, EAN, JAN

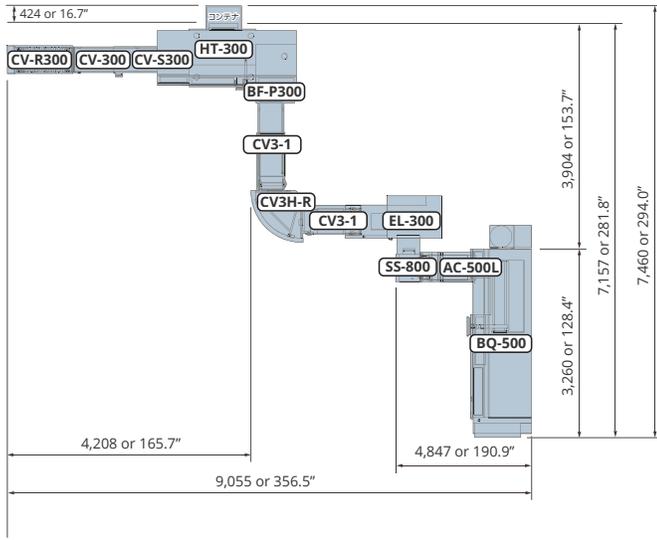
2D Code QR Code, Data Matrix

# SPECIFICATIONS.

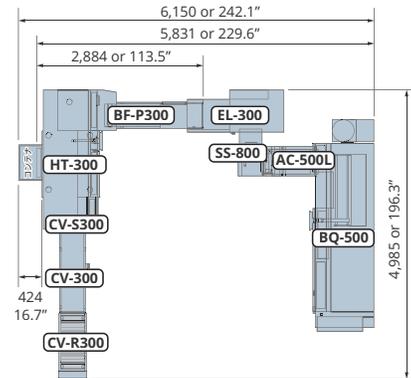
## Machine Dimensions. (Unit: mm or inch)

### BQ-500 + HT-300

(Top View)

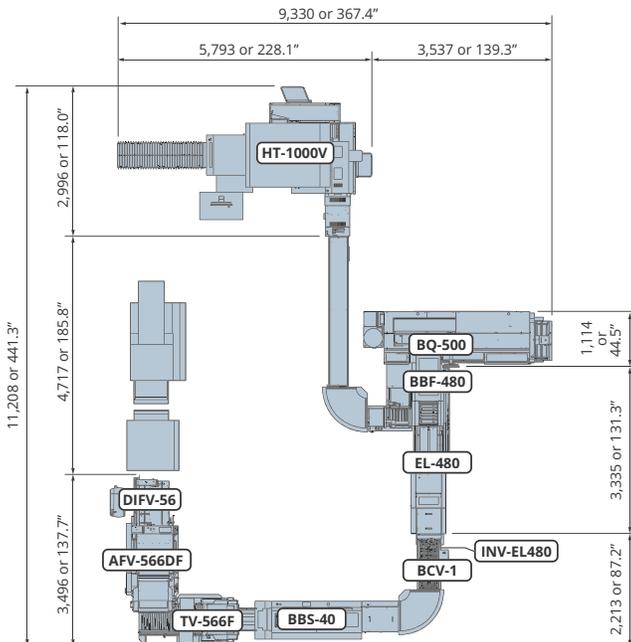


(Top View)

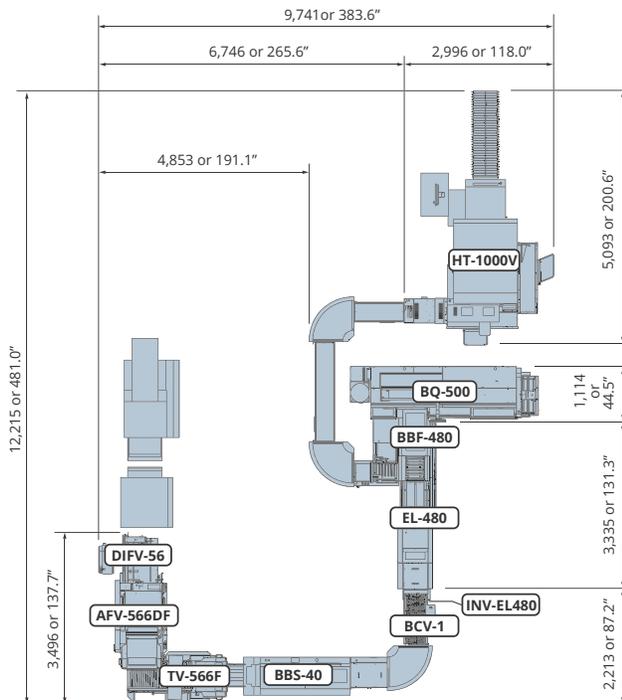


### BQ-500 + HT-1000V

(Top View)

