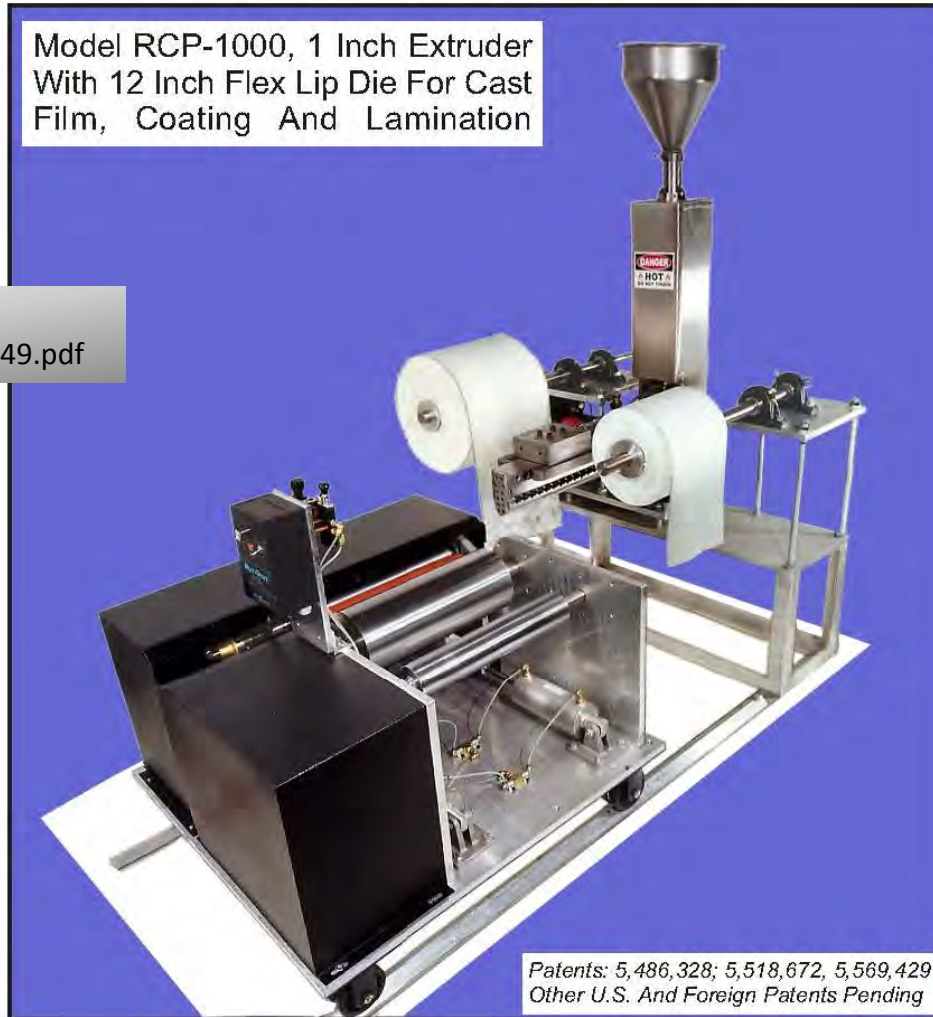


RANDCASTLE'S CAST FILM/COATING LINES

Model RCP-1000, 1 Inch Extruder
With 12 Inch Flex Lip Die For Cast
Film, Coating And Lamination

