



Slack & Parr

Metering • Hydraulics • Industrial Pumps

Polymer Extrusion Pumps



GEAR METERING PUMPS

FOR EXTRUSION

Product Overview

Slack & Parr SPE Series gear metering pumps are high-precision, external gear pumps engineered specifically for polymer extrusion and melt-processing applications where stable, repeatable flow is critical. Installed downstream of the extruder, the SPE decouples upstream pressure fluctuations from the die or downstream process, delivering highly stable, pulseless melt flow and enabling superior control of product quality.



Designed and manufactured in the UK, the SPE series reflects Slack & Parr's long-standing expertise in precision gear pump engineering for demanding continuous-duty industrial environments.

Typical Extrusion Applications

- Sheet and profile extrusion
- Pipe and tubing extrusion
- Compounding and pelletising lines
- Film and coating processes
- Masterbatch production
- Polymer melt transfer and metering duties



Key Benefits in Extrusion Processes

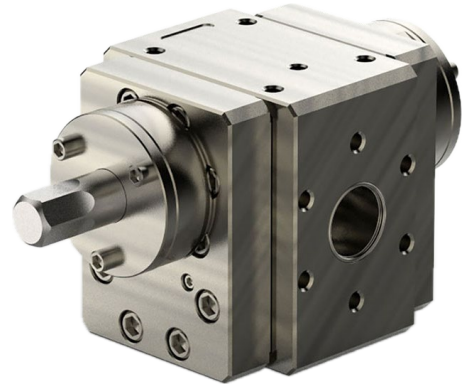
- **Pulseless, continuous flow** independent of extruder pressure variations
- Improved dimensional stability and gauge control
- Enhanced melt homogeneity and product consistency
- Reduced scrap rates and start-up waste
- Lower mechanical load on the extruder
- Robust construction suitable for filled, reinforced, and abrasive polymers
- Excellent repeatability for closed-loop process control

Design & Operating Principle

The SPE is an external gear, positive-displacement metering pump. Melt is conveyed by two precisely machined, intermeshing gears rotating within a close-tolerance housing. Each revolution displaces a fixed volume, making flow rate directly proportional to rotational speed. This operating principle ensures: - Accurate volumetric metering - Minimal pulsation - Stable downstream pressure conditions.

The design is optimised for continuous operation with high-viscosity polymer melts under elevated temperature and pressure conditions typical of extrusion processes.

SPE Series



Typical Polymers Processed

The SPE series is suitable for a wide range of thermoplastics and compounds, including PE • PP • PET • PVC • PA • PBT • ABS • Elastomers • Filled and reinforced polymers

Technical Specifications

| Parameter | SPE Series |
|-------------------------------|---|
| Flow range | 0.4 – 7,000 kg / hr * |
| Maximum differential pressure | Up to ~350 bar * |
| Operating temperature | Up to ~350 °C * |
| Viscosity range | Suitable for high-viscosity polymer melts |
| Materials of construction | Hardened tool steels / high-grade alloys |
| Drive options | Direct-coupled or gearbox-driven |
| Installation | Downstream of extruder, upstream of die |

* Exact limits depend on pump size, materials, polymer type, and operating conditions.

Integration into Extrusion Lines

SPE pumps are typically installed between the extruder and the die or downstream equipment. By stabilising melt flow and pressure, the pump enables more precise control of output rate and product dimensions. The SPE integrates easily with standard extrusion control architectures and can be combined with melt pressure and temperature instrumentation for advanced process control strategies.

| Feature | Benefit |
|-------------------------------|---|
| Stable, pulseless melt flow | Improved product quality and consistency |
| Lower extruder load | Extended equipment life and reduced maintenance |
| Stable output during start-up | Reduced scrap rates and lower start-up waste |
| Robust construction | Handles abrasive and reinforced polymers |
| UK manufacturing | High precision and reliability |

Manufacture, Quality & Support

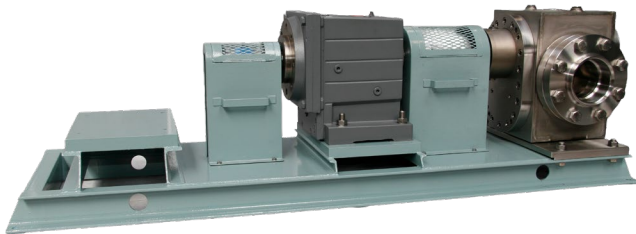
- Designed and manufactured in the United Kingdom
- Decades of experience in precision gear pump technology
- Engineered for long service life in continuous operation
- In-house service, refurbishment, and technical support
- Can be supplied with Drive, Coupling and Base
- Custom materials and configurations available for OEM and application-specific requirements
- Drop-in replacements for competitors' gear pumps

The Complete Solution

We can also offer a complete drive assembly:

Comprising

- Fabricated Baseplate
- Geared Motor or Motor and separate gear box
- Coupling
- Guard

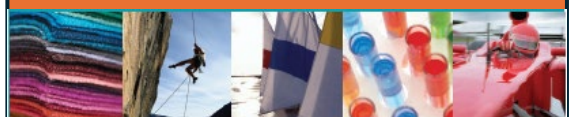


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