

High Performance Binding System CABS5000

Horizon

CABS Computer
Aided
Binding
Systems

CABS5000

INNOVATIVE
BINDING SYSTEM



Established 1902
Northern
machine works

215-425-0300
northernmachine.com

*Computer assisted operation simplifies setup procedures.
High speed binding innovations from Horizon.*

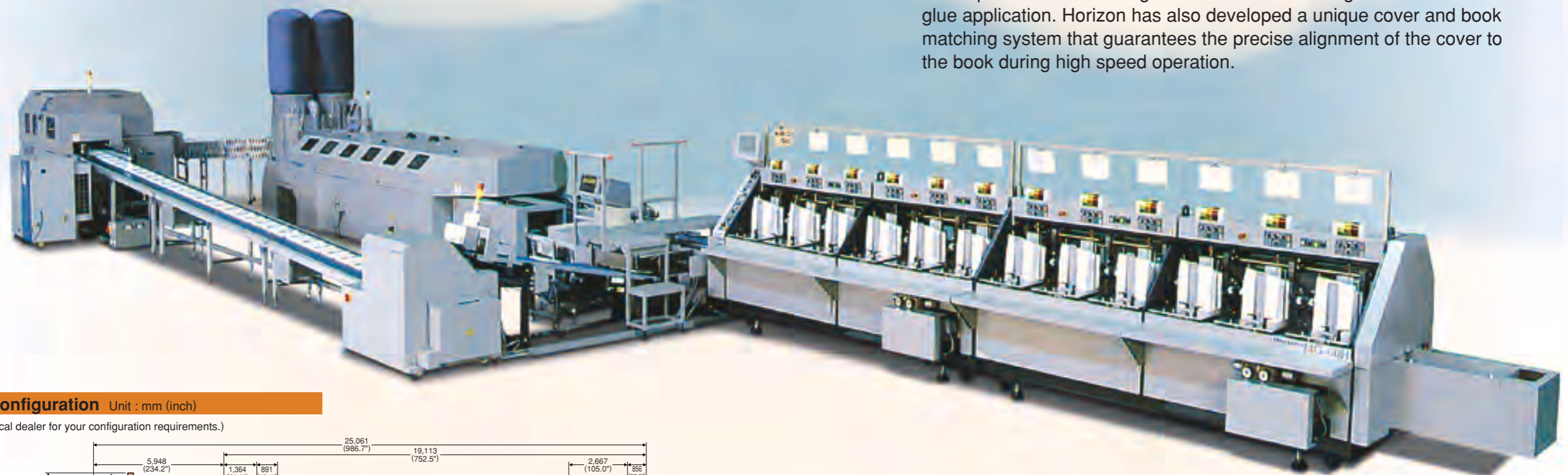
Horizon introduces the new CABS5000 in-line perfect binding system. The new CAB system consists of the MG-60H six-hopper gatherer, the SB-15 fifteen-clamp perfect binder, and the HT-101 three-knife trimmer. Horizon's advanced technology combines the highest quality perfect binding with simple and easy operation.

Gatherer MG-60H

Up to six 6-hopper signature gathering sections can be combined to create a 12, 18, 24, 30, or 36-hopper system. The air suction and the grip arm feeding system on the MG-60H can feed single sheets, single folded sheets, or signatures up to 32-pages. Horizon's state-of-the-art detection system will detect misfeeds or double feeding to insure book integrity. An optional optical reading system is available for each hopper to insure proper signature orientation during re-loads.