See Cast Film Brochure:
<http://www.randcastle.com/cf43-49.pdf>



Patents: 5,486,328; 5,518,672, 5,569,429
Other U.S. And Foreign Patents Pending

Cast Film Picture Index

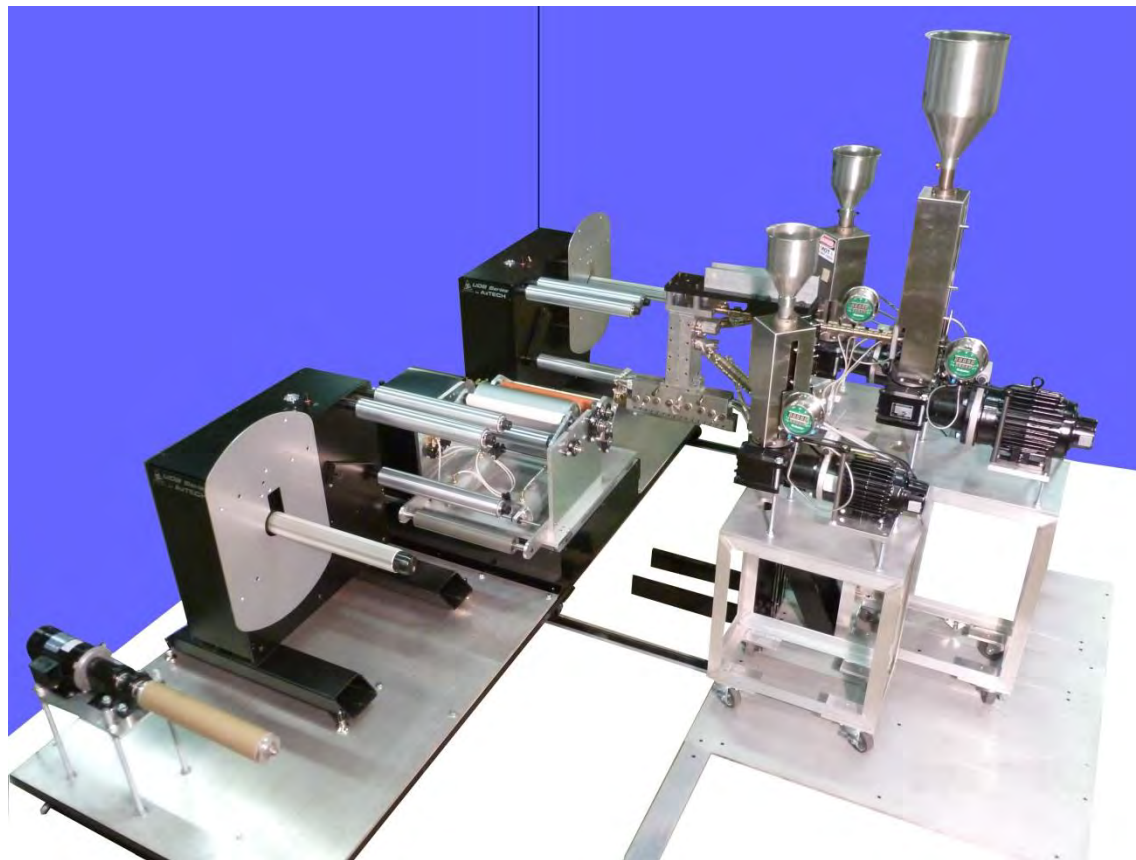
Coextrusion Lines:

- Page 3 to 9: 16 Inch wide 5 Layer coextrusion line for cast film, extrusion coating and lamination.
- Page 9: Feedblock
- Page 11: 12 Inch wide 3 Layer coextrusion line for cast film, coating and lamination.
- Page 12-14: 6 Inch wide 5 layer coextrusion line for cast film and extrusion coating.
- Page 15: 6 inch wide 7 layer bench coextrusion line for cast film.
- Page 16: Feedblocks
- Page 17: PLC for control, data recording, recipe

Monolayer Lines:

