### Press Specifications

- **Number of Colors**: 4
- **Printing Speed**: 1,500 – 7,000 S.P.H.
  - Local conditions, ink, stock and printing quality required will affect the maximum printing speed.
- **Max. Paper Size (W x L)**: 340 x 460 mm (13.39 x 18.11”)
- **Min. Paper Size (W x L)**: 90 x 100 mm (3.54 x 3.94”)
- **Max. Printing Area (W x L)**: 330 x 450 mm (12.99 x 17.72”)
- **Paper Thickness**: 0.06 – 0.3 mm (0.0024 – 0.012”)
- **Blanket Type**: Blanket with aluminum bar
- **Blanket Size**: 526 x 350 x 1.95 mm (20.71 x 13.78 x 0.077”)
- **Plate Material**: PEARLdry™ Plus (waterless plate)
- **Number of Plates**: 28 per roll
- **Plate Setting**: Auto plate advance mechanism
- **Number of Imaging Units**: 4
- **Imaging Time**:
  - 2,540 dpi: 4 min. 30 sec.
  - 1,270 dpi: 2 min. 20 sec.
- **Laser Type**: FirePower™ multi-beam lasers (laser diode system)
- **Feeding System**: Universal feeder
- **Feeder Pile Capacity**: 400 mm (15.75”)
- **Delivery Pile Capacity**: 400 mm (15.75”)
- **Registration System**: Parallel paper feed for unit
- **Vacuum System**: Vacuum 0.05 mm (0.0020”)
- **Curing System**: Automatically controlled curing system
- **Power**: 3-phase 200V 50/60Hz 43A or other voltages (60A when equipped with infrared dryer)
- **Power Consumption**: Press: 13.5kW (17.5kW when equipped with infrared dryer)
- **Motor Wattage**: Main motor: 5.5kW
- **Recommended Room Temperature**: 20 – 25°C
- **Operating Environment**: Relative humidity: 50 – 60%
- **Dimensions (L x W x H)**: 3,230 x 2,635 x 1,665 mm (10'7" x 8'8" x 5'6") including foot step and operation stand
- **Weight**: 4,500 kg (9,950 lbs) including foot step and operation stand

### Press Equipment and Accessories

- **Software RIP**: Harlequin ScriptWorks
- **Operating System**: Windows NT® Server 4.0
- **CPU**: Pentium III 933 MHz
- **Hard Disk**: 36GB HDD RAID (18GB x 2)
- **Memory**: 512MB
- **Network**: 100Base-TX /10Base-T
- **Input Language**: PostScript, PDF Ver. 1.3
- **Pre-installed Fonts**: 35
- **CRT Monitor**: 17-inch (color)
- **CD-ROM Drive**: Max. 24x speed
- **Floppy Disk Drive**: 2-mode 3.5-inch

### Optional Accessories

- **RYOBI RDS-E printing density control system**
- **Infrared dryer**
- **Multi-carrier paper feed system**

### RIP for RYOBI 3404DI SV770 Specifications

- **Software RIP**: Harlequin ScriptWorks
- **Operating System**: Windows NT® Server 4.0
- **CPU**: Pentium III 933 MHz
- **Hard Disk**: 36GB HDD RAID (18GB x 2)
- **Memory**: 512MB
- **Network**: 100Base-TX /10Base-T
- **Input Language**: PostScript, PDF Ver. 1.3
- **Pre-installed Fonts**: 35
- **CRT Monitor**: 17-inch (color)
- **CD-ROM Drive**: Max. 24x speed
- **Floppy Disk Drive**: 2-mode 3.5-inch

### Optional Accessories

- **Plug-in software for EPSON ink jet printer**
  - Stylus color 3000, Stylus Pro 5000 /7000/7500/9000/9500
  - *Color printer must be prepared by the user.*
High Printing Quality From an Offset Press

RYOBI has packed the 3404DI's compact body with a host of outstanding printing features. Incorporating RYOBI's unrivaled offset printing know-how, it features a highly reliable, robust design that yields high printing quality and promises a long and productive service life.

