

## Uniloy Air Barrel Cooling Retrofit

For 4.5" and 6" Structural Foam Extruders

Uniloy Milacron is pleased to offer a new retrofit for existing Uniloy-Springfield Structural Foam machines. After 2 years of successful experience installing these components on new machines, we are now offering a replacement barrel cooling system that:

- Has less than a 1 year payback based on reduced maintenance, chiller, and down time costs.
- Is simple to operate and maintain.
- Provides more accurate temperature zone control.

### System Design Factors

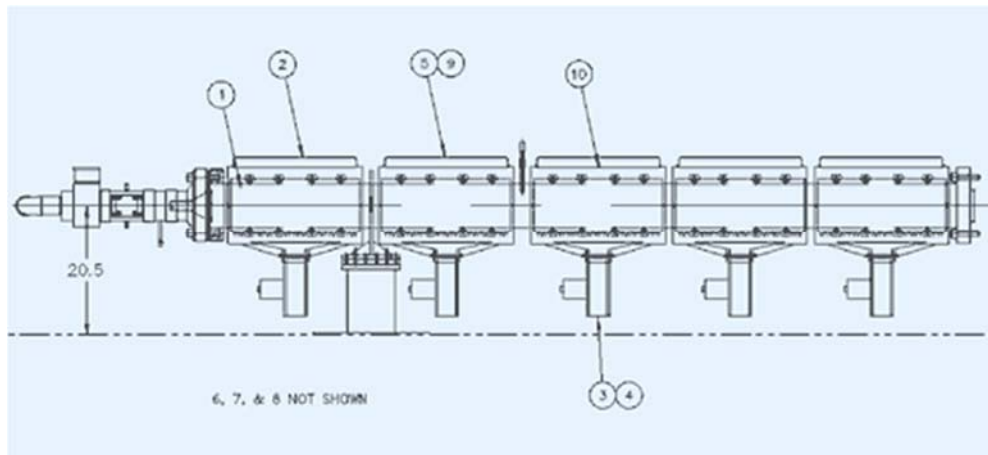
The Uniloy Air Barrel Cooling Retrofit replaces currently used liquid barrel cooling. This engineered system is specifically designed to provide the ultimate in safety and performance. The heart of this system is finned, cast aluminum heater bands, which provide extremely even heating and cooling. Cast heaters are renowned for extremely long, trouble-free life. The stainless steel cover and air directional shroud features a series of thermal barriers, which ensure that the outer layer of the cover will remain cool and not cause harm to operators. Extruded tabs on the heater bands in conjunction with specially designed triangular tabs on the shrouds help to keep radial movement of the air shrouds to a minimum. We have found that this retrofit is at least as powerful in removing excess heat as any system we have used in the past.

### Benefits Of The Uniloy Air Barrel Cooling Retrofit

- Eliminates liquid cooled barrel components including the tank, motor, pump, heat exchanger, valves, gauges, coolant lines, and fittings.
- Temperature control is gradual without line shock caused by steam in the system.
- Each zone has a single heater with self-contained guarding to improve temperature control, trouble-shooting, and maintenance.
- Eliminates the maintenance and associated down time, which the liquid cooled barrel components required. Based upon customer feedback, we have seen savings in the following areas:
  - **Annual Preventative Maintenance Labor**
  - **Annual Preventative Maintenance Materials**, such as:
    - Distilled Water
    - Valve Kits
    - Pump Kit
    - Fittings/Tubing
  - **Maintenance Labor to correct problems**
  - **Maintenance Parts to correct problems**
  - **Cost of Machine Downtime**
  - **Decreases Load on Chiller / Water Tower System**

## Retrofit Package Description And Pricing

### A. 4.5 Inch Extruder Assembly – Parts List 165456



### Uniloy Air Barrel Cooling Parts Required for 4.5 Inch Extruder

Includes:

