

SPRINT® 3000 DHZ



Dual Heat Zone Gas Screen Printing Conveyor Dryer



FEATURES

- A proprietary shuttle system can be used to create two separate heat zones
- Crossover System Patriot Belts can be run at individually-selected speeds—in the same or opposite directions
- AccuSet™ displays belt speed as heat-chamber retention time, making it easy to match ink manufacturers' curing requirements

M&R's patent-pending Sprint 3000 DHZ (patents-pending) is a garment-curing game changer. It has a 183 cm (72") twin Crossover™ Belt System (U.S. Patent Pending: SN 15264277) and a proprietary shuttle system that can be used to create two separate heat zones. In essence, operators have the option of running two 91 cm (36") dryers in the same footprint as a standard 183 cm (72") Sprint 3000. The two zones can be set at different temperatures and the belts can be run at individually-selected speeds—in the same or opposite directions. And operators can switch between single-zone and dual-zone curing as needs dictate. Operators also have the option of heating only one zone, dramatically decreasing energy costs when both zones aren't required.

A variable-frequency AC-drive motor powers M&R's Teflon-coated fiberglass Patriot Belt™ with the SureTrak™ roller system (U.S. Patents Pending: SN 15194035 & 15265538). The red flexible beads stitched along the outside edges of the dual Patriot Belts ride in grooves machined into the large anodized aluminum SureTrak rollers. Those grooves reduce the gap between belts to a mere 0.95 cm (3/8"). M&R's AccuSet™ retention-time belt-speed controller makes it easy to duplicate settings and eliminates the need to convert feet per minute into the time substrates will spend in the heat chamber (U.S. Patent Pending: SN 13967564). In fact, belt and roller tolerances are so tight—and AccuSet speed settings so precise—that split belts running at the same speed in the same direction can function seamlessly as a single 183 cm (72")-wide belt. It's the most precise dryer belt tracking available.

Sprint 3000 DHZ's large color touchscreen control center features icon-based labeling and can display information and commands in multiple languages. It also displays real-time performance data, including temperature, temperature history, and output from the included temperature probe, which can be used to track substrate temperature as it passes through the dryer. Sprint 3000 DHZ uses cold air to reduce cooldown time by approximately 60%.

Job Recall™ allows operators to store operational parameters—and recall those settings for similar substrate/ink combinations. On the Sprint 3000 DHZ, Job Recall allows users to create, store, and retrieve job recipes that contain heat-chamber temperature and direction and speed settings for each belt. Other features include high-capacity circulation and exhaust blowers; an integrated roll-down outfeed hood with exhaust blower; adjustable entry and exit openings; and cleanout access panels on the sides of the burner sections and drone modules to simplify cleaning and maintenance. And M&R's Maintenance Minder™ System alerts operators when scheduled maintenance is due.

Available in liquid propane (LP) or Natural Gas (NG), Sprint 3000 DHZ dryers use high-performance burners. The burner system includes its own combustion air blower, and a high-volume forced air system quickly brings the dryer to the desired temperature. Process temperatures and set temperatures are controlled digitally. A fuzzy-logic controller keeps chamber heat within one degree of target temperature. A four-color tower light enables personnel to monitor the dryer's operational status while away from the control center. It shows when temperatures are within user-set parameters and issues visible and audible alarms when readings fall outside those settings. An automatic shutdown sequence keeps the blower and belt running until the chamber has cooled.

Sprint 3000 DHZ dryers are available in a wide variety of heat chamber lengths, including multi-burner models of 12.2 meters (40 feet) or more for slow-curing inks and a 6.1 meter (20 foot) heat chamber that requires only a single burner. Sprint 3000 dryers have the highest production capacity in their class and are the most energy efficient. CoolSkin™ thermal insulation prevents heat from migrating into the workplace and leaves dryer skin cool to the touch. Sprint 3000 Series is simply the world's most sought after line of dryers.

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SPRINT® 3000 DHZ

STANDARD FEATURES

AIR HANDLING

- Enhanced airflow accelerates drying/curing
- Four separate dedicated blowers (combustion, circulation, exhaust & outfeed hood exhaust)
- High-volume circulation blower reduces energy costs
- Integrated roll-down outfeed hood with exhaust blower
- Stainless steel filter slides out for easy cleaning

CERTIFICATION

- CE Certified: Built to specifications established by the European Committee for Standardization® (CE)
- CSA Certified: Built to specifications established by the CSA Group (models sold in Australia are AGA Certified: Built to specifications established by the Australian Gas Association)
- UL Listed: Built to specifications established by Underwriters Laboratories® (UL)

COLOR TOUCHSCREEN CONTROL CENTER

- Automatic shutdown sequence keeps the blower and belt running until the conveyor dryer chamber has cooled
- Displays key operational information—including heat chamber temperature and retention time—and gives operators complete control of all screen printing conveyor dryer functions
- Graphic display tracks dryer temperature and substrate temperature in real time
- Job Recall™ allows operators to store operational parameters under operator-chosen alphanumeric names—and recall those named settings later for similar substrate/ink combinations
- Maintenance Minder™ system alerts operators when scheduled maintenance is due
- Temperature monitor issues visible and audible alarms when readings fall outside user-specified parameters
- Tower light indicates when temperatures are within user-set tolerances

