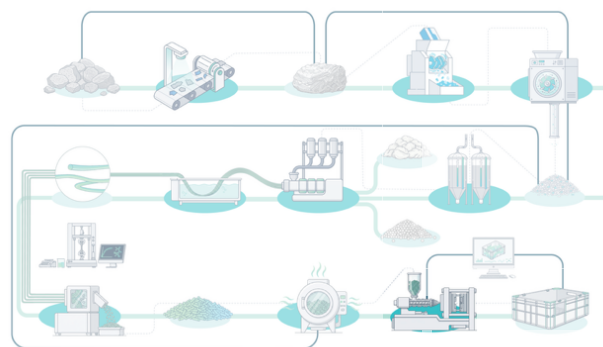


Name:

Injection Moulding Machine



What is it?	The injection moulding machine is one of the most sophisticated and widely used manufacturing technologies in the world. Virtually any plastic object with a complex geometry used in daily life has been manufactured using one of these machines. Whether hydraulic, electric, or hybrid, all injection moulding machines consist of two fundamental components: the injection unit (responsible for melting the dry pellets and injecting them under pressure into the mould) and the clamping unit (housing the mould, which is filled with molten polymer, cooled, and opened to produce the final moulded item).
What is it for?	The complete operational process of injection moulding is as follows: • Plasticisation (Melting): Dry pellets fall from the hopper into a heated barrel. A rotating screw drives the plastic forward, melting it through heat and friction. • Mould Clamping: A powerful hydraulic or electric press tightly closes the two halves of a steel mould shaped like the desired part. • Injection: The screw stops rotating and acts as a piston, driving the molten plastic forward under immense pressure to quickly fill all mould cavities. • Cooling: The mould features internal channels carrying circulating cold water. The hot plastic transfers its heat to the mould and solidifies within seconds. • Ejection: The mould opens, and mechanical pins push the component out. This injection moulding manufacturing cycle can repeat every 10 to 30 seconds continuously. Melt temperature, injection pressure, holding pressure, and mould temperature are critical parameters to control to ensure the final part is produced without flash or distortion.
At what stage of the recycling process is it located?	At the final manufacturing stage, where recycled pellets are converted into finished end-user products.

