

Production Capabilities

Quadrant EPP's wide range of manufacturing technologies enables it to produce cost-effective parts and components large and small. All are available with complete batch traceability and documentation in line with relevant ISO standards:



CUSTOM CASTING

Custom casting is often more economical than machining or injection moulding, particularly for small or medium quantity production runs of parts that are too large or too costly to injection mould. It can eliminate or reduce certain machining operations, reduce scrap and cycle times, and it can also produce parts of virtually unlimited size and thickness. Our mission is to provide the highest quality, economical products – from a single prototype to thousands of production pieces.

Atmospheric Pressure Casting (APC)

APC can manufacture plastic parts without externally applied pressure and is useful for low-to-medium volume runs or for parts that have intricate design details. Tooling cost is significantly lower than Injection moulding tools. Economical production runs can be as small as 1 (ONE!) piece only. Cast weight up to 800 kg is possible.

Low Pressure Casting (LPC)

LPC technology bridges the gap between machining and injection moulding for medium to high series, eliminating wall thickness limitations and enabling production series of a few hundred to several thousands parts per year. LPC's lower processing and injection pressures also enable the use of aluminium tools rather than hardened steel. Generally, tool cost can be significantly lower than injection-moulding tools.

Reaction Injection Moulding (RIM)

RIM is a casting technology that applies low pressure to mix specific additives with the base material. It shows very specific properties after "injection" in the mould and the polymerisation of the material. Metal inserts can be integrated into the moulding component in one operation.

Capability	Application	Benefits
Custom Casting	For small or medium production runs, often more economical than machining or injection moulding	<ul style="list-style-type: none"> eliminates / minimises machining reduces scrap and cycle time can be custom shapes, blanks near-net and cast-to-size
Atmospheric Pressure Casting (APC)	For low to medium volumes of parts with intricate design details or geometry	<ul style="list-style-type: none"> minimises flow-induced stress permits larger cross-sections than alternative means offers very high dimensional stability over time economical even with single-piece production part weight to 800 kg feasible
Low Pressure Casting (LPC)	Provides an economical bridge between low-volume machining and high-volume injection moulding	<ul style="list-style-type: none"> removes wall thickness limitations suitable for runs from a few hundred to several thousand process parameters allow aluminium tooling ideal for pilot and evaluation runs
Reaction Injection Moulding (RIM)	Allows materials alternatives not available otherwise by mixing custom formulations in the mould	<ul style="list-style-type: none"> well suited for highly-advanced materials and applications specially capable of incorporating inserts, multi-material designs