

Melt Diverter Valve Improvement

The Melt Shut Off is utilized on machines where one extruder supplies plastic to only one injection assembly. The Diverter Valve is utilized, in lieu of the melt shut off, on machines where one extruder supplies plastic to two injection assemblies. This retrofit will reduce your existing diverter maintenance costs by increasing its useful life through new coating materials for the diverter bodies and rods, and by creating a two-piece assembly on specific styles of bodies.

Melt Diverter Design Factors

The Melt Diverter Valve is a hydraulically operated sliding spool valve placed either:

In-between the melt relief valve and two fill pipes. This type of diverter has a one-piece body that cannot be modified into a two-piece body due to existing design constraints. Or,

In-between the fill pipe and the two melt accumulators. This type of diverter has a one-piece body that can be modified into a two-piece assembly (an outer body and an inner sleeve).

Diverter valves are used on machines that have one extruder supplying plastic to more than one melt accumulator. This allows for filling one accumulator at a time in a pre-selected order. After the plunger in the first accumulator reaches shot size, the diverter closes the passage to that accumulator and opens the passage to the other accumulator for filling.

The Melt Diverter Valve also functions as a shut off valve on some machines by closing the plastic passages between the extruder and the accumulators when shot size has been reached. Shutting off the plastic passages improves shot to shot repeatability and helps prevent plastic from backing up into the feed throat.

Wear is created on the inside surface of the diverter body, and the outside surface of the diverter cylinder rods due to:

- Constant movement, which occurs every cycle.
- Contamination in recycled material.
- Abrasive fillers.

This wear can cause excessive plastic leaks, loss of head pressure, loss of shot pressure, and can affect shot size.

To combat this wear, Uniloy has tested and approved an Xaloy 800 coating for diverter bodies or sleeves, and an Xaloy 8000 coating for the rods. This material has proven to increase the useful lives of bodies, sleeves, and rods by more than 3 times the usual 2 year life span of the existing steel bodies and bronze rods.

Retrofit Package Description And Pricing

Uniloy is pleased to offer 2 different styles of retrofits, to match your particular machine requirement. Package "A" is for existing diverters that cannot be modified into two-pieces, while Package "B" is the correct package for existing diverters that can be modified into two-piece bodies. Please consult your local Uniloy Parts Sales Representative if you need help in determining which style of retrofit you require.

Melt Diverter Retrofit - Package “A”

Includes:

Diverter Valve Body

Diverter Rods (2)

This package replaces your existing steel diverter body with one coated on the inside with Xaloy 800 and replaces your existing bronze rods with Xaloy 8000 coated rods.

Melt Diverter Retrofit - Package “B”

Includes:

Diverter Body Sleeves (2)

Diverter Rods (2)

Sealing O-Rings (2)

Socket Head Cap Screws (8)

Alteration Drawing For Existing Diverter Valve Body

With this package, your existing diverter body is re-used. Xaloy 800 coated sleeves with matching Xaloy 8000 coated rods are provided. Uniloy will supply a drawing so you can have your existing diverter body machined to accept the new sleeve. This package does not include the cost to modify the existing body.

Installation And Delivery

The above pricing does not include field installation. Trained Uniloy Service Technicians are available to install these packages. We estimate 1 - twelve (12) hour shift of actual installation for Package “A” and four (4) hours for Package “B” (after the existing body has been altered). Please allow up to 8 - 10 weeks for component delivery.