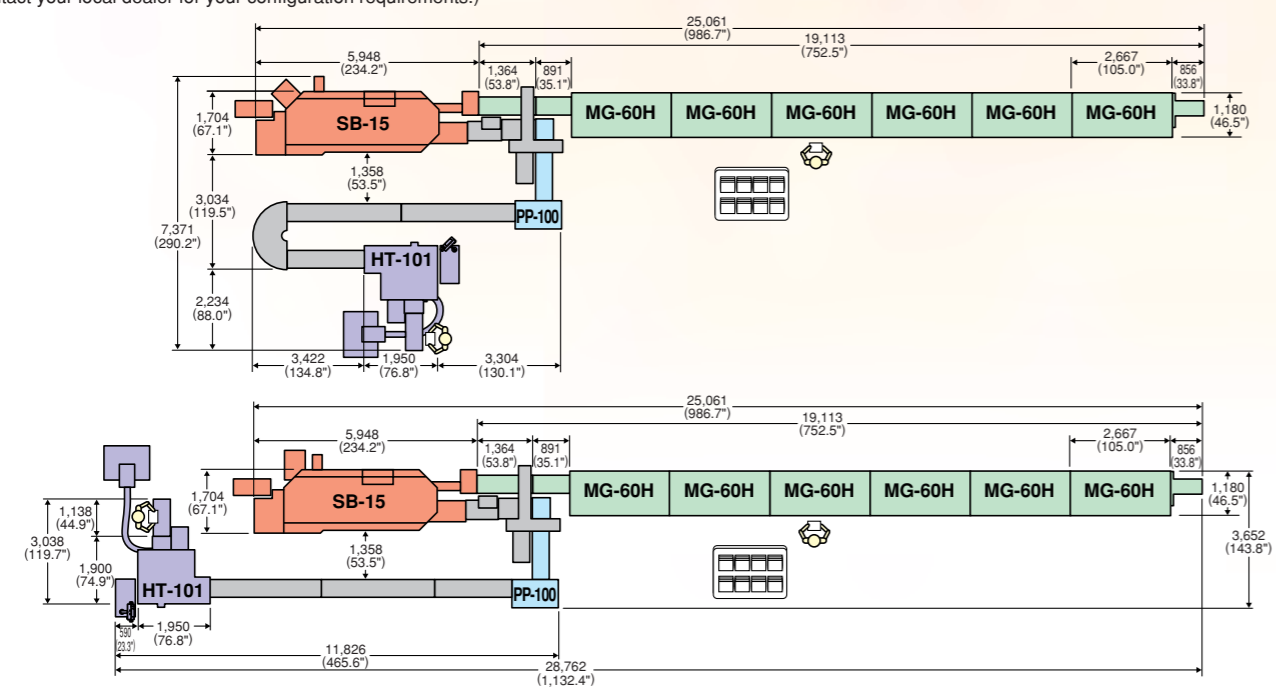
Perfect Binder SB-15

The SB-15 is a 15-clamp perfect binder which offers simple operation and superior quality binding results. All system setups are performed automatically through the touch-screen operator console. A newly-developed 3-roller flexible glue tank assures thorough and consistent glue application. Horizon has also developed a unique cover and book matching system that guarantees the precise alignment of the cover to the book during high speed operation.



System Configuration Unit : mm (inch)