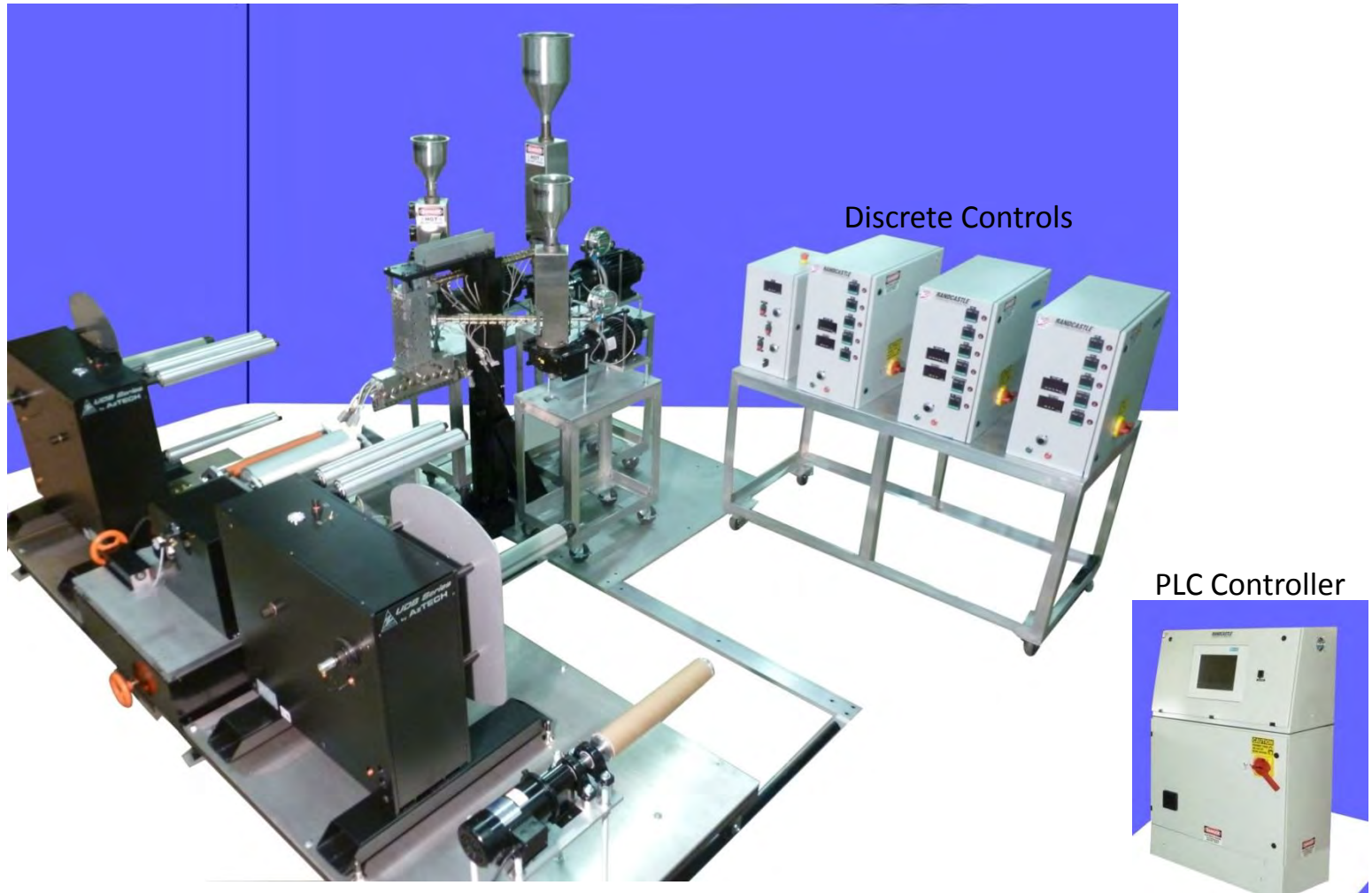
- Page 18: Advantages of horizontal Microtruders.
- Page 19-24: 6 inch line, horizontal Microtruder combines 3D compounding cast film, coating and lamination.
- Page 25-26: Advantages of vertical Microtruders
- Page 27: 12 inch line, vertical Microtruder, combines compounder with cast film.
- Page 28: 12 inch line, vertical Microtruder for cast film.
- Page 29-30: 6 Inch wide line for cast film and extrusion coating.
- Page 31: 6 Inch wide line for cast film with rheometer.
- Page 32: 6 Inch wide line for cast film on roll around table.
- Page 33: 6 Inch wide line for cast film with gear pump.
- Page 34: 4 Inch wide line for cast film.
- Page 35-36: 3 Inch wide line for cast film with dual payoffs to encapsulate sticky material.
- Page 37-39: 3 Inch wide line for cast film with low output screw.
- Page 37-39: 3 Inch wide line for cast film with low output screw.
- Page 40: 2.5 Inch wide line for cast film.
- Page 41: 2 Inch wide line for cast film.
- Page 42 to 55: Stand alone components for cast film: Chill Rolls, Coaters, Payoffs, Winders