Compact Design Based on a Unique Cylinder Arrangement
The 3404DI uses a satellite-shaped 5-cylinder system consisting of two sets of double-diameter blanket cylinders and plate cylinders, which rotate around a triple-diameter impression cylinder. Paper is tightly held by the impression cylinder grippers and rotated twice without a gripper change for precise 4-color printing. The large diameter of the impression cylinder reduces paper curling as well as damage to the printed material. Thanks to this cylinder arrangement, the RYOBI 3404DI achieves a compact design that's about the same size as a conventional 2-color press.

Solid, Reliable Design
The 3404DI uses a bearer contact system to maintain constant plate pressure with each rotation of the cylinder. Plus, induction-hardened ultra-high-precision helical gears and cylinders fitted with ultra-high-precision bearings ensure consistent, stable printing quality over long periods of use.

Ink Roller Temperature Control System
Roller temperature is maintained at an optimum level by circulating temperature-controlled water (warm water and cold water) inside the oscillating rollers and fountain rollers. By minimizing fluctuations in ink roller temperature, consistent printing quality is maintained, even during long print runs.

Waterless Plate (PEARLdry™ Plus)
The 3404DI uses PEARLdry™ Plus, a roll-type waterless plate. This plate uses laser action to form surfaces that are either adhesive or repellent to ink. Each plate lasts for approximately 20,000 impressions, and will accommodate both short runs as well as longer, large-lot production. Note: The number of available plate impressions depends on printing conditions such as the type of ink and paper stock used.

Three Plate Cleaning Devices
Once imaging has been completed, plate cleaning is carried out by three devices—a dry cleaning device, a wet cleaning device and a vacuum, to remove residual silicone on the plate.

11-Zone Divided Ink Fountains
Ink fountains are divided into 11 zones, each having its own motor. The ink supply volume for each zone is remotely controlled from the operation stand.

Inking Mechanism
Each inking unit consists of 15 rollers including 4 form rollers, ensuring uniform inking.

Ultra-high-precision helical gears are used on the impression cylinder.

3,230 mm (10'7")
1,915 mm (6'3")
720 mm (2'4")
990 mm (3'3")
2,635 mm (8'8")
1,913 mm (6'3")
1,298 mm (4'3")
1,665 mm (5'6")

Ink roller temperature control system
The digitalization of prepress and the penetration of the Internet have brought about a dramatic increase in presses capable of accepting original document data submitted for printing directly from the client or designer. The RYOBI 3404DI represents a new generation of digital offset printing presses that, by utilizing prepress data, can deliver full-color printing for only as few prints as are needed quickly and with the high quality of offset printing.

The RYOBI 3404DI is an A3-size, portrait format four-color offset press incorporating the advanced digital imaging system from Presstek, Inc. of the U.S. It offers high productivity with the capability to directly print received data, user-friendly operation thanks to extensive automation, and the high print quality of offset printing. These features are combined to flexibly meet the needs of the rapidly growing short-run color printing market. The RYOBI BI 3404DI will generate tremendous business opportunities for today’s printing companies, as well as for color separators and service bureaus.

Get the Fast Speed of Digital with the High Quality of Offset Printing

The RYOBI 3404DI—a digital offset printing system that embodies the new fusion of prepress and press—is destined to become the unchallenged leader in the short-run color printing market of the 21st century.

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**An Ideal Work Flow for Digitalization**

The rapid transition of prepress operations to computer-based digital processes and the spread of the internet have made it possible to send original document data directly to the printer over ordinary telecommunications networks. By incorporating the RYOBI 3404DI into corporate network environments, it can be positioned as a high-performance output device.

**Advanced Digital Technology To Boost Productivity**

From prepress directly to the press—direct imaging technology from Presstek incorporated into the RYOBI 3404DI makes it possible to completely eliminate the analog intermediate processes such as film output and image exposure onto the plate. The RYOBI 3404DI raises productivity even with frequent job changes, and is the ideal system for short-run color printing jobs that demand quick turnarounds.

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**System Flowchart**

- **W Inds**
- **Internet**
- **PostScript or PDF data**
- **W Inds**
- **Ethernet**
- **Bitmap data**
- **EPSON ink jet color printer**

**Supports Both PostScript and PDF**

The RYOBI 3404DI supports both PostScript and PDF data in the Macintosh and Windows environments, and achieves the fusion of prepress and press in a flexible, open system. In addition, by using Ethernet to link the RYOBI 3404DI to a digital front-end system, digital data received from the prepress side can be printed directly with impressively fast turnaround times.