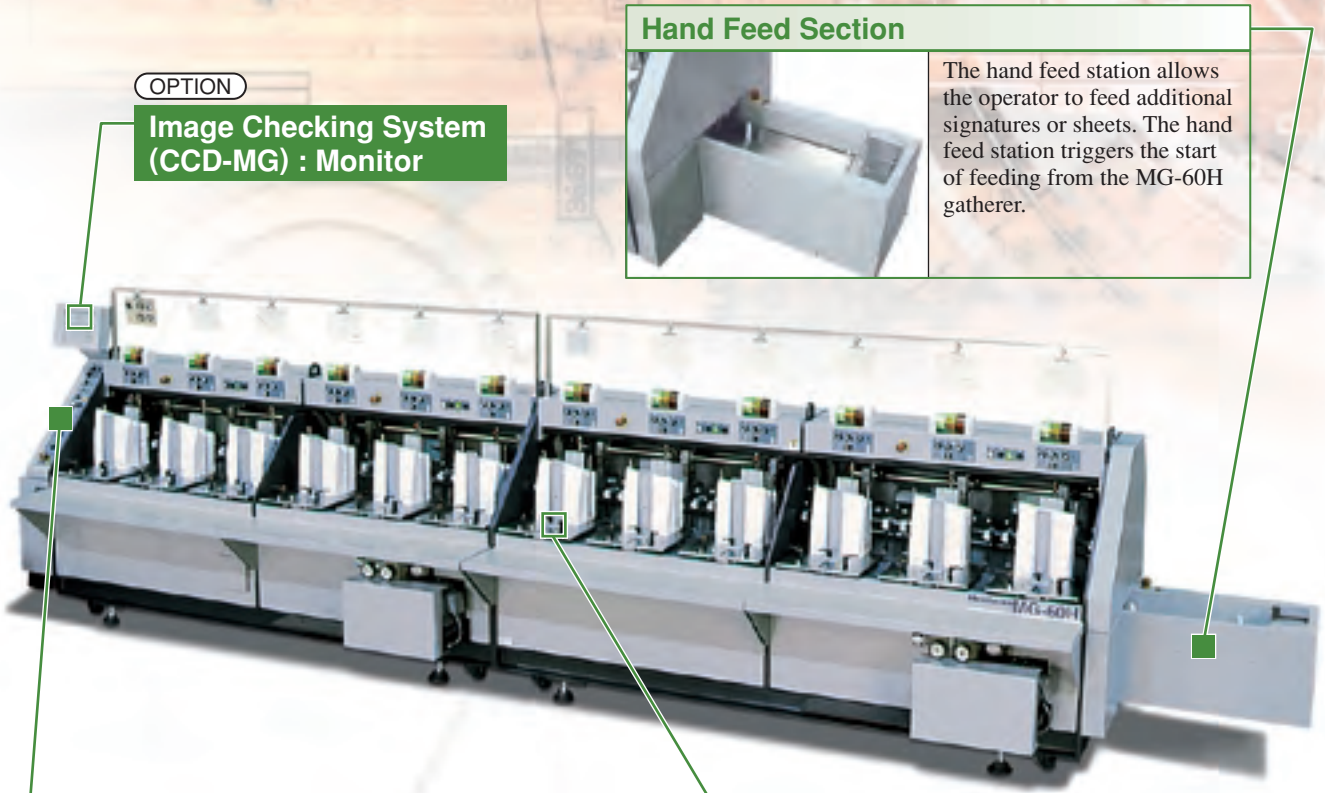
(Contact your local dealer for your configuration requirements.)



Three-knife Trimmer HT-101

The HT-101 features automated setup for different book sizes and precision cutting accuracy. Job changeovers are performed simply and quickly through the color LCD touch-screen. Unlike other three-knife trimming systems, there are very few replacement parts when changing over the HT-101. Knife height and cutting depth are easily adjusted through the color LCD touch-screen.

The MG-60H 6-hopper modular gathering system (36 hoppers maximum) can feed single sheets, single folded sheets, or signatures up to 32 pages.



OPTION

Image Checking System (CCD-MG) : Monitor

Hand Feed Section



The hand feed station allows the operator to feed additional signatures or sheets. The hand feed station triggers the start of feeding from the MG-60H gatherer.

Hopper and Operation Panel



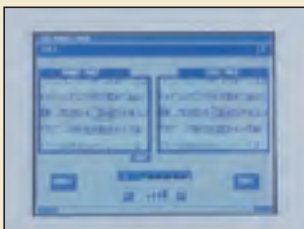
The MG-60H features a reliable grip arm feeding mechanism. Each feeding section is equipped with a lamp to allow the operator to easily monitor feeding conditions. No special skill is required for operating the MG-60H.

OPTION

Image Checking System (CCD-MG) : CCD Camera

OPTION For MG-60H

Image Checking System (CCD-MG)



The CCD cameras check the image on each feed cycle to prevent incorrect signature or sheet feeding, to insure document integrity. The captured images are displayed on the monitor.