16 Inch 5 Layer Coex Line Cast Film, Coating and Lamination



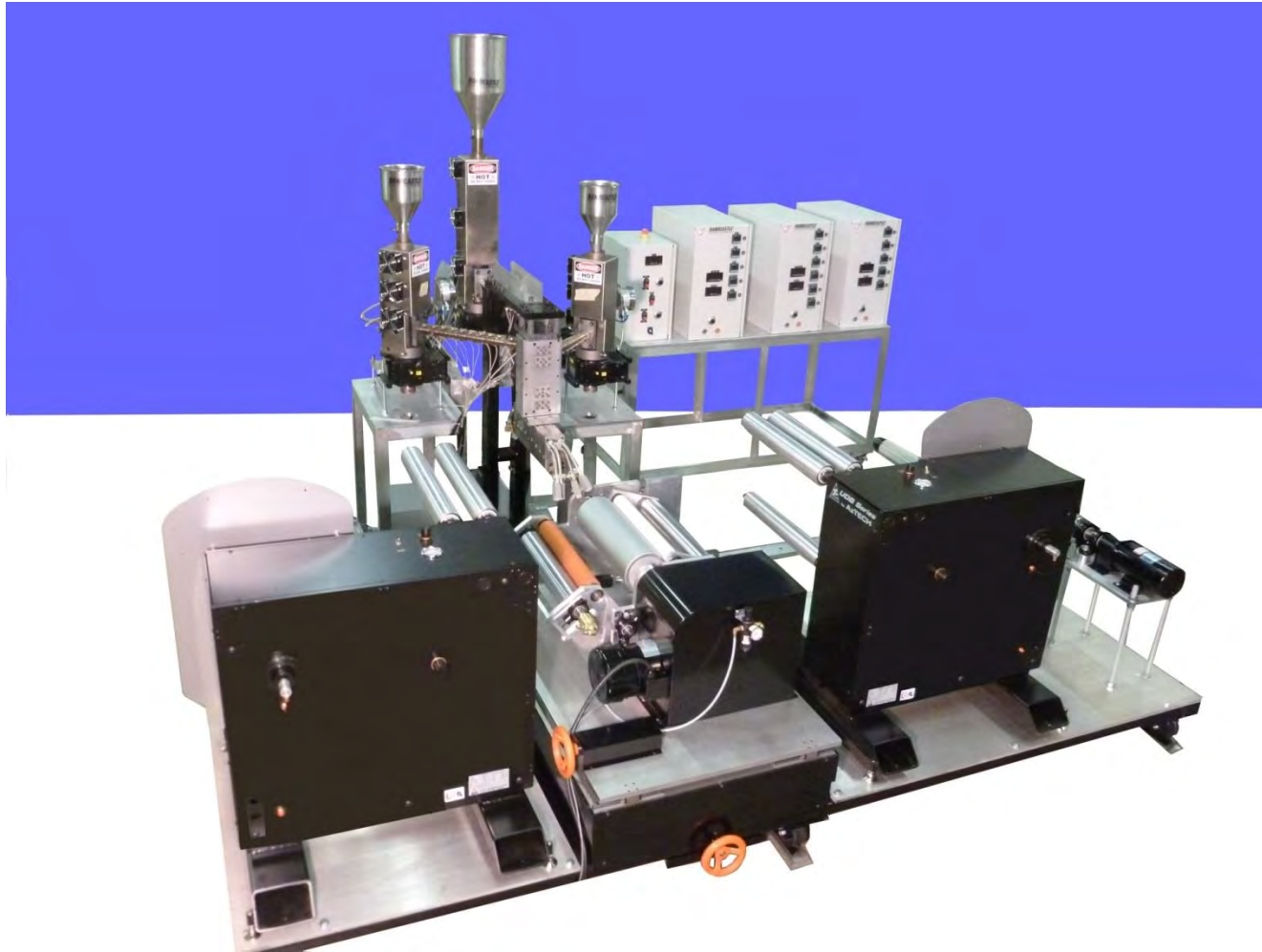
This line makes ABCBA to monolayer cast films or coat or laminate. Two RCP-0625 for thin layers and one RCP-1000 Microtruder for the thick layer. A feedblock, 16 inch flex lip die, dual payoffs with dancers, chill roll/coater/laminator with high PLI force and a torque winder.