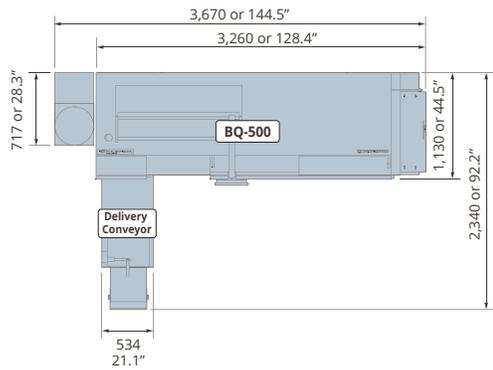


(Top View)

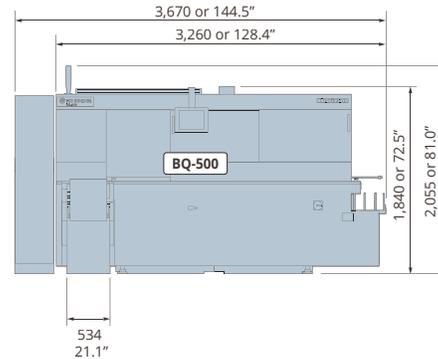


## BQ-500

(Top View)



(Top View)



| BQ-500                           |  |
|----------------------------------|--|
| <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><br>Max. 320 x 320 mm or 12.59" x 12.59"<br>Min. 145 x 105 mm or 5.71" x 4.14" |
| <b>Book Block Thickness</b>      | Min. 1 mm or 0.04"<br>Max. 65 mm or 2.56"  |
| <b>Cover Size</b>                |  <b>Length x Width</b><br>Max. 320 x 670 mm or 12.59" x 26.37"<br>Min. 135 x 225 mm or 5.32" x 8.86"                  |
| <b>Cover Weight Range</b>        | Normal Paper 81.4 to 302.4 gsm<br>Coated Paper 104.7 to 348.9 gsm  |
| <b>Cover Stack Height</b>        | Max. 150 mm or 5.9"  |
| <b>Cycle Speed</b>               | Cover Binding (EVA glue) Max. 1,350 cycles per hour (EVA)  |
|                                  | Cover Binding (PUR glue) Max. 1,000 cycles per hour (PUR)  |
|                                  | Pad Binding Based on the cover binding (The glue temperature differs depending on conditions)  |
|                                  | Lining Binding Max. 900 cycles per hour  |
|                                  | Variable Binding Max. 810 cycles per hour (when difference in thickness is 5 mm or less) (You will need the optional SI-500A Book Thickness Input Caliper for this function.)                            |
| <b>Voltage/Frequency</b>         | 3-phase 200-208 V, 60 Hz<br>3-phase 220 V, 50 or 60 Hz<br>3-phase 400 V, 50 or 60 Hz<br>(The external transformer is necessary for 220 V or 400 V)   |
| <b>Machine Dimensions</b>        | Delivery Conveyor (long type), and milling blower duct: 3,670 (W) x 2,340 (D) x 1,840 (H) (+ pole lamp 215 mm) or 144.5" (W) x 92.2" (D) x 72.5"(H) (+ pole lamp 8.5")                                   |
|                                  | Without delivery stacker and milling blower duct: 3,260 (W) x 1,130 (D) x 1,840 (H) mm (+ pole lamp 215 mm) or 128.4" (W) x 44.5" (D) x 72.5" (H) (+ pole lamp 8.5")                                     |

| 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><br>Max. 320 x 320 mm or 12.59" x 12.59"<br>Min. 145 x 105 mm or 5.71" x 4.14"   |
| <b>Book Block Thickness</b> | Min. 1 mm or 0.04"<br>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)<br>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>   | 1,080 (W) x 1,730 (D) x 1,610 (H) or 42.6" (W) x 68.2" (D) x 63.4"(H) (The rail plate is not included.)<br>*The depth of the machine changes according to the position of the feeding unit.   |

\*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.

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Distributed by

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