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(57) Abstract :

A die lubrication spray apparatus with targeted atomization control includes a spray nozzle (12), lubricant reservoir (14), atomization unit (22), and control system (24). The system modulates spray pattern (20) in real-time based on temperature feedback from the die (16), ensuring uniform lubrication and minimal waste. Intelligent control reduces overspray, improves thermal consistency, and enhances surface quality in casting operations.

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