

# CHALLENGER® III D



## Automatic Textile Press



### FEATURES

- 12-18 colors
- 14-20 stations
- Job Recall™ storage & retrieval system for press settings
- Digital control allows operators to electronically manage all screen printing parameters

M&R's revolutionary Challenger III D automatic screen printing press, with groundbreaking Dynamic PrintStroke™, brings a new dimension to automatic screen printing equipment. Dynamic PrintStroke™ provides programmable control over squeegee pressure, print/flood speed, print-stroke length, and print-carriage position and other print settings. The squeegee pressure setting can be varied between print strokes, offering unparalleled control over ink deposit. These programmable print parameters—along with Ink Dip™, Ink Dam™, flash-cure, and other print settings—can be named, saved, and stored as a unique screen printing program in M&R's Job Recall™ storage & retrieval system. Operators can later recall that print job for subsequent print runs. For similar but not identical jobs, the operator can save a copy of the job under another name and tweak those settings rather than starting from scratch. Stored jobs can even be sent electronically to other Challenger III D machines, providing large operations and contract printers with unprecedented convenience and control over production.

The huge standard feature set on Challenger III D automatic screen printing machines includes a super-fast, ultra-quiet servo-driven indexer; servo-driven printheads; tool-free calibrated angle adjustments; a large and highly-sophisticated touchscreen controller; and quick-set printhead off-contact (invaluable when screen printing thick inks or specialty inks like gels and high-density). Squeegee pressure can also be adjusted mechanically should the need arise. M&R's Automatic Pallet Preheat Mode™ with built-in pallet temperature sensor allows operators to preheat pallets to the desired temperature with any compatible flash

cure unit and track those temperatures throughout the print run. Each printhead includes a touchscreen that provides digital control over squeegee print pressure and squeegee and floodbar speeds. A socket on each printhead makes it easy to position a flash cure unit in any station and make on-the-fly adjustments from the main control panel.

Other features include Printhead Teach Mode™; front and rear micro-registration; tool-free adjustable rear screen holders; print-start/print-finish mode; and M&R's Revolver Print Program™, which automatically operates individual printheads in programmed sequence and allows multiple flashing without losing a printing position. M&R's Laser Locator System speeds pallet positioning and changeover, and it assists operators in the precise positioning of garments and cut-piece goods. The squeegee/floodbar park feature facilitates setup and tear-down by simultaneously retracting the squeegee and floodbar and then moving them to the outside edge of the press for easy access. Challenger III D is also compatible with screen printing equipment like M&R's Tri-Loc rapid registration system and Passport automatic T-shirt and textiles unloader. With its oversize capability, Challenger III D is also an ideal cut-piece and all-over T-shirt printing machine. With so many features and an unmatched level of flexibility, convenience, and control, Challenger III D is simply the finest automatic carousel screen printing press ever made.

**[www.mrprint.com](http://www.mrprint.com)**  
**[store.mrprint.com](http://store.mrprint.com)**

# CHALLENGER® III D

## STANDARD FEATURES

### CAROUSEL/INDEXER

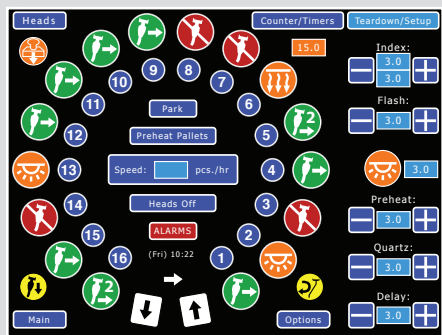
- Clockwise or counterclockwise rotation

### CERTIFICATION

- CE & UL compliant: Built to specifications established by the European Committee for Standardization® (CE) and Underwriters Laboratories® (UL)

### CONTROL CENTER

- Automatic Pallet Preheat Mode™ with built-in pallet temperature sensor allows operators to preheat pallets to the desired temperature using any compatible flash cure unit
- Countdown program indicates when operator-set index count has been reached



