

## ◆ UltraFlex™ Drying and Firing Furnace with Microzone™ Technology

### The next generation in firing furnace performance

Despatch's NEW UltraFlex™ is a state-of-the-art drying and firing furnace designed to provide next generation capabilities in performance, profile flexibility and reduced cost of ownership. The new furnace features custom lamps and a furnace chamber design optimized for maximum absorption of energy into the cell. New Microzone™ technology enables infinite profile flexibility capable of adapting to ever-changing production needs. And the included Thermal Oxidizer provides virtually maintenance free elimination of VOCs.

In addition to these exceptional performance capabilities, all models feature an enhanced graphical user interface, eye-level electronics access, and patented push-button chamber access. For highly efficient solar cells at the lowest possible cost, more solar manufacturers choose Despatch Firing Furnaces than any other brand.

#### FEATURES AT A GLANCE

- ◆ Rapid thermal ramping (up to 175°C/sec)
- ◆ Enhanced thermal cooling (up to 250°C/sec)
- ◆ Uniform, stable, and repeatable cavity temperature (+/- 2°C)
- ◆ Wavelength tuned firing process
- ◆ Split top/bottom wattage control
- ◆ Infinite profile flexibility
- ◆ 37% overall smaller footprint (SL)
- ◆ Four meter dryer length for optimal drying
- ◆ Maintenance-free elimination of VOCs
- ◆ Soft start with reduced connected load
- ◆ Enhanced software recipe management
- ◆ Element monitoring
- ◆ Data logging
- ◆ Unique edge-contact belt design
- ◆ Safe, simple chamber accessibility
- ◆ SL - 1,200 to 2,000 wafers per hour
- ◆ DL - 2,400 to 4,000 wafers per hour



*Dual lane model shown  
(CDF-DL)*

## ULTRAFLEX™

### DRYING/FIRING OFF-SL/ DFF-DL

### FIRING FF-SL/ FF-DL

#### PRODUCT CONFIGURATION

Overall length	940 cm (370 in)	433 cm (170.5 in)
Overall width Single Lane	135 cm (53 in)	135 cm (53 in)
Overall width Dual Lane	162 cm (64 in)	162 cm (64 in)
Height (excluding exhaust)	196 cm (77 in)	196 cm (77 in)
Overall height (to top of exhaust)	300 cm (118 in)	244 cm (96 in)
Standard entrance table	50 cm (19.7 in)	50 cm (19.7 in)
Standard exit table	100 cm (39.4 in)	100 cm (39.4 in)
Conveyor type	Custom nichrome	Custom nichrome
Conveyor height above floor	90-100 cm (35-39 in)	90-100 cm (35-39 in)
Conveyor width Single Lane	25.4 cm (10 in)	25.4 cm (10 in)
Conveyor width Dual Lane	50.8 cm (20 in)	50.8 cm (20 in)
Lane to lane center line - Dual Lane	27 cm (10.6 in)	27 cm (10.6 in)
Net weight - Single Lane	3,490 kg (7,700 lbs)	1,750 kg (3,850 lbs)
Net weight - Dual Lane	5,400 kg (11,910 lbs)	2,750 kg (6,063 lbs)
Shipping weight - Single Lane	4,750 kg (10,480 lbs)	2,380 kg (5,240 lbs)
Shipping weight - Dual Lane	6,910 kg (15,234 lbs)	3,510 kg (7,738 lbs)

#### ELECTRICAL REQUIREMENTS

Voltage (3 phase/50–60 Hz)	380–480V	380–480V
Connected load (400V/3 phase) SL	59 kVA	32 kVA
Connected load (400V/3 phase) DL	2 drops 59 kVA	59 kVA
Typical operating load (400V/3 phase) SL	45 kVA	25 kVA
Typical operating load (400V/3 phase) DL	45 kVA (45 kVA dryer)	45 kVA

#### WATER REQUIREMENTS

Typical flow	18 lpm (22 lpm max)	18 lpm (22 lpm max)
Pressure (maximum)	4 BAR	4 BAR
pH level	7.2–7.6	7.2–7.6
Recommended inlet temperature	16–22°C	16–22°C

#### EXHAUST

Process exhaust venturi assist (dryer) SL	750 m³/hr (x 2 stacks)	–
Process exhaust venturi assist (dryer) DL	1125 m³/hr (x 2 stacks)	–
Process exhaust (firing furnace) SL	500 m³/hr	500 m³/hr
Process exhaust (firing furnace) DL	750 m³/hr	750 m³/hr

#### PROCESS ATMOSPHERE

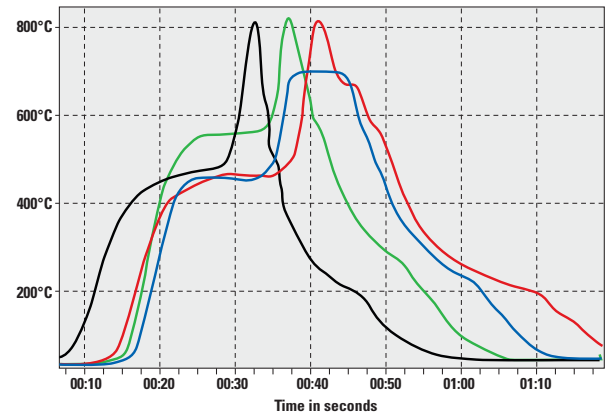
Standard ventilation - filtered room air SL	1950 m³/hr	500 m³/hr
Standard ventilation - filtered room air DL	2900 m³/hr	700 m³/hr
CDA requirements - SL	1000-1750 lpm*	400-600 lpm*
CDA requirements - DL	1550-2900 lpm*	800-1200 lpm*

#### PROCESS CAPABILITIES

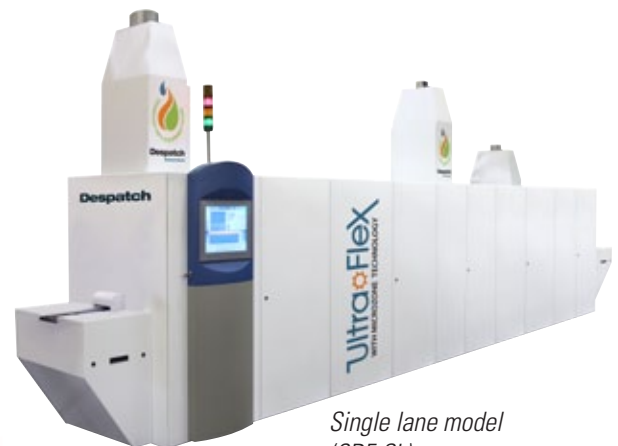
Maximum temperature furnace (dryer)	1050°C (550°C)	1050°C
Conveyor speed range	100–635 cm/min	100–635 cm/min
Conveyor speed accuracy	± 0.5%	± 0.5%

## OPTIONS

- ◆ Profiling systems
- ◆ Water filter bypass
- ◆ Ultrasonic belt cleaner/dryer
- ◆ CE compliance
- ◆ Integration to wafer automation equipment
- ◆ VPN Router for Remote Access
- ◆ SECS/GEM



*Microzone™ Technology allows for infinite profile flexibility to meet changing cell architectures. Shown above is an overlay of four sample profiles.*



*Single lane model (CDF-SL)*

*\* Add 780 to 980 lpm when the optional Ultrasonic belt cleaner is cleaning the belt off line (~ 1 hr/week). Data does not include options except as noted. Specifications are subject to change without notice.*

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