16 Inch 5 Layer Coex Line Cast Film, Coating and Lamination



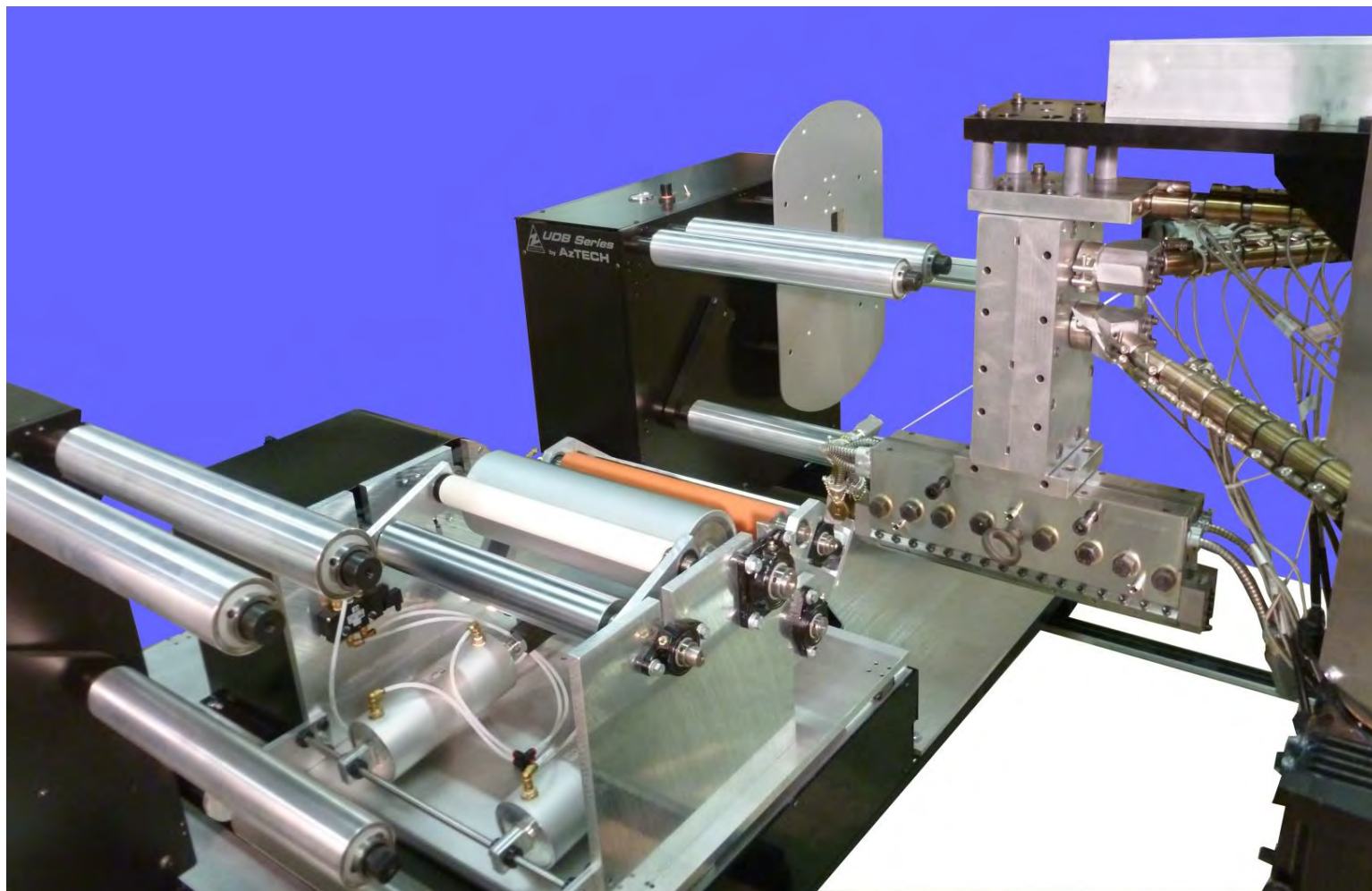
Rear view, shown with discrete control panels. PLC , right, also available. Note orange hand wheels for vertical and lateral adjustment

