TechFilter Manufacturing Process Examples

Injection Molding: Used for manufacturing various plastic components in medical devices and electronics.

CNC Machining: Utilized for precision manufacturing of components with tight tolerances in medical devices and electronics.

Additive Manufacturing (3D Printing): Rapid prototyping and production of intricate parts for medical devices and electronics.

Electroplating: Used to apply thin layers of metal onto components for improved conductivity, corrosion resistance, or aesthetics in electronics.

Microfabrication: Employed in the production of miniaturized components and devices, such as microfluidic chips and sensors, crucial in both biotechnology and electronics.

Surface Mount Technology (SMT): Commonly used in electronics manufacturing for mounting electronic components onto the surface of printed circuit boards (PCBs).

Bioprocessing: Key in biotechnology, involving the use of living cells or biological systems to manufacture pharmaceuticals, vaccines, and diagnostic reagents.

Sterilization Processes: Such as gamma irradiation, ethylene oxide (EtO) sterilization, and autoclaving, crucial for ensuring the safety and efficacy of medical devices and biotechnology products.

Laser Cutting and Welding: Utilized for precise cutting and joining of materials in medical device manufacturing and electronics.

Cleanroom Manufacturing: Essential for maintaining controlled environments free from contaminants during the manufacturing of sensitive medical devices and electronics.

Surface Treatment: Processes like anodizing, passivation, and chemical etching are used to improve the surface properties of materials in both medical devices and electronics.

Biosynthesis: Applied in biotechnology for the production of therapeutic proteins, enzymes, and other biomolecules using genetically modified organisms or cell cultures.

Optics: Optical manufacturing to enhance performance and durability, crucial in medical imaging devices and optical sensors.

Quality Control and Assurance Systems: These include various testing and inspection techniques to ensure the safety, efficacy, and compliance of products in all three industries.

Assembly and Packaging: Final stages of production where components are assembled into finished products and packaged for distribution, important across all sectors.

Shipping and fulfilment: The last but crucial journey to your products in your customers hands.