

# Textile assembly, cutting, forming and RF welding

## Precision flexible fabric assembly, and a wide range of biomedical materials for multi-layered high integrity products.



Assembly of medical fabrics, films and textiles is one of Arrow Medical's special skills. Millions of complex products have been produced using precision fabric assembly techniques allied to RF welding, precision cutting, punching, multi-layer assembly and forming.

A vast range of materials can be assembled using semi-automated sewing machines and RF welding stations, with capacity extending from 1,200 by 900mm to 220 by 60mm, with power outputs of between 3 and 15 kW.



This allows polyesters, PVC, polyurethane, flame bonded laminates, films, unwoven webs, flocks, brushed and conventional nylons and an extended range of other biomedical materials to be assembled, sewn and/or welded into complex sets and shapes, as well as providing high volume capacity to create multi-layered flexible products such as bladders, pouches and inflatable systems.



Radio frequency welding provides a reliable and consistent sealing method with high inherent levels of cleanliness and biological compatibility, and is a flexible technique. It can be used as a single process or in conjunction with gluing or sewing to provide high integrity products for a number of applications, extending from inflatable mattress components to complete products to aid cardiologists, anaesthetists, vascular specialists and other clinicians with complex treatments and surgical techniques.

All components and sub-assemblies can be identified, tracked and branded using precision screen printing, and packed ready for sterilisation or distribution as kits for clean room assembly or for transfer to auto bagging or other packaging systems.



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**Contract Medical Manufacturing Services**

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**Textile assembly, RF welding, silicone moulding, clean room assembly, sterile chain packaging and delivery, and a full manufacturing service to ISO 13485, ISO 9000:2003 and FDA GMP standards.**



## Silicone moulding

Facilities include liquid silicone resin systems, compression and injection moulding for components and micro-parts with over-moulding and biocompatible encapsulation using presses up to 80 ton. Production is available for combinations of hard and soft materials including rubbers, silicones and a variety of other polymers and semi-rigid metals.

## Clean room assembly

Twin 2,500 sq ft class 10,000 units, with manual and semi-automated assembly, sterile packaging, labelling and logistics, product validation, and pre-production assembly trials.

## Sterile packaging

Complete sterile service. Printing, auto-packing, labelling, stock control, kit packing and consolidation for clinical assemblies, secure storage and known global shipper status.

## Silicone Injection Moulding

Equipment	Manufacturer	Quantity
Injection Press 40 ton: 10 inch	Maplan	1
Injection Press 80 ton: 17 inch x 3	Maplan	3
Injection Press-221 25 ton: 8 inch	Arburg	1
Injection Press 35 ton: 8 inch	Arburg	1
Compression Press 40 ton: 17 inch	Bradley & Turton	1
LSR Pump Unit (20Kg Hopper)	Dopag	1
LSR Pump Unit (20Kg Hopper)	2KM	1
Oven (Curing) 0.5 cubic metre. 3kW		1
Oven (Curing) 0.7 cubic metre. 6kW		1
Chiller x 2		1
Priming Cabinet x 2		1
Compressor (Rotary)	Fluidair	1
2 Roll Mill: 16 inch		1

## RF Welding

Equipment	Manufacturer
RF Welder TP15: 1,200mm x 900mm: 15kW	Stanelco
RF Welder 105CW: 900 mm x 600mm: 10kW	Radyne
RF Welder: 750mm x 600mm: 10kW	Thor
RF Welder SP40: 750mm x 550mm: 7kW	Stanelco
RF Welder: 750mm x 550mm: 1kW	Coaxil Power
RF Welder In Line: 550mm x 400mm: 8kW	Geaf
RF Welder SP40: 320mm x 230mm: 2.5kW	Stanelco
RF Welder: (Development): 220mm x 60mm: 3kW	Stanelco
Chiller/Cooler x 2	
Compressor	
Solvent Dispenser (Tube) 8mm dia'	
Solvent Dispenser (Tube) 8mm dia'	
Shot Blaster & Roller	

## Test Equipment List

Item Description	Current location	Dimensions (m)	Services	Extras
Dynascope	Quality office	1.5 x 0.6 x 1.0	Power supply	Measurement area 165mm <sup>3</sup> 10x 20x and 50x magnification
Video Dynascope	Unit 5	1.5 x 0.6 x 1.0	Power supply	Measurement area 165mm <sup>3</sup> 10x 20x and 50x magnification
Tensile tester + PC	Unit 5	2.0 x 0.7 x 1.0	Power supply	Max tensile force up to and including 2500N
Tensile tester + PC	Unit B1	2.0 x 0.7 x 1.0	Power supply	Max tensile force up to and including 500N
Steam Autoclave	Unit 5	0.5 x 0.25 x 0.25	Power supply	Capacity 0.03m <sup>3</sup>
Inflation testers (2 cabinets)	Unit B1	2.2 x 1.0 x 0.6	Compressed air and power supply	
CMM + PC	Unit 3	2.0 x 1.2 x 1.5	Compressed air and power supply	Capacity 3.6m <sup>3</sup>
Inspection tables x 3	Unit 9	300mm x 300mm	None	No Extras
Microscope x 4	Unit 3, 4, B1	0.2 x 0.3 x 0.15	Power supply	10x 20x and 35x magnification. Working distance 150mm.

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