16 Inch 5 Layer Coex Line Cast Film, Coating and Lamination



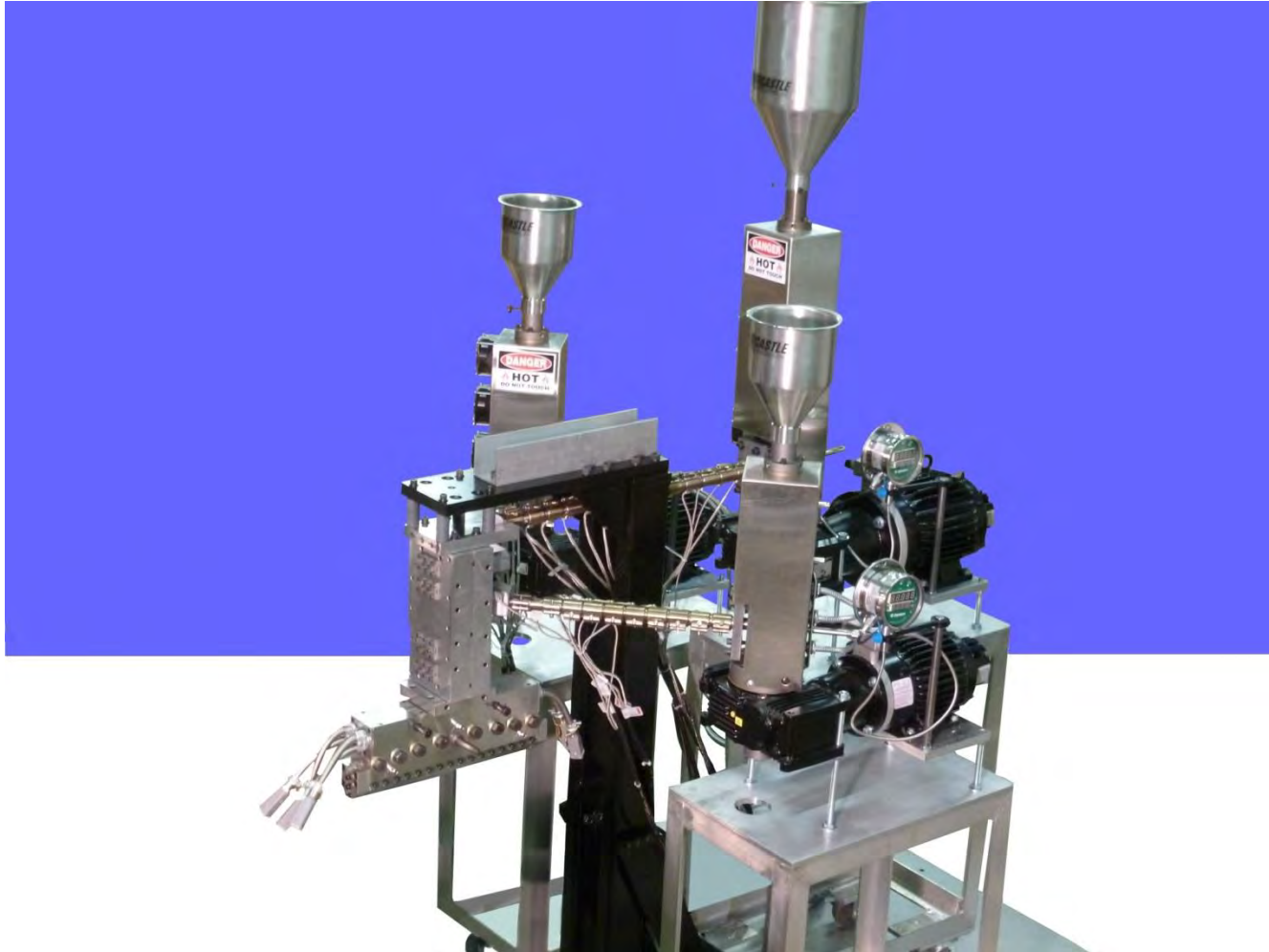
Rear view.

