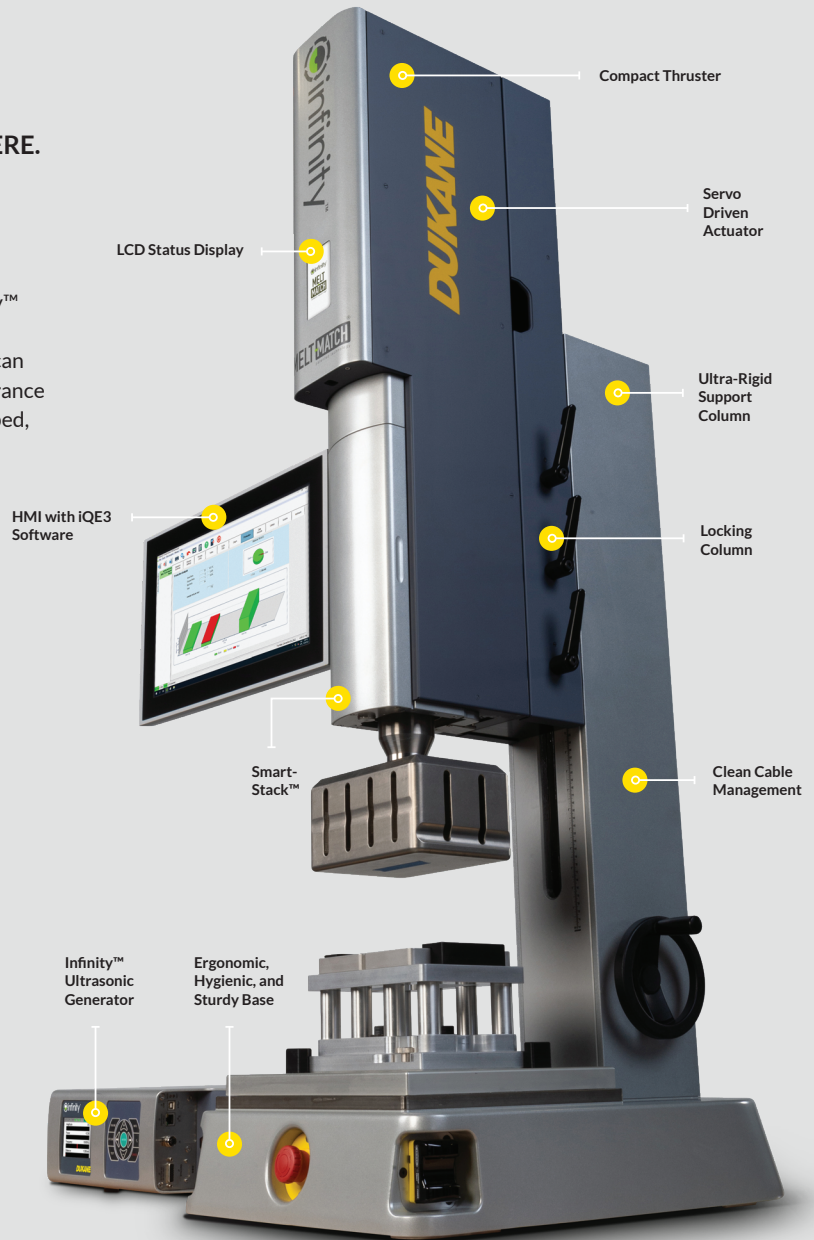




## THE NEXT GENERATION OF ULTRASONIC WELDING IS HERE.

**Defining the future of ultrasonic welding.** The new Infinity™ family of ultrasonic welders allow for customization of all critical parameters of the plastic joining process, and is designed to handle the most demanding production environments. Utilizing features such as a new graphical user interface with iQ Explorer 3 proprietary software, state-of-the-art Infinity™ power generator, new Smart-Stack™ integration and Melt-Match® technologies, Infinity™ is positioned to solve many common issues which can occur in ultrasonic plastic welding. Integrated with advanced quality assurance monitoring, the new Infinity™ ultrasonic plastic welding line is fully equipped, out-of-the-box, to meet your most demanding production requirements.

