

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™ (U.S. Patent No. 9,150,041), 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.

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CHALLENGER® III D

STANDARD FEATURES

CAROUSEL/INDEXER

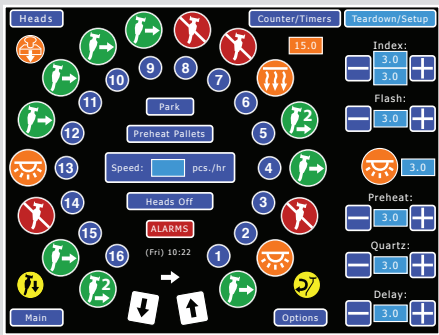
- Clockwise or counterclockwise rotation

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

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

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™ (U.S. Patent No. 9,150,041) 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

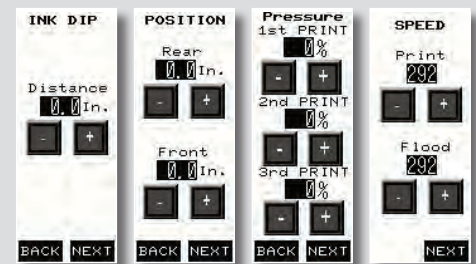
- Gently lowers the squeegee blade onto the screen mesh when the press is idle
- Helps prevent thinner water-based and discharge inks from flowing into the image area

SQUEEGEE/FLOODBAR

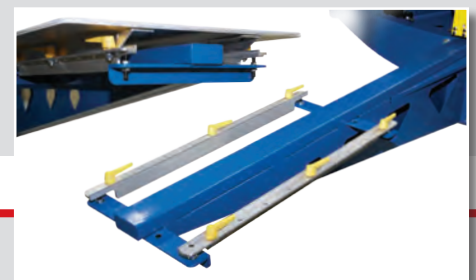
- Angle and calibrated pressure adjustments are independently set
- Digital control over squeegee/floodbar speeds and squeegee/floodbar stroke lengths
- Digitally-variable squeegee pressure control system
- Front or rear print carriage stop position allows operator to leave screens clear or flooded (great 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
- 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 oversize prints

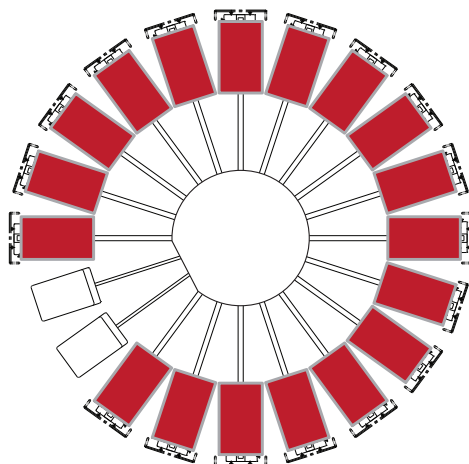
SQUEEGEE/FLOODBAR

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

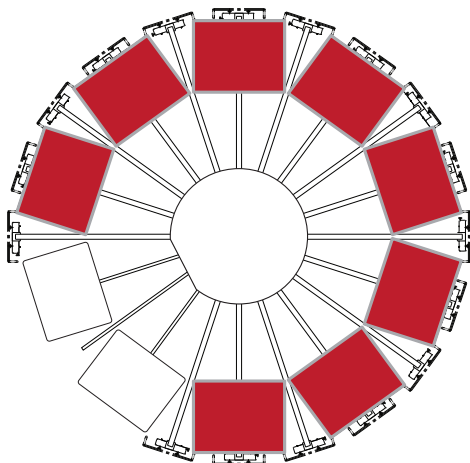


DIMENSIONS

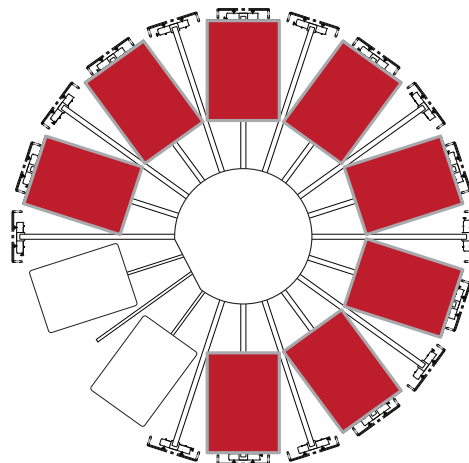
70/110 STANDARD


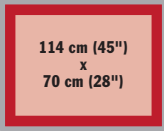

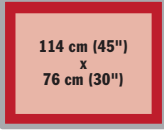
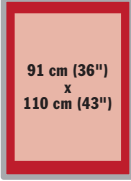


70/110 MAXIMUM SCREEN WIDTH



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") 66 cm (26")	 110 cm (43") 132 cm (52")	N/A
	14 Colors			
	16 Colors			
	18 Colors			
Challenger III D 110	14 Colors ¹	 110 cm (43") 66 cm (26")	 114 cm (45") 132 cm (52")	 152 cm (60") 110 cm (43")
	16 Colors			
	18 Colors			

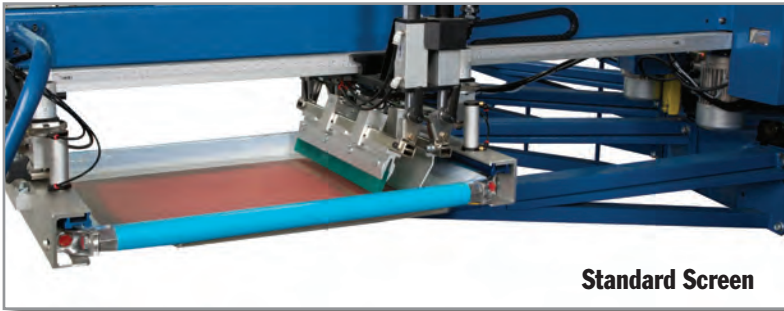
¹ Specifications may vary within models. See the back page for complete specifications.

 Maximum Frame Size

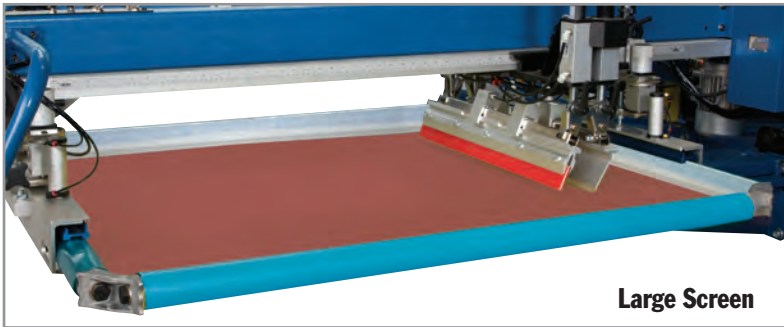
 Maximum Image Size

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 ¹	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) ²	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 ²	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 ¹	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) ²	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) ²	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 ²	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

¹ 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.

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



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