MG-60H Major Specifications

Module Configuration	MG-60Ha / MG-60Hb / MG-60Hc / MG-60Hd / MG-60He / MG-60Hf					
Number of Hoppers	6 hoppers / 12 hoppers / 18 hoppers / 24 hoppers / 30 hoppers / 36 hoppers					
Sheet Size	Feed Direction Max. 330 mm (12.99") Min. 182 mm (7.17")		① 250 mm (9.84") 128 mm (5.04")	②	A5 to A4 (Optional attachment is capable of A6 size.)	
Sheet Weight Range	Normal Signature Sheet, 4-page to 32-page Signatures					
Sheet Feeding System	Air suction bottom feed					
Bin Pile Height	Normal Paper Signature : Max. 300 mm (11.81") Coated Paper Signature : Max. 150 mm (5.90")					
Max. Transport Thickness	Max. 50 mm (1.96")					
Production Speed	Max. 5,200 sets/hr. (When SB-15 is interlocked)					
Error Detector / Indicator	Misfeeds, Double Feeds, Jams (Linear Detection System)					
Other Function	Synchronized collation starting by hand feed					
Voltage / Frequency	3-Phase AC 200 V, 50 / 60 Hz 3-Phase AC 220 V, 60 Hz 3-Phase AC 400 V, 50 Hz					
Rated Current	MG-60Ha : AC 200 V, 50 Hz, 8.5 A / AC 200V, 60 Hz, 8.8 A MG-60Hc : AC 200 V, 50 Hz, 30.3 A / AC 200 V, 60 Hz, 35.7 A					
Power Consumption	50 Hz	2.5 kW	4.1 kW	5.7 kW	13.6 kW	15.2 kW
	60 Hz	2.7 kW	4.6 kW	6.5 kW	12.9 kW	14.8 kW
Motors	MG-60Ha : 1.5 kW x 2 / MG-60Hb : 1.5 kW x 1					
Heat Output	MG-60Ha : 3,460 kJ (830 kcal) / MG-60Hb : 2,110 kJ (500 kcal)					
Machine Dimensions	1 unit	2 units	3 units	4 units	5 units	6 units
	4,887(W) x 1,232(D) x 1,690(H) mm (192.5" x 48.6" x 66.6")	7,554(W) x 1,232(D) x 1,690(H) mm (297.5" x 48.6" x 66.6")	10,221(W) x 1,232(D) x 1,690(H) mm (402.5" x 48.6" x 66.6")	12,888(W) x 1,232(D) x 1,690(H) mm (507.5" x 48.6" x 66.6")	15,555(W) x 1,232(D) x 1,690(H) mm (612.5" x 48.6" x 66.6")	18,222(W) x 1,232(D) x 1,690(H) mm (717.5" x 48.6" x 66.6")
Machine Weight	1,500 kg (3,308 lbs.)	2,750 kg (6,064 lbs.)	4,000 kg (8,820 lbs.)	5,300 kg (11,687 lbs.)	6,550 kg (14,443 lbs.)	7,800 kg (17,199 lbs.)

The SB-15 is a 15-clamp perfect binder. 3 minute setup/changeover- simply input book size data.

Nipping Section

A superior nipping system exerts powerful nipping pressure to create strong, durable binds with sharp spine corners. Nipping pressure can be adjusted while running.

Cover Position Checking System

After the book block is assembled with the cover, cover registration on each book is checked during transport. If a registration error is detected, the book is automatically rejected. (Optional Weight Checker is required.)

OPTION

Weight Checker (CH-15W)

In-Feed Section

Gathered signatures are transported from the Gatherer and inserted into the clamper from the bottom.

Hand Feed Section

When the SB-15 is used as an off-line binder, book blocks are fed into the clamper in this section.

Milling Section

The book block and clamper are pressed firmly by the pressing rollers. Milling height, rotation speed, and notching pitch can be adjusted through the control panel.

Cover and Book Registering Section

A built-in matching mechanism precisely aligns the book and cover for accurate assembly.