- + **ACCURATELY & REPEATABLY CONTROLS ALL PHASES OF THE ULTRASONIC WELDING PROCESS**
- + **MEANINGFUL DATA FOR INSTANT PART VALIDATION**
- + **TIGHTER CONTROL OF DIMENSIONAL ACCURACY**
- + **EASILY TRANSFER A PROVEN WELDING PROCESS THROUGHOUT GLOBAL MANUFACTURING FACILITIES**
- + **FAST DOWNSTROKE/UPSTROKE SPEED WITH A NEW PROPRIETARY SERVO ACTUATOR & CONTROLLER**
- + **EASY TOOL CHANGE WITH SMART-STACK™ QUICK CHANGE SYSTEM**
- + **REDUCES PART STRESS, PARTICULATE, & IMPROVES BOND STRENGTH WITH MELT-DETECT™**
- + **WELD BY DISTANCE, POSITION, ENERGY, & PEAK POWER**
- + **POST WELD CONTROL WITH DYNAMIC & STATIC HOLD**
- + **PROGRAMMABLE VELOCITY, FORCE, & AMPLITUDE WITH PROFILING FEATURES**
- + **EQUIPPED WITH ADVANCED GRAPHING, CYCLE DATA COLLECTION, & PRODUCTION ANALYSIS**
- + **ADVANCED DIAGNOSTICS**
- + **SUSTAINABLE TECHNOLOGY — NO COMPRESSED AIR REQUIRED**
- + **MULTILINGUAL GRAPHICAL USER INTERFACE**



### REDUCE OPERATING COSTS

Infinity™ is simple to set up, optimize and maintain. Simple and intuitive weld process validation reduces time to market, saves on labor costs, reduces cycle time and allows for a confident transfer of validated welding processes to multiple welders across your global manufacturing operation.

### ENSURE PRODUCT QUALITY

Infinity™ with Melt-Match® reduces part stress and weld particulate, provides stronger, more reliable welds, delivers tighter control of dimensional accuracy, producing higher quality welds resulting in reduced scrap, higher outputs and improved ROI.

### FDA COMPLIANCE

Maintain stringent FDA compliance with advanced data collection, process parameter monitoring, and weld data storage options provided by Infinity™. Combined with integrated FDA 21 CFR-11 security and process modification monitoring, Infinity™ ensures welding accuracy and reliability, preventing possible costly product recalls.

### MEET PROJECT DEADLINES

Over 100 years of engineering expertise provides expedited feasibility evaluations and in-depth product design reviews to quickly get your program online and to market. Multiple global engineering and manufacturing locations provide local engineering assistance, ensuring program timelines are maintained and supported wherever your manufacturing locations may be.



**EXPLORE THE FUTURE OF ULTRASONIC WELDING.**

[DUKANE.COM/INFINITY](http://DUKANE.COM/INFINITY)



**APPROACH:** Provides faster approach to the weld position while ensuring that the contact force does not exceed the programmed value

**INITIATE:** Precise force, position or power measurement used to initiate the ultrasonic welding process. Melt-Detect™ is the patented process of resuming motion once the material has started to become molten

**CONTROL:** Melt-Match® parameters control the welding process “in motion”. Velocity or force profiles can be set in 10 programmable steps to better control the flow of molten material

**POST WELD:** Ability to program “Dynamic” and “Static” hold by which the welded parts are held for re-solidification

**REPORT:** More meaningful data collection

## NEW & IMPROVED TECHNOLOGY

- + Improved base design & functionality to meet medical industry expectations
- + Easy to swap Smart-Stack™ cassette-style ultrasonic stack assembly with lockable horn orientation for effortless ultrasonic stack installation and removal
- + Real time closed-loop velocity or force control
- + STO (Safe Torque Off) feature in the proprietary servo controller to meet the most stringent safety requirements
- + More accurate & simpler force calibration procedure
- + Distance resolution of 1 µm standard, Higher resolution to 0.1 µm – optional
- + Completely new Infinity™ ultrasonic generator with the newest in Dukane technology
- + Generator and servo controller communication via Ethernet
- + New intuitive iQE3 user interface with enhanced resolution, GUI design, easier navigation experience, & improved graphs with touch screen input for easy programming
- + Long actuator life, up to 100 MM cycles
- + Industry 4.0. OPC UA connectivity standard

## infinity X4 THRUSTER SPECIFICATIONS

THRUSTER MODEL	ULTRASONIC FREQUENCY	STROKE		MAXIMUM WELD FORCE		LINEAR ENCODER RESOLUTION	
		in.	mm	lb.	N	in.	µm
43NTX4N	15 & 20	5	127	1000	4450	0.00004	1



EXPLORE THE FUTURE OF  
ULTRASONIC WELDING.

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