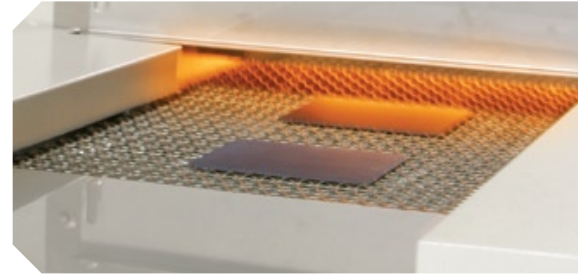


◆ **CF and CDF Series Infrared Firing and Drying/Firing Furnaces**
New and improved for even better performance



For highly efficient solar cells at the lowest possible cost, more solar manufacturers choose Despatch Firing Furnaces than any other brand.

Despatch CF and CDF Series infrared furnaces are designed for high throughput, ease of maintenance and consistent process repeatability ensuring consistently high yields and superior product quality.

The furnace now has greater thermal process control that compensates for “real world” intermittent wafer flow resulting in a significantly improved thermal stability of the cell. Soft Start reduces connected load to less than 100 amps resulting in lower electrical usage and installation costs.

In addition to these exceptional performance capabilities, all models feature an enhanced graphical user interface, eye-level electronics access, and the first of its kind push-button chamber access. These innovations make the CF and CDF easy to use, maximize performance and up time and result in lowest cost of ownership while producing the highest efficiency cells.

FEATURES AT A GLANCE

- ◆ Rapid thermal ramping ($\geq 100^{\circ}\text{C}/\text{sec}$)
- ◆ Enhanced thermal cooling ($> 100^{\circ}\text{C}/\text{sec}$)
- ◆ Uniform, stable and repeatable cavity temperature ($\pm 2^{\circ}\text{C}$)
- ◆ Soft start with reduced connected load
- ◆ Closed loop temperature controls
- ◆ Enhanced software recipe management
- ◆ Advanced graphical user interface
- ◆ Master production control interface
- ◆ Data logging
- ◆ Redundant over-temperature shutdown
- ◆ Minimized wafer shadowing design
- ◆ Safe, simple chamber accessibility
- ◆ Eye-level electronics for easy maintainability



The best selling firing furnaces with over 9GW of production capacity sold worldwide

Patented technology

**CF-7210 FIRING
CDF-7210
DRYING/FIRING**

**CF-7214 FIRING
CDF-7214
DRYING/FIRING**

PRODUCT CONFIGURATION			
Overall length	CF CDF	733 cm (288.5 in) 1143 cm (450 in)	733 cm (288.5 in) 1143 cm (450 in)
Overall width		117 cm (46 in)	117 cm (46 in)
Overall height		165 cm (65 in)	165 cm (65 in)
Standard entrance table	CF CDF	92 cm (36 in) 92 cm (36 in)	92 cm (36 in) 92 cm (36 in)
Open inspection area		46 cm (18 in)	46 cm (18 in)
Standard exit table	CF CDF	92 cm (36 in) 92 cm (36 in)	92 cm (36 in) 92 cm (36 in)
Conveyor type		Lightweight balance spiral weave, Nichrome V material, friction drive	
Conveyor height above floor		94 cm (37.5 in ±1.5 in) all models	
Conveyor width (custom configurations up to 24" available)		25.4 cm (10 in)	35.5 cm (14 in)
Net weight	CF CDF	1,751 kg (3,860 lbs) 2,840 kg (6,260 lbs)	2,014 kg (4,439 lbs) 3,266 kg (7,199 lbs)
Shipping weight	CF CDF	1,932 kg (4,260 lbs) 3,202 kg (7,060 lbs)	2,222 kg (4,899 lbs) 3,682 kg (8,119 lbs)

ELECTRICAL REQUIREMENTS			
Voltage		380–480V/ 3 phase/50–60 Hz	380–480V/ 3 phase/50–60 Hz
Connected load	CF CDF	~44.3 kVA ~55.4 kVA	~55.4 kVA ~71.8 kVA
Typical operating load	CF CDF	33 kVA 43 kVA	45 kVA 59 kVA

WATER REQUIREMENTS			
Typical flow		20 lpm	20 lpm
Pressure (maximum)		60 psi	60 psi
pH level		7.2–7.6	7.2–7.6
Recommended inlet temperature		16–20°C	16–20°C

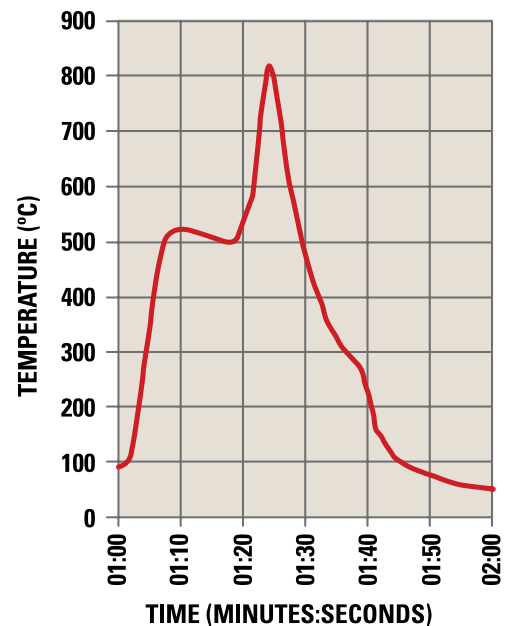
EXHAUST			
Process exhaust venturi assist	CF CDF	2 4	2 4
<i>*hood required, no direct connection</i>			
Cabinet exhaust	CF CDF	12,742 lpm (27,000 scfh) 25,484 lpm (54,000 scfh)	12,742 lpm (27,000 scfh) 25,484 lpm (54,000 scfh)

PROCESS ATMOSPHERE			
Clean dry air (CDA)	CF CDF	500 lpm (1,064 scfh) 920 lpm (1,957 scfh)	709 lpm (1,509 scfh) 1,305 lpm (2,777 scfh)

PROCESS CAPABILITIES			
Maximum temperature	CF CDF	1000°C 400°C/1,000°C	1000°C 400°C/1,000°C
Conveyor speed range		64–635 cm/min (25–250 ipm) all models	
Conveyor speed accuracy		± 0.5%	± 0.5%
Conveyor speed control		Closed loop feedback	Closed loop feedback

OPTIONS

- ◆ Water-cooled heat exchanger
- ◆ Failed element monitor
- ◆ Profiling systems
- ◆ VOC thermal oxidizer
- ◆ Water filter bypass
- ◆ Ultrasonic belt cleaner/dryer
- ◆ Uninterruptible power supply
- ◆ Custom belt widths
- ◆ Mesh belt with stand-off (dimple) supports
- ◆ Integration to wafer automation equipment



Rapid ramp up and cool down capabilities enable you to optimize your firing profiles for high efficiency cell production.

GLOBAL OFFICES

Germany: +49 30 629 073 410 / europe@despatch.com
China: +86-21-62365868 / shanghai@despatch.com
Taiwan: +886-3-6588484 / taiwan@despatch.com
Japan: +81-42-729-5355 / japan@despatch.com

USA HEADQUARTERS

Phone: 1-952-469-5424
toll free usa: 1-888-337-7282
fax: 1-952-469-4513
 sales@despatch.com
 service@despatch.com

www.despatch.com

8860 207th Street West
 Minneapolis, MN 55044 USA