Cover Feeder

The air suction cover feeder is equipped with advanced double/miss feed detection. The image checking system uses a CCD camera to detect incorrectly loaded covers. Covers can be loaded while running.

Scoring Section

The cover scoring wheel can create up to 4 score lines, and is provided as standard equipment.

Operator Console

A large color LCD screen provides simple and easy operation. All necessary settings can be performed through this icon based screen. Any system errors are indicated on this screen for quick, easy resolution.

OPTION

Pre-Melt Tank (PM-40)

OPTION

Side Glue Supply Unit (TM-5)

OPTION

Book Size Input Caliper (SI-15)

Glue Tank Section

Three application rollers allow hot-melt glue to penetrate deeply into the book for stronger binds. The glue tank can be divided into two separate sections so that two different glues can be used for enhanced bind quality. Side gluing is provided as standard equipment.

SB-15 Major Specifications

Number of Clamps		15		
Book Size	Portrait	①	②	In-line (Hand Feeding)
		Max. 330 mm (12.99")	260 mm (10.23")	In-line
	400 mm (15.74")	280 mm (11.02")	Off-line	
	Min. 148 mm (5.83")	105 mm (4.14")		
Land Scap	A6 to A4		When MG-60H is connected	
	Max. 330 mm (12.99")	320 mm (12.59")	Off-line	
	Min. 135 mm (5.32")	185 mm (7.29")	When MG-60H is connected	
Book Thickness		2 to 50 mm (0.08" to 2.0")		
Cover Size (Top-Bottom x Fore-edge)		Max. 400 x 660 mm (15.74" x 25.98") Min. 135 x 230 mm (5.32" x 9.06")		
Cover Weight Range		81.2 to 290 gsm Normal Paper, 104.4 to 348 gsm Coated Paper		
Cover Pile Height		Max. 130 mm (5.1")		
Warm up Time		70 min.		
Tank Temperature		150 to 200 °C		
Milling Blade Maximum Depth		5 mm (0.19") (Depends on the sheet weight)		
Production Speed		Max. 5,200 books/hr.		
Voltage / Frequency		3-Phase 200-230 V, 50 / 60 Hz 3-Phase 380-415 V, 50 Hz		
Heat Output		26,860 kJ (6,430 kcal)		
Machine Dimensions		6,250(W) x 1,700(D) x 1,130(H) mm (246.1" x 67.0" x 44.5")		
Machine Weight		4,100 kg (9,040.5 lbs.)		

OPTION For SB-15

Book Size Input Caliper (SI-15)



All necessary setups can be automatically performed by reading the length of the actual book block and cover, instead of having to manually input the size data into the operation panel.

Milling Blower Unit (DB-15/15W)



Vacuumed paper chips from the milling process are collected into a high capacity plastic bag for continuous operation.

※ DB-15 / Single Tower
DB-15W / Twin Tower

Pre-Melt Tank (PM-40)



Adhesive is pre-melted in a separate, high-capacity tank and fed into the glue tank as needed.

Side Glue Supply Unit (TM-5)



The side glue tank is automatically replenished when the level drops below a certain point.

Weight Checker (CH-15W)



The weight checking system detects any books with no cover or a missing signature, and delivers the errored books into a reject tray.



The HT-101 is a fully automated three-knife trimmer, with a user-friendly color touch-screen control console.

Operation Console



The large color LCD screen provides for simple and easy operation. All necessary settings can be performed through the icon-based touch-screen. If the system has an error, the error type and location are indicated on the color LCD for quick resolution.

Trim Section


The height of each knife and the angle of the fore-edge knife can be adjusted through the color LCD screen during operation. Trimmings are blown away from the knife by strong air blowers mounted on the knife holders.

In-Feed Section




The in-feed section is equipped with a pressing unit that compresses the books to remove air for reduced bulk and accurate trimming.