- Digital touchscreen control panel with icon-based labeling can display information and commands in multiple languages
- Independent print-start/print-finish setting automatically activates and stops printheads at the beginning and end of screen printing runs
- Jog-left/jog-right controls
- Multiple (1-9) print stroke capability
- Onboard self-diagnostics
- Production speed monitor ensures more accurate job costing
- Stopwatch feature enables users to capture elapsed time for setup, runtime, shift time, or any other screen printing operation
- Teach Mode allows operators to apply one printhead's front and rear print-carriage stop settings to all other active printheads
- Test print setting turns individual printheads on/off during test print cycle
- Touch-Screen Print-Mode Display includes features like Stopwatch, Ink Dip™, Ink Dam™, Multi-Print Reset, and All Heads Off

### DESIGN & CONSTRUCTION

- Built of heavy-duty steel and premium components
- Printheads and pallet arms provide the stability necessary for exceptional screen print quality
- Scanner-based safety system won't allow the press to index when it senses people or objects in its field of view

### INDEX SYSTEM

- Allows quick adjustment of indexing parameters tailored to various pallet sizes
- Servo drives combine higher screen printing press speeds with exceptional smoothness, consistency, and longevity

### INK DAM SYSTEM

- Positions squeegee at the end of the print stroke in way that prevents screen printing ink from flowing in front of the blade or back into the image area

### INK DIP SYSTEM

- Electronically adjustable ink retrieval system keeps ink in the print area
- Includes control over distance and interval
- Individual settings can also be accessed at each printhead

### JOB RECALL

- Controls all screen printing parameters, including print and flood lengths and speeds; front or rear carriage-stop positions; Ink Dip™ and Ink Dam™ settings; flash cure programming; and M&R's new digitally-variable squeegee pressure control system
- Stored jobs can be electronically sent to similarly-equipped screen printing machines, including those in remote locations

### LASER LOCATOR SYSTEM

- Assists operators in the precise positioning of garments and cut pieces
- Speeds pallet positioning and changeover

### OFF-CONTACT

- Calibrated tool-free click-stop four-corner off-contact settings allow fast and accurate screen leveling

### PALLET SYSTEM

- Precise three-point pallet leveling system
- Tool-free quick release pallet locks

### PALLETS

- Solid-aluminum, low-profile, rubber-coated screen printing pallets

### PRINT CARRIAGE

- Wider print carriage enhances print quality on 110 models

### PRINTHEADS

- Brushless and maintenance-free electric-drive motors deliver smooth screen print strokes and exceptional control
- DynamicPrintstroke™ control gives users the ability to adjust print pressure stroke by stroke
- Independent print and reset buttons on each printhead
- Park Position feature lifts both squeegee and floodbar for easy change out
- Teach Mode allows operators to set a print carriage's front and rear stop positions via the printhead's touch-screen HMI

### REGISTRATION

- Compatible with M&R's Tri-Loc® Rapid Registration System
- Enhanced front and rear micro-registration adjustment with visual guides

### REVOLVER PRINT PROGRAM

- Automatically operates individual printheads in programmed sequence and allows multiple flashing without losing a screen printing position

### SCREEN CLAMPS & HOLDERS

- Adjustable rear screen holders accommodate a wide variety of screen sizes
- Clamping system holds roller frames without special adapters
- Flip-up front screen holders speed setup
- Pneumatic clamps hold frames tight and allow rapid screen loading

### SQUEEGEE DAM

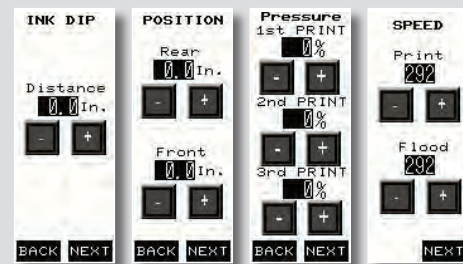
- Gently lowers the squeegee blade onto the screen mesh when the press is idle
- Helps prevent thinner water-based and discharge inks from flowing into the image area