16 Inch 5 Layer Coex Line Cast Film, Coating and Lamination



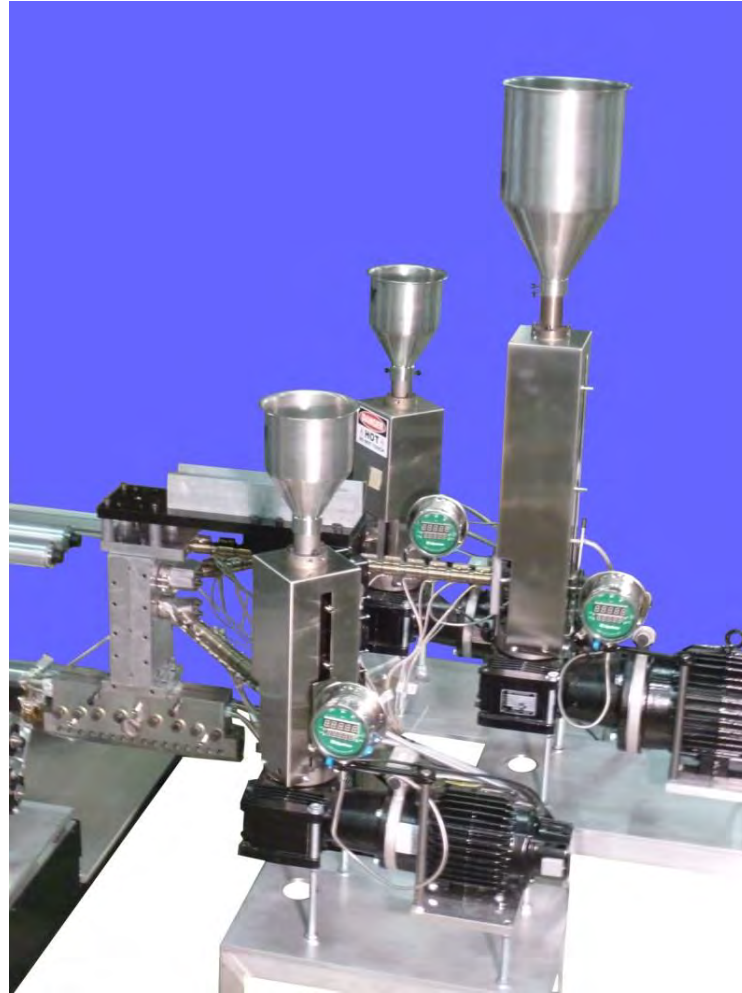
Close up with the chill roll/coater/laminator retracted from the die. Note the 4 inch pneumatic cylinders for high nip pressure.

16 Inch 5 Layer Coex Line Cast Film, Coating and Lamination



Close up with the extruders, feedblock and die.