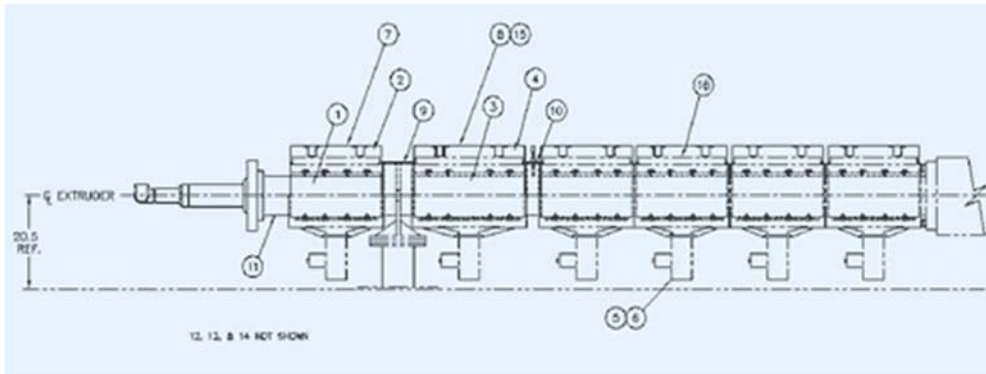
Ref No.	Qty	Description
1	5	Heater Bands
2	5	Heater Shrouds
3	5	Blower Motors
4	5	Finger Guards
5	5	Heater Shroud Covers
6	1	Power Distribution Block
7	5	Solid State 25 Amp Relays
8	5	Relay Din Rail Mounting Kits
9	106	Button Head Cap Screws
10	5	Thermocouples and Adapters
11		Miscellaneous Wire, Connectors, and Fittings

Notes:

1. Thermocouple holes on existing barrels may have to be relocated.

2. Minimum clearance needed from the centerline of the extruder to the top of the deck plate is 20.5 inches. If this space is not available, components will have to be rotated to avoid interference.

## B. 6 Inch Extruder Assembly - Parts List 165457



### Uniloy Air Barrel Cooling Parts Required for a 6 inch Extruder<sup>1</sup>

Includes:

Ref No.	Qty	Description
1	5	Heater Bands
2	5	Heater Shrouds
3	1	Heater Band
4	1	Heater Shroud
5	6	Blower Motors
6	6	Finger Guards
7	5	Heater Shroud Covers
8	1	Heater Shroud Cover
9	1	Barrel Shrouding
10	1	Barrel Shrouding
11	1	Barrel Shrouding
12	1	Power Distribution Block
13	6	Solid State 25 Amp Relays
14	6	Relay Din Rail Mounting Kits
15	125	Button Head Cap Screws
16	6	Thermocouples and Adapters
17		Miscellaneous Wire, Connectors, and Fittings

Notes:

1. Thermocouple holes on existing barrels may have to be relocated.

2. Minimum clearance needed from the centerline of the extruder to the top of the deck plate is 20.5 inches. If this space is not available, components will have to be rotated to avoid interference.

### Installation And Delivery

The above pricing does not include field installation. Trained Uniloy Service Technicians are available to install these packages at your facility. We estimate that it will take 3 to 4 - twelve (12) hour shifts of machine downtime in order to install this retrofit. These parts are typically in stock for immediate shipment. If we are temporarily out of stock, please allow up to 8 weeks for delivery.

### Financial Justification

Based upon customer feedback, the following costs associated with liquid barrel cooling will be eliminated:

Annual Preventative Maintenance		
Labor	10 Hours x \$30/hr	= \$300
Materials:	Distilled Water	= \$28
	Skinner Valves	= \$96
	Pump Kit	= \$34
	Fittings/ Tubing	= \$50
		<b>\$508</b>
During the Year, Ongoing Maintenance		
Labor	26 Hours x \$30/hr	= \$780
Materials:	Distilled Water, Valves, Seal Kits, Thermometers, Gauges, Pumps, Pump Kits	= \$2,320
Downtime:	26 /hours x \$200/hr	= \$5,200
		<b>\$8,300</b>
Decreased Chiller Usage		
4 to 5 Ton		
Reduction:	4.5 ton x 3.5kw/ton x \$.08/kw x 6840 hrs/yr	= \$8,618
	<b>TOTAL ANNUAL SAVINGS</b>	<b>= \$17,426</b>

Note: The costs used in this financial justification are close estimates based on industry norms. Please feel free to use your own figures to tailor these calculations to meet your operation.