**Advanced RIP (Raster Image Processor)**

- The RIP for RYOBI 3404DI SV770 utilizes Harlequin ScriptWorks (PostScript Level 3 compatible), which has a proven track record of performance and offers high-speeds and reliability. Its W Inds N™ Server operating system also has a long established reputation for stability and functionality. Optimized bitmap data for printing is generated quickly based on PostScript or PDF data received from a Macintosh or Windows-based computer.
- Generated bitmap data can be previewed on the RIP or on the monitor screen at the operation stand, allowing for quick and accurate verification of text and the print image.
- An optional color printer plug-in makes it possible to network with an EPSON ink jet color printer for proofing of layout and text.

**High-Speed, High-Precision Imaging Thanks to Advanced On-Press Imaging Technology**

- FirePower™ multi-beam lasers developed by Presstek loosen the silicone layer on the surface of the plate, directly forming the screen dots. The RYOBI 3404DI is equipped with two imaging heads. Both imaging heads contain six laser modules, each of which emits four laser beams. A total of 24 laser beams burn the image onto the two plate surfaces (two colors) on each plate cylinder.
- The two imaging heads burn the plates for the four colors simultaneously in precise register.

**Select from Either 1,270 or 2,540 dpi Imaging Resolutions**

You can select 1,270 dpi or 2,540 dpi resolution depending on turnaround times and quality of printing demanded. The laser spot size* can be formed in two sizes—28 µm at 1,270 dpi and 21 µm at 2,540 dpi. The 2,540 dpi setting enables output equivalent to 200 lines per inch.

* Spot sizes were measured on the PEARLdry™ Plus plate after imaging was completed.

**Faster Processing Thanks to Shorter Make-Ready Times**

The RYOBI 3404DI carries out high-speed imaging for four plates simultaneously thanks to a high-speed plate cylinder rotation of 18,000 rpm. This allows four-color imaging in approx. 4 min. 30 sec. at 2,540 dpi and approx. 2 min. 20 sec. at 1,270 dpi. Printing operations are fully automatic, from plate advancing and imaging to presetting the ink fountain keys and running a test print. Even at 2,540 dpi, make-ready time is short—approx. 9 min. from plate advance to start of test print, dramatically increasing productivity.

**Shortened Drying Times with an Infrared Dryer (option)**

The delivery section can be equipped with an infrared dryer to shorten drying time for printed materials, an especially effective option for jobs with short turnaround times. Also, the use of powder sprays can be reduced for a cleaner working environment.

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**Productivity Comparison**

- **CTPlatemaking and plate punching**
- **CTPaper**
- **3404DI**

![Productivity Comparison Chart](chart.png)

- **RIPping and film making (off-line)**
- **Printing on the press**
- **Plate transport from prepress section**
- **Plate mounting**
- **Linking, registration adjustments**
- **Production run (minutes)**

**Imaging Technology**

- Supports Both PostScript and PDF data.
- High-speeds and reliability.
- Stability and functionality.
- Quick bitmap data generation.
- Quick image preview.

**Advanced On-Press Imaging Technology**

- Multi-beam lasers.
- Silicone layer loosening.
- Screen dot formation.
- Two imaging heads.
- Two colors per plate cylinder.

**Imaging Resolutions**

- 1,270 dpi: 28 µm
- 2,540 dpi: 21 µm

**Advanced RIP**

- Harlequin ScriptWorks.
- Macintosh or Windows-based computer.
- Optimized bitmap data generation.

**Auto Plate Advance and Take-Up Mechanism**

- Four roll-type plates.
- Simultaneous imaging.
- Automatic plate advance mechanism.

**Make-Ready Times**

- 1,270 dpi: approx. 9 min.
- 2,540 dpi: approx. 5 min.

**Infrared Dryer**

- Shortens drying times.
- Reduces powder sprays.

**System Flowchart**

- Internet connection.
- PostScript or PDF data.
- RIP for RYOBI 3404DI SV770.
- Bitmap data.
- EPSON ink jet color printer.

**Supports Both PostScript and PDF**

- PostScript or PDF data.
- RIP monitor and output control screens.