16 Inch 5 Layer Coex Line Cast Film, Coating and Lamination



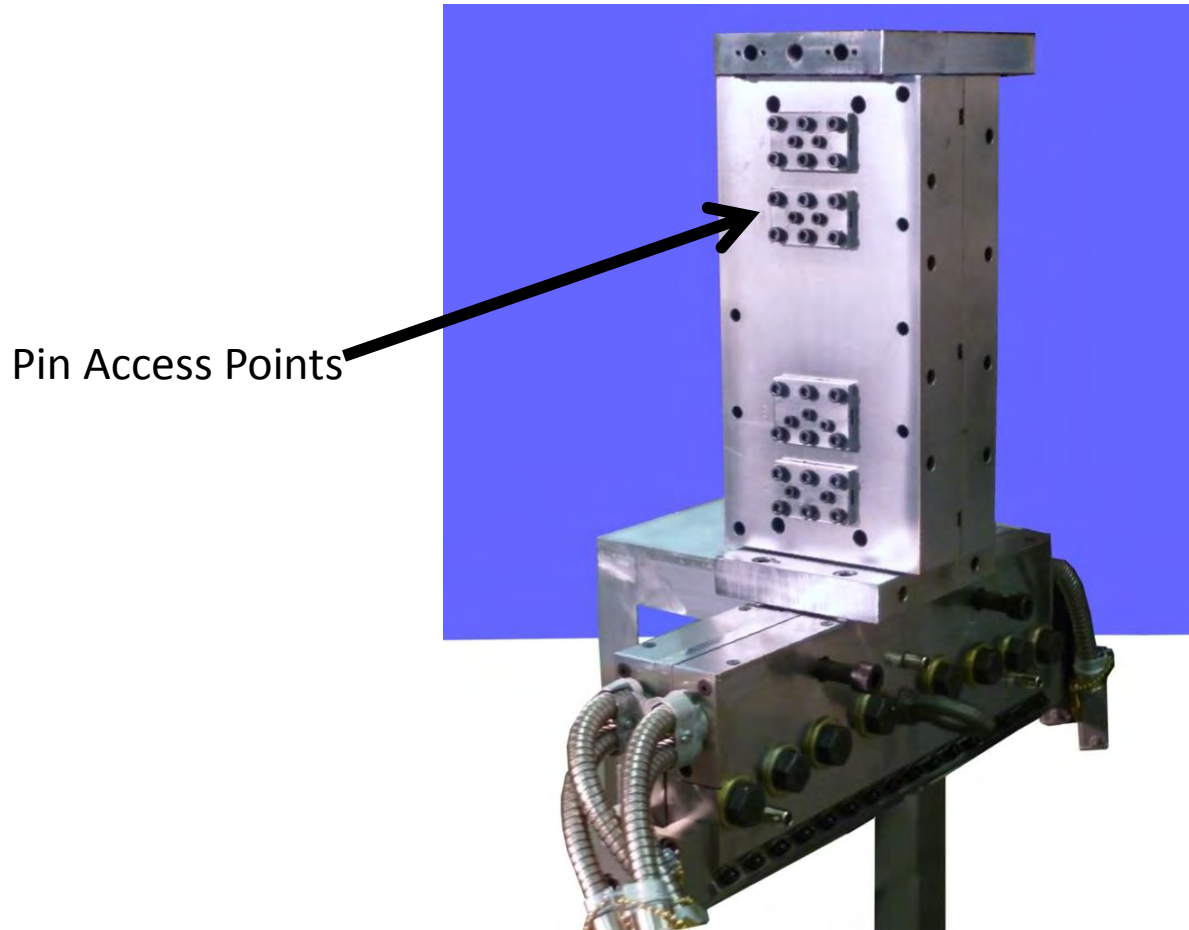
Close up with the extruders, feedblock and die.

16 Inch 5 Layer Coex Line Cast Film, Coating and Lamination



Close up with the extruders, feedblock and die looking over the laminator.

16 Inch 5 Layer Coex Line Cast Film, Coating and Lamination