### SQUEEGEE/FLOODBAR

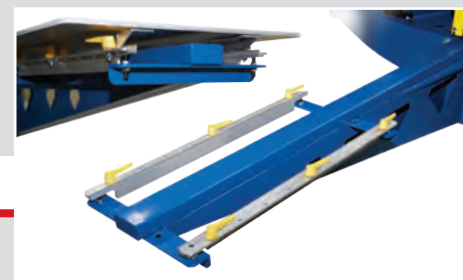
- Angle and calibrated pressure adjustments are independently set
- Digital control over squeegee/floodbar speeds and squeegee/floodbar stroke lengths
- Digitally-variable squeegee pressure control system
- Front or rear print carriage stop position allows operator to leave screens clear or flooded (great for water-based inks)
- Park feature facilitates setup and tear-down by simultaneously retracting the squeegee and floodbar and then moving them to the outside edge of the press for easy access
- Visual reference marks every 5 degrees simplify squeegee/floodbar angle adjustments

### WARRANTY, SERVICE AND SUPPORT

- 24-hour hotline is staffed 365 days a year
- Access to M&R's Training Center
- Parts & supplies are available online at [store.mrprint.com](http://store.mrprint.com)
- Two-year limited warranty



Touch-screens at the end of each printhead provide convenient control over numerous functions



Optional Cut Piece Pallet Arms provide extra stability for printing cut pieces or oversized prints

### SQUEEGEE/FLOODBAR

- Pneumatic squeegee/floodbar locks with tool-free angle adjustment

## OPTIONS

### CUT-PIECE PALLET ARMS

- Heavy-duty reinforced pallet arms with wider pallet mounting brackets for oversize and cut-piece screen printing

### FOLD-DOWN PRINthead SUPPORTS

- Enable easy loading of screens more than 71 cm (28") wide

### FOOT PEDAL CONTROL

- Allows indexing of the press using a foot pedal
- Skip-Shirt foot pedal feature allows operators to avoid screen printing on empty pallets

### OPTICAL NO-SHIRT DETECTOR

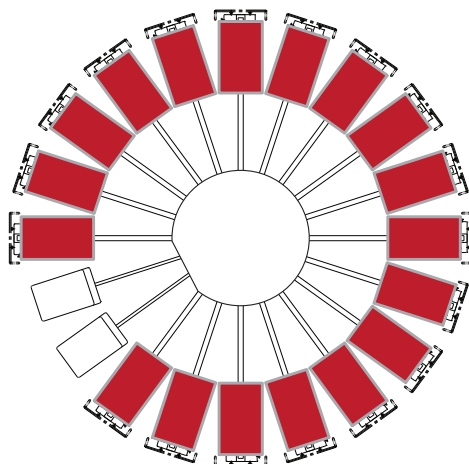
- Automatically prevents the press from screen printing on empty pallets
- Reduces misprints and minimizes press stoppage because of improperly loaded shirts

### PALLETS

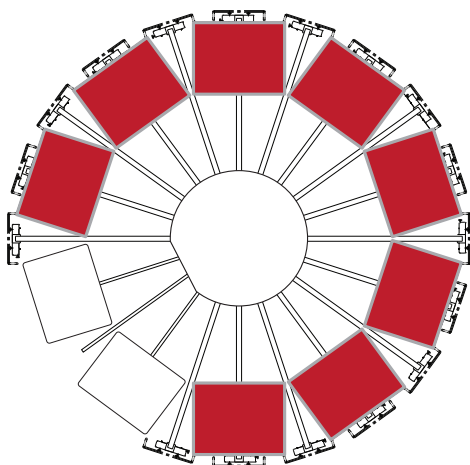
- M&R aluminum pallets and platens come in a wide range of sizes and styles

## DIMENSIONS

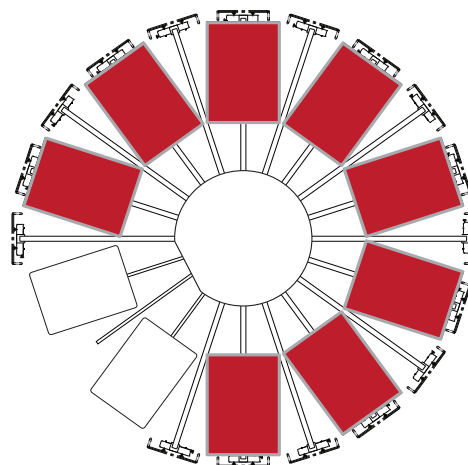
**70/110 STANDARD**

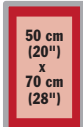
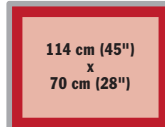