CONVEYOR SYSTEM

- AccuSet™ retention-time belt-speed controller makes it easy to duplicate settings and eliminates the need to convert feet per minute into the time substrates will spend in the heat chamber (U.S. Patent Pending: SN 13967564)

- Driven by a reliable, heavy-duty, variable-frequency AC-drive motor
- Patriot Belt™ with the SureTrak™ roller system features a heat-resistant, Teflon®-coated fiberglass belt with a red flexible bead stitched along one edge that rides in grooves machined into the large anodized aluminum rollers, providing the most precise belt tracking available (U.S. Patents Pending: SN 15194035 & 15265538)

CROSSOVER™ BELT SYSTEM

- Each Patriot Belt has a tracking bead matched to a corresponding SureTrak groove in the drive cylinder
- M&R's AccuSet retention-time belt-speed controller, coupled with M&R's Patriot Belt/SureTrak belt-tracking system and Sprint 3000 DHZ's precise variable-frequency AC drive motors make it possible to change belt directions and speeds instantly without the need to re-track belts or recalibrate speeds
- On Crossover Belt Systems, Job Recall allows users to create, store, and retrieve job recipes that contain heat-chamber temperature and direction and speed settings for each belt, making setup for repeat and similar drying scenarios a snap
- Previously lost space between belts has been reduced to a mere 0.95 cm (3/8") and belts have been widened due to M&R's superior belt-tracking methods
- U.S. Patent Pending: SN 15264277

DESIGN & CONSTRUCTION

- Adjustable entry/exit openings
- Air-cooled cabinet ensures long life for electrical components
- Bearings are designed for high speeds and high temperatures
- Circuit breakers allow easy reset
- Cleanout access panels on the sides of the burner sections and drone modules simplify cleaning and maintenance
- Exhaust Drawer/Creosote Catcher
- Low-profile design makes it easier to see over the screen printing dryer
- Modular design and specialized fasteners make it easy to attach additional 61 cm (24") expansion modules

ENERGY EFFICIENCY

- Burners are designed with excess capacity that far exceeds consumption rates under normal operating conditions
- Controller ensures consistency by keeping dryer chamber heat within 1° of target temperature at the thermocouple
- CoolSkin™ technology leaves the conveyor dryer skin cool to the touch
- Fast curing rates and high product throughput maximize conveyor dryer capacity and minimize per-unit cost
- Heavy-duty thermal insulation prevents heat from migrating from the conveyor dryer into the workplace
- Pressurized vector air knives provide consistent and uniform temperatures throughout the drying chamber
- Process temperature and set temperature are displayed and controlled digitally
- Sprint 3000 models are the most energy-efficient gas screen printing conveyor dryers in their class

HEAT CHAMBER

- A proprietary shuttle system can be used to create two separate heat zones
- Burners are available for liquid propane (LP) or natural gas (NG)
- Double-wall construction
- Galvanized steel interior
- Modular gas train simplifies maintenance

PRODUCTIVITY

- Sprint 3000 models have the highest production capacity of any gas screen printing conveyor dryer in their class

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

OPTIONS

AIR HANDLING

- Infeed and outfeed conveyor extension sections are available in 122 cm (48") increments

HEAT CHAMBER

- 61 cm (24") expansion modules enable heat chamber lengths up to 610 cm (20') with a single burner section
- 61 cm (24") infrared pre-heat module speeds throughput

SPECIFICATIONS

	Sprint 3000 DHZ
Belt Width	183 cm (72")
Burner Input Maximum ³	300 000 Btu
Burner Width	283 cm (111.5")
Electrical Requirements ¹	208/230 V, 3 ph, 39/38 A, 50/60 Hz, 8.3 kW 380/415 V, 3 ph, 26 A, 50 Hz, 8.3 kW
Electrical Requirements for 61 cm (24") Optional Radiant Section	208/230 V, 3 ph, 21/23 A, 50/60 Hz, 7.4 kW 380/415 V, 3 ph, 13 A, 50 Hz, 7.4 kW
Exhaust Blower Size	30 cm (12")
Exhaust System Capacity @ 6 mm (1/4") Static Pressure ²	50 970 l/min (1800 cfm)
Expansion Heat Modules	61 cm (24")
Gas Input Size	2.54 cm (1")
Heat Chamber Length	244 - 610+ cm (8' - 20+')
Heat Chamber Width	221 cm (87")
LP/Natural Gas Input Pressure	.93 mm Hg (5" w.c.)
Overall Length	732 - 1524+ cm (24' - 50+')
Shipping Weight ⁴	2177 kg (4800 lb)
Standard Infeed / Outfeed Length	244 cm (96") / 244 cm (96")

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 Measured at the Exhaust Discharge Port

³ Normal usage varies, but is significantly lower than the stated maximum

⁴ Weight applies to models with a 244 cm (96") heat/expansion chamber



The M&R Companies

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