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Flow Instability

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Flow Instability
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Polymer flow instability can result from various possible "root causes", including:

- 1.) Poor solids conveying in the feed section of the screw,
- 2.) Abrupt transition and too short segment in compression section,
- 3.) Inaccurate temperature controllers on barrel (controllers should hold +1F)
- 4.) Inadequate die land/preland/inventory

Checking the mean and standard deviation of pressure of the polymer melt, prior to the breaker plate or restrictor sleeve, will give an indication whether the problem lies in the barrel or upstream of the gate adapter. Typical standard deviation on single-screw extruders is in a range of 50-70 psi. Anything greater suggests a problem in the barrel region.

- Dan Cykana, Bemis Mfg. Co.

See also:

- [Deviation alarms](#)
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