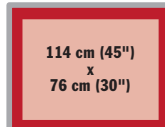
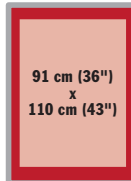


**70/110 MAXIMUM SCREEN WIDTH**



**110 MAXIMUM SCREEN LENGTH**



MODEL	COLORS	STANDARD (Every Printhead)	MAXIMUM WIDTH (Alternating Printheads)	MAXIMUM LENGTH (Alternating Printheads)
Challenger III D 70	12 Colors	 110 cm (43")	 110 cm (43")	N/A
	14 Colors			
	16 Colors			
	18 Colors			
Challenger III D 110	14 Colors <sup>1</sup>	 66 cm (26")	 132 cm (52")	 152 cm (60")
	16 Colors			
	18 Colors			

<sup>1</sup> Specifications may vary within models. See the back page for complete specifications.

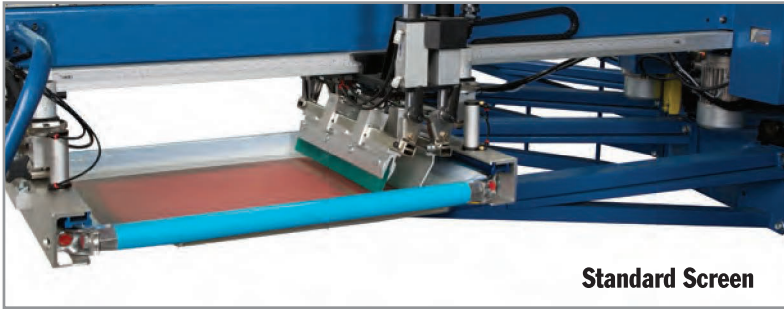
 Maximum Frame Size

 Maximum Image Size

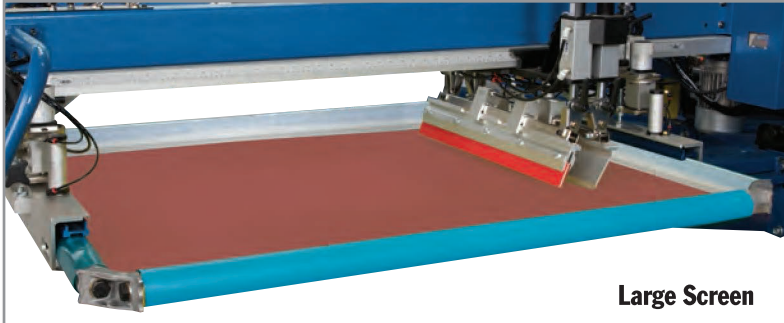


# CHALLENGER® III D

## PRODUCT DETAILS



Standard Screen



Large Screen

Adjustable rear screen holders accommodate a wide variety of screen sizes



Independent controls on each printhead simplify press setup

## SPECIFICATIONS

	Challenger III D 70 14/12	Challenger III D 70 16/14	Challenger III D 70 18/16	Challenger III D 70 20/18
Air @ 6.9 bar (100 psi)	609 l/min (21.5 cfm)	680 l/min (24 cfm)	779 l/min (27.5 cfm)	877 l/min (31 cfm)
Diameter	561 cm (221")	605 cm (238")	650 cm (256")	691 cm (272")
Electrical Requirements <sup>1</sup>	208-230 V, 3 ph, 50 A, 50/60 Hz, 10 kW 380-415 V, 3 ph, 29 A, 50/60 Hz, 10 kW	208-230 V, 3 ph, 53 A, 50/60 Hz, 10.5 kW 380-415 V, 3 ph, 31 A, 50/60 Hz, 10.5 kW	208-230 V, 3 ph, 59 A, 50/60 Hz, 11 kW 380-415 V, 3 ph, 34 A, 50/60 Hz, 11 kW	208-230 V, 3 ph, 62 A, 50/60 Hz, 12 kW 380-415 V, 3 ph, 36 A, 50/60 Hz, 12 kW
Maximum Frame Size (Alternating Printheads)	132 x 110 cm (52" x 43")	132 x 110 cm (52" x 43")	132 x 110 cm (52" x 43")	132 x 110 cm (52" x 43")
Maximum Image Area (Alternating Printheads) <sup>2</sup>	114 x 70 cm (45" x 28")	114 x 70 cm (45" x 28")	114 x 70 cm (45" x 28")	114 x 70 cm (45" x 28")
Maximum Standard Frame Size	66 x 110 cm (26" x 43")	66 x 110 cm (26" x 43")	66 x 110 cm (26" x 43")	66 x 110 cm (26" x 43")
Maximum Standard Image Area <sup>2</sup>	50 x 70 cm (20" x 28")	50 x 70 cm (20" x 28")	50 x 70 cm (20" x 28")	50 x 70 cm (20" x 28")
