

Custom designed  
cables and  
interconnect systems  
for medical  
applications



**axon'**  
CABLE & INTERCONNECT







## Custom designed cables and interconnect systems for medical applications

Axon' Cable which is ISO13485 approved, specialises in the design and manufacture of custom designed cables and assemblies for medical applications. The company's know-how is based on its expertise in various fields :

- Conductor design and manufacture
- Composite cables
- Jacket and tube extrusion
- Plastic injection moulding and overmoulding
- Interconnect technologies
- High performance custom designed connectors

The company specialises in offering **one-stop shop** interconnect solutions based on :

- Miniaturisation
- Flexibility (qualification with our own test capabilities on request)
- Flex life
- Biocompatibility and sterilisation : autoclaveable cables and assemblies (Medical approvals : ISO 10993, USP XXIII class VI)
- Antibacterial materials
- Hydrophobic materials
- Robust overmoulding
- High cosmetic quality
- Non magnetic cables and assemblies
- EMI protection
- Materials in compliance with RoHS directives

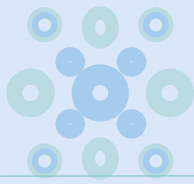
Axon' Cable have ISO 7 and ISO 8 clean rooms. It is possible to use laminar flow systems for the workstations, which would then be classified ISO class 5.

## Applications

- External systems for medical implants
- Patient care : monitoring, patient diagnostics
- Dental equipment
- Endoscopy
- Medical imaging
- X-ray & Magnetic Resonance Imaging (MRI)
- Ultrasound probes
- Biological analysis
- Beauty therapy systems
- ECG : heart sensors
- Oxymetry : blood oxygen saturation monitoring



# Expertise in polymer technologies



- Biocompatibility and sterilisation : Silicon, PU, TPE, PVC compounds tested to USPXXIII class VI and ISO 10993 approvals.
- Autoclaveable cables and assemblies
- Sterilisable cables and assemblies (Cidex®, Korsolex®)
- Hydrophobic PTFE tubing
- Custom designed colouring with FDA approved colorants.



- PTFE tubes for micro-catheters with walls as thin as 10 µm.
- PTFE Multilumen tubing (several channels in the same tube).
- Celloflon® dielectric material : Axon' patented expanded PTFE. The use of Celloflon® enables the manufacture of lighter, smaller, more flexible coaxial cables.
- Thermo-forming : biocompatible shapes made with a Celloflon® membrane.
- Noso-free® cables and assemblies : antibacterial jacketing to improve protection against nosocomial infections.
- Low noise coaxial cables : to control noise due to oscillations or vibrations, while maintaining the dielectric properties of the cable.



## Miniature cables

- Miniature composite, miniature camera and hybrid cables.
- PTFE and Celloflon® (expanded PTFE) wires
- Miniature Picocoax® coaxial cables : an excellent combination of a tiny diameter (e.g 0.20 mm) with capacitance of 50 to 100 pF/m.
- Flat Flexible Cables in both unshielded and shielded versions, for board to board interconnect with pitches down to 0.50 mm and 0.30 mm.
- Axolink® Flat Display Connection (FDC). Our plug and play solutions for flat display interconnect consist of Flat Flexible Cables with connectors for fine pitch (DF-9, DF-19, FI-S, FI-X)- Axon' also offer shielded flat cables terminated with connectors compatible with FI-R connectors for full HD flat displays (LVDS standard).





## Miniaturisation

Axon' is expert in the design and manufacture of highly reliable ultra-miniature cables and assemblies.

## Cabling solutions

- Design and manufacture of cable assemblies terminated with any type of connectors.
- Axon's Picoflex® solution allows multiple miniature coaxials to be simply plugged into a PCB via ZIF connector technology. Available in 0.5 mm pitch, and compatible with Picocoax® AWG 40 to 46.
- Custom designed miniature cabling : Termination of wires to miniature printed circuits.
- Custom designed equipment to test miniature cabling solutions.

## Connector overmoulding

- Miniaturised solutions with plastics technology.
- Low or high pressure overmoulding

## Miniature connectors

Axon' Cable designs and develops standard and custom designed micro-D connectors. The micro-D connector system rises to the most demanding of challenges in terms of mechanical, electrical and environmental constraints. Axon' micro-miniature connectors are suited to systems where weight, miniaturisation or quality of signal is paramount.

- Large range of pin arrangements available
- Shape : circular or rectangular.
- Specific shells or mounting hardware : plastic or metal bodies (snap versions)
- Integration of different transmission types (e.g. signal and power transmission in the same connector).
- Filtered connectors
- Metal or plastic circular connectors



## Overmoulding

- Expertise in mould design
- Connector overmoulding : strain relief for the cable/connector interface : Silicon (guaranteed bonding), Thermoplastic Elastomer (TPE), PVC, PUR.
- Overmoulding of branches for the mechanical protection of the harness - Sleeves and plastic parts



## Hybrid cables for laboratories

Axon' cables and assemblies are designed to supply the robotic arms of automated devices and dispense fluid samples with precision. They are characterized by their flexibility and flex life. These interconnects can be hybrid, spiral, flat or round.



## Industrial assemblies

- Design and manufacture of industrial assemblies for medical equipment (including SCSI assemblies)
- From Prototypes to high volume manufacturing in dedicated factories (Europe, America and Asia).
- Expertise in interconnect technologies, EMI protection and high pressure overmoulding.







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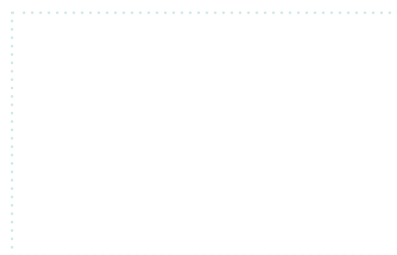
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