**Advanced RIP (Raster Image Processor)**

- Harlequin ScriptWorks (PostScript Level 3 compatible).
- Stability and functionality.
- Optimized bitmap data generation.

**High-Speed, High-Precision Imaging**

- FirePower™ lasers.
- Silicone layer loosening.
- Screen dot formation.

**Select from Either 1,270 or 2,540 dpi Imaging Resolutions**

- 1,270 dpi: 28 µm
- 2,540 dpi: 21 µm

**Faster Processing Thanks to Shorter Make-Ready Times**

- High-speed imaging.
- Four plates simultaneously.

**Shortened Drying Times with an Infrared Dryer**

- Infrared dryer.
- Reduced powder sprays.

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**Imaging Technology**

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Unmatched Versatility

The RYOBI 3404DI is capable of flexibly handling a wide variety of paper types and inks, and offers unmatched versatility. It can handle many types of printing, ranging from pamphlets and presentation materials to postcards.

Wide Variation of Paper

The RYOBI 3404DI can accommodate a wide range of paper sizes and stocks to match the printing job—from smaller-than-postcard size of 90 x 100 mm up to a maximum 340 x 460 mm, and thicknesses from 0.06 mm onion skin to 0.3 mm card stock. It is also flexible enough to handle a variety of paper qualities—from regular printing papers to label stock and envelopes.

Simple, Easy Paper Size Change to Match the Job

Both the feeder table and the delivery table dolly are hoisted by motors. A convenient paper size change button allows quick and easy resetting of paper guides for different stock size. Thus, paper sizes can be changed quickly and efficiently whenever the operator needs to start a new print job.

Push Side Guide and Underswing Infeed System

- The push side guide ensures accurate paper positioning on the feeder board. Consistent registration accuracy is achieved even when printing on the back side of the paper.
- Thanks to a simple, yet precise underswing infeed system with cam-closed type sheet grippers and an accurate front lay system, the RYOBI 3404DI maintains stable registration accuracy.
- Mechanical and electronic double sheet detectors and multiple sensors monitor paper travel. The OK monitor on the operation stand clearly indicates the source of the paper trouble so the operator can take quick action.
- Suction wheels and a decurling system come as standard equipment, ensuring stable paper stacking in the delivery section.

Waterless Offset Printing Inks

The RYOBI 3404DI uses waterless offset printing inks. These inks are available in standard process colors, as well as in custom specialty colors designed for printing spot colors such as logos and corporate names.
Simple, Straightforward Centralized Control from the Operation Stand
All major operations for the RYOBI 3404DI are initiated and controlled from the operation stand. Setting the number of printed sheets; job data entry, interruption and recall; presetting the ink fountain keys; and cleaning are all centrally controlled from the operator’s position. A large-format 14.1-inch LCD ensures user-friendly operation.

Automatic Ink Fountain Key Presets
Calculating the image area ratio for each color is done simultaneously with imaging. Presetting the ink fountain key is done automatically from the operation stand based on this data. This allows easy control of the ink fountain key opening volume, dramatically reducing the time and effort involved in making color adjustments.

RYOBI Program Inking
RYOBI Program Inking automatically supplies ink to the ink rollers to match the image from the very start of printing. After the set number of prints is finished, the ink on the rollers is automatically restored to an even state, allowing the operator to proceed quickly to the next job and minimizing the amount of wasted paper generated at the start of printing.

Convenient Auto Print Function
The RYOBI 3404DI features a convenient Auto Print function. Printing operations start just by selecting the Auto Print command on the operation stand’s monitor screen. Plate advancing, imaging, printing and blanket cleaning are all carried out at a click of a button.

Automatic Cleaning Devices
The RYOBI 3404DI comes standard with an automated cleaning system for both ink rollers and blankets (including an impression cylinder cleaning function). This reduces the cleaning time required when switching jobs, thus lessening the workload for the operator.

RYOBI PDS-E Printing Density Control System (option)
The RYOBI PDS-E Printing Density Control System is an option on the 3404DI. Color adjustments previously based on the experience and intuition of the operator can now be made using numerical values from solids densities calculated for each color. This system allows the operator to easily match printing output to the OK sheet and keep quality consistent.

Note: Manual ink volume adjustment may become necessary depending on the printing conditions such as ink, stock and print image (especially when printing a much lighter image job after a heavy solid print job.)