Shipping Weight	3892 kg (8580 lb)	4178 kg (9210 lb)	4491 kg (9900 lb)	5130 kg (11 310 lb)
Standard Pallet Size	41 x 56 cm (16" x 22")	41 x 56 cm (16" x 22")	41 x 56 cm (16" x 22")	41 x 56 cm (16" x 22")
Stations/Colors	14/12	16/14	18/16	20/18

	Challenger III D 110 16/14	Challenger III D 110 18/16	Challenger III D 110 20/18
Air @ 6.9 bar (100 psi)	680 l/min (24 cfm)	779 l/min (27.5 cfm)	877 l/min (31.5 cfm)
Diameter	605 cm (238")	650 cm (256")	691 cm (272")
Electrical Requirements <sup>1</sup>	208-230 V, 3 ph, 53 A, 50/60 Hz, 10.5 kW 380-415 V, 3 ph, 31 A, 50/60 Hz, 10.5 kW	208-230 V, 3 ph, 59 A, 50/60 Hz, 11 kW 380-415 V, 3 ph, 34 A, 50/60 Hz, 11 kW	208-230 V, 3 ph, 62 A, 50/60 Hz, 12 kW 380-415 V, 3 ph, 36 A, 50/60 Hz, 12 kW
Maximum Print Length Frame Size (Alternating Printheads)	104 x 152 cm (41" x 60")	110 x 152 cm (43" x 60")	110 x 152 cm (43" x 60")
Maximum Print Length Image Area (Alternating Printheads) <sup>2</sup>	86 x 110 cm (34" x 43")	91 x 110 cm (36" x 43")	91 x 110 cm (36" x 43")
Maximum Print Width Frame Size (Alternating Printheads)	132 x 114 cm (52" x 45")	132 x 114 cm (52" x 45")	132 x 114 cm (52" x 45")
Maximum Print Width Image Area (Alternating Printheads) <sup>2</sup>	114 x 76 cm (45" x 30")	114 x 76 cm (45" x 30")	114 x 76 cm (45" x 30")
Maximum Standard Frame Size	66 x 110 cm (26" x 43")	66 x 110 cm (26" x 43")	66 x 110 cm (26" x 43")
Maximum Standard Image Area <sup>2</sup>	50 x 70 cm (20" x 28")	50 x 70 cm (20" x 28")	50 x 70 cm (20" x 28")
Shipping Weight	4178 kg (9210 lb)	4491 kg (9900 lb)	5130 kg (11 310 lb)
Standard Pallet Size	41 x 56 cm (16" x 22")	41 x 56 cm (16" x 22")	41 x 56 cm (16" x 22")
Stations/Colors	16/14	18/16	20/18

<sup>1</sup> If incoming voltage differs from the voltage(s) listed in this brochure, calculate amperage accordingly. Other electrical configurations are available. Contact The M&R Companies for details.

<sup>2</sup> Custom configurations offer a wide range of maximum image areas. Please contact M&R for details.



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