OPTION
Chip Extractor (TB-100)

HT-101 Major Specifications			
Untrimmed Book Size		①	②
	Max.	410 mm (16.14")	320 mm (12.59")
	Min.	148 mm (5.83")	105 mm (4.14")
Trimmed Book Size	Max.	366 mm (14.40")	300 mm (11.81")
	Min.	145 mm (5.71")	103 mm (4.06")
Trimmings Width	Fore-edge : 45 mm (1.77") (Maximum trim width for fore-edge is 23 mm / 0.90" when the finishing size is A4E.) Top-Bottom : 30 mm (1.18")		
Trim Thickness	Max. 100 mm (3.93") (Except for conditions below) a. Max. 75 mm (2.95") for the books of which length between spine and fore-edge is 145 mm (5.71") or shorter. b. Max. 60 mm (2.36") for the books of which length between top and bottom is 297 mm (11.69") or longer. c. Max. 50 mm (1.96") for the books of which length between spine and fore-edge is 275 mm (10.82") or longer. Min. 5 mm (0.20") (Book thickness is 2 mm / 0.08" at minimum)		
Standard Size Trimmed by Standard Accessory	A4 / A5 (+/- 3 mm)		
Clamp and Pressure	Operated by Servo Motor, 5 kN to 18 kN (Adjustable in 14 steps)		
Production Speed	400 to 1,600 cycles/hr. (Adjustable in 7 steps)		
Table Height	911 mm (35.9")		
Voltage / Frequency	3-Phase 200-230 V, 50 / 60 Hz 3-Phase 380-415 V, 50 Hz		
Rated Current	3-Phase 200 V, 50 / 60 Hz, 13.4 A		
Heat Output	11,160 kJ (2,670 kcal)		
Motors	3.7 kW x 1 / 2.2 kW x 1 / 2.0 kW x 1 / 0.75 kW x 2 / 40 W x 3		
Machine Dimensions	Main Body : 1,950(W) x 1,900(D) x 1,950(H) mm (76.8" x 74.9" x 76.8") Power Box : 508(W) x 1,000(D) x 1,505(H) mm (20.0" x 39.4" x 59.3")		
Machine Weight	Main Body : 2,650 kg (5,843 lbs.), Transformer : 43 kg (95 lbs.)		

Conveyor Unit


■ **Stack Orientator (PP-100)**



Bound books are transported into the stack orientator to accumulate a predetermined number of books for trimming in the HT-101.

OPTION For HT-101

■ **Chip Extractor (TB-100)**



The three-side trimming waste is extracted by the chip extractor.

CABS5000 Options

(Gatherer MG-60H)

- Book Thickness Detector : MG-TD
- Image Checking System : CCD-MG
- MG Extension Unit : MG-60HL
- Book Block Sensor : MG-CH
- Compressor (must be arranged locally when the HT-101 is not connected)

(Perfect Binder SB-15)

- Connecting Belt Unit : R-15
- In-Feeder Air Assist Blower : AP-15
- Weight Checker : CH-15W
- Faulty Book Eject Unit : DU-15
- Pre-Melt Tank : PM-40
- Side Glue Supply Unit : TM-5
- Book Size Input Caliper : SI-15
- Cover Sheet Side-lay Adjustment Handset : RA-15
- Milling Blower Unit (Single) : DB-15
- Milling Blower Unit (Twin) : DB-15W
- Compressor (for offline-use) : CM-15
- Smoke Extractor : VS-08

(Conveyor Unit)

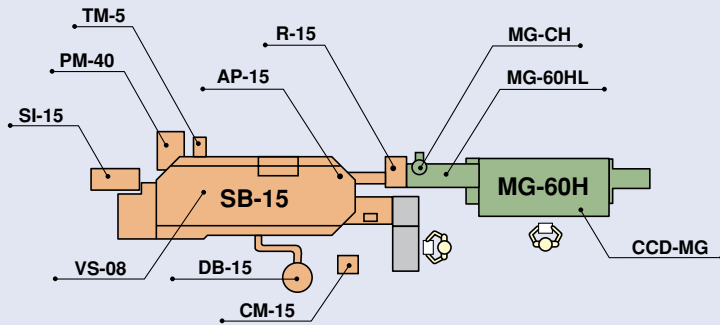
- Stack Orientator : PP-100
- Cooling Belt Conveyor (Straight and Curved) Bridge : KB-15
- Power Box : BP-100
- Curved Conveyor Guide : CCG-100

(Three-knife Trimmer HT-101)

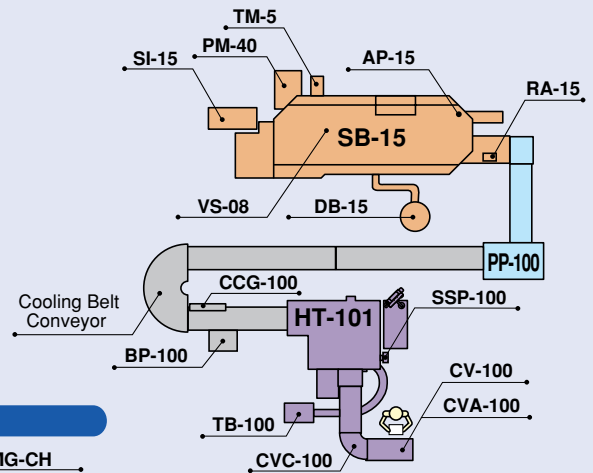
- Hand Feed Conveyor : HC-100
- Hand Feed Guide : HCG-100
- Curved Conveyor : CVC-100
- Delivery Extension Conveyor : CVA-100
- Delivery Roller Conveyor : CV-100
- Chip Extractor : TB-100
- Automatic Silicon Spraying System : SSP-100
- Compressor (must be arranged locally)

CABS5000 Option Layout

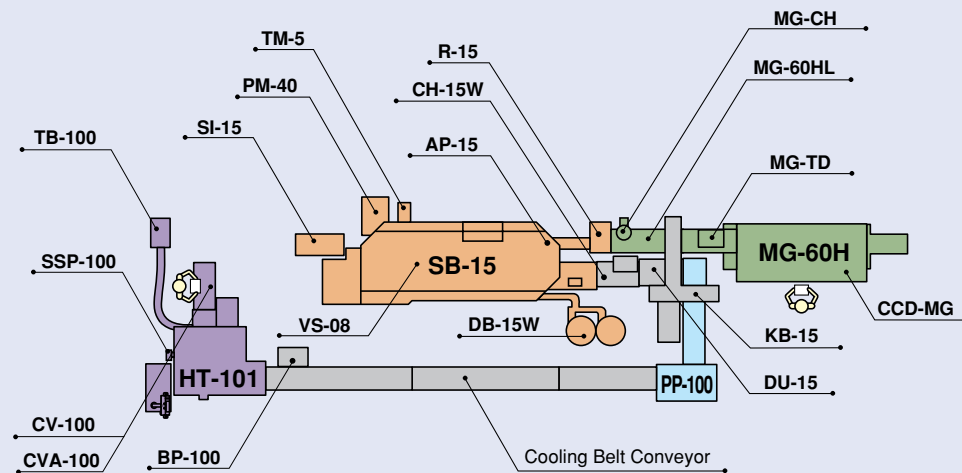
MG-60H+SB-15 System Layout



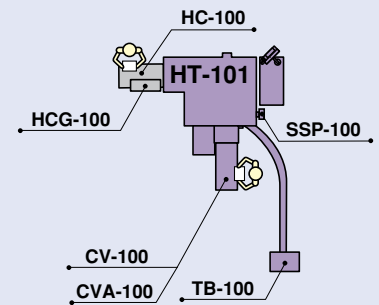
SB-15+HT-101 System Layout



MG-60H+SB-15+HT-101 System Layout



HT-101 System Layout



The machine design and specifications are subject to change without any notice.



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