

Vante® SAFFIRE® Thermal Forming System



- The Vante® SAFFIRE® catheter manufacturing system, utilizing precision energy control and heat placement, is specifically designed for catheter manufacturing.
- The generator features a large color touch screen allowing the operator to view operating cycle parameters and temperature control.
- Proprietary inductive heating technology allows for higher temperatures while significantly extending the life of the heater.
- The Vante® SAFFIRE® system consists of a model 4200 RF generator and one of two forming platforms, depending on insertion force requirements.
- All platforms can be teamed with a variety of tipping, welding, and forming molds for many, including custom, applications.

RF Generator 4200

The SAFFIRE® generator features a large color touch screen allowing the operator to clearly view operating cycle parameters and temperature control. The touch screen also displays cycle counters and high/low thermocouple alarms. The highly efficient cooling manifold significantly reduces cycle times. Multi-level password protection can be used to control access to stored programs.

Forming Platform 4210H

The 4210H platform has a slide insertion force of 9.3 lbs. @ 30 psi and can accommodate a variety of molds for many different applications.

Forming Platform 4210L

The 4210L platform has a slide insertion force of 3.2 lbs. @ 30 psi and can accommodate a variety of molds for many different applications.

SAFFIRE®'s numerous applications include:

- Taper Tips
- Radius Tips
- Soft Tips
- Closed End Tips
- Dilator Tips
- Bulbous Tips
- Flaring
- Neck Downs
- IV Tipping
- Butt Welds
- Overlap Welds
- Braid to Non-Braid Welds
- Single/Multilumen Applications
- Split Mold Applications
- Balloon Tips and Welds
- Marker Band Embedding/placement
- Specializing in Custom Applications

SAFFIRE®'s numerous features include:

- Air cooled/no water chillers
- Closed loop temperature control
- Operator safe so there are no hot spots or pinch points
- Semi-automated
- High and low insertion force platforms
- Easy to use color touch screen
- Low friction pneumatic air cylinders and slides
- Precise heat placement
- Proprietary low mass mold design
- Solid-state circuitry
- Temperature repeatable to $\pm 1\%$ up to 350°C and $\pm 2\%$ for 350°C to 400°C
- CE and cTUVus marked
- Multi-level password protection
- Multiple program parameter storage capability
- Temperature control high/low alarms with automatic disable

SAFFIRE®'s numerous benefits include:

- Compact footprint which saves cleanroom space
- Repeatable, high quality results
- Easy to set up and validate
- Quantifiable and validatable process
- High production first pass yields
- Quick and easy tooling change
- Precision aligned tools
- Faster cycle times than previous technologies
- Supports the broadest range of applications
- Validated universal software
- Cycle counter

Vante® SAFFIRE®

MECHANICAL SPECIFICATIONS

	4200	4210H	4210L
Dimensions (W x L x H)	5.3 x 12.5 x 8.5 in (13.5 x 31.8 x 21.6 cm)	13.0 x 6.0 x 4.9 in (33.0 x 15.2 x 12.4 cm)	13.0 x 6.0 x 4.9 in (33.0 x 15.2 x 12.4 cm)
Operating Weight	18 lbs (8.2 kg)	9.6 lbs (4.36 kg)	9.6 lbs (4.36 kg)
Shipping Weight	20 lbs (9.1 kg)	15 lbs (6.8 kg)	15 lbs (6.8 kg)
Maximum Air Supply	—	100 psi	100 psi
Number of Slides	—	Two Slides	Two Slides
Slide Insertion Force	—	9.3 lbs @ 30 psi	3.2 lbs @ 30 psi
Grip Force	—	18 lbs @ 90 psi	4 lbs @ 20 psi

ELECTRICAL SPECIFICATIONS

Certifications	CE, cTUVus & WEEE	—	—
Power Input	100 VAC 50/60 Hz 115 VAC 50/60 Hz 230 VAC 50/60 Hz	— — —	— — —
RF Power Output	150 Watts Minimum	—	—
Radio Frequency Output	6.78 MHz	—	—

PERFORMANCE FACTORS

User Interface	Color Touch Screen	—	—
Process Parameters Storage	20 Parameter Sets	—	—
Internal Circuit Protection	Yes	—	—

OPERATING CONDITIONS

Use	Indoor use only	Indoor use only	Indoor use only
Temperature	68 - 95°F (20 - 35°C)	68 - 95°F (20 - 35°C)	68 - 95°F (20 - 35°C)
Humidity	70% maximum relative humidity Non-Condensing	70% maximum relative humidity Non-Condensing	70% maximum relative humidity Non-Condensing
Over-voltage Category	II	II	II
Pollution Degree	2	2	2
Altitude	Up to 2000 m	Up to 2000 m	Up to 2000 m

SAFFIRE SERVICE SUITE

Application consultation	included
Precision tooling set fabrication (mold, mandrels and grippers)	additional tooling cost
Mold design applying Vante's proprietary thermal management concepts	included in tooling cost
Process parameter development to create a flash free, high yield process	included in tooling cost
Samples certified by state of the art optical inspection equipment	included in tooling cost
Platform modifications if necessary	additional cost
Factory acceptance test including statistical analysis (this may be at extra cost depending on the size of the engagement)	additional cost
Documentation for hardware and software validation	additional cost
On-site installation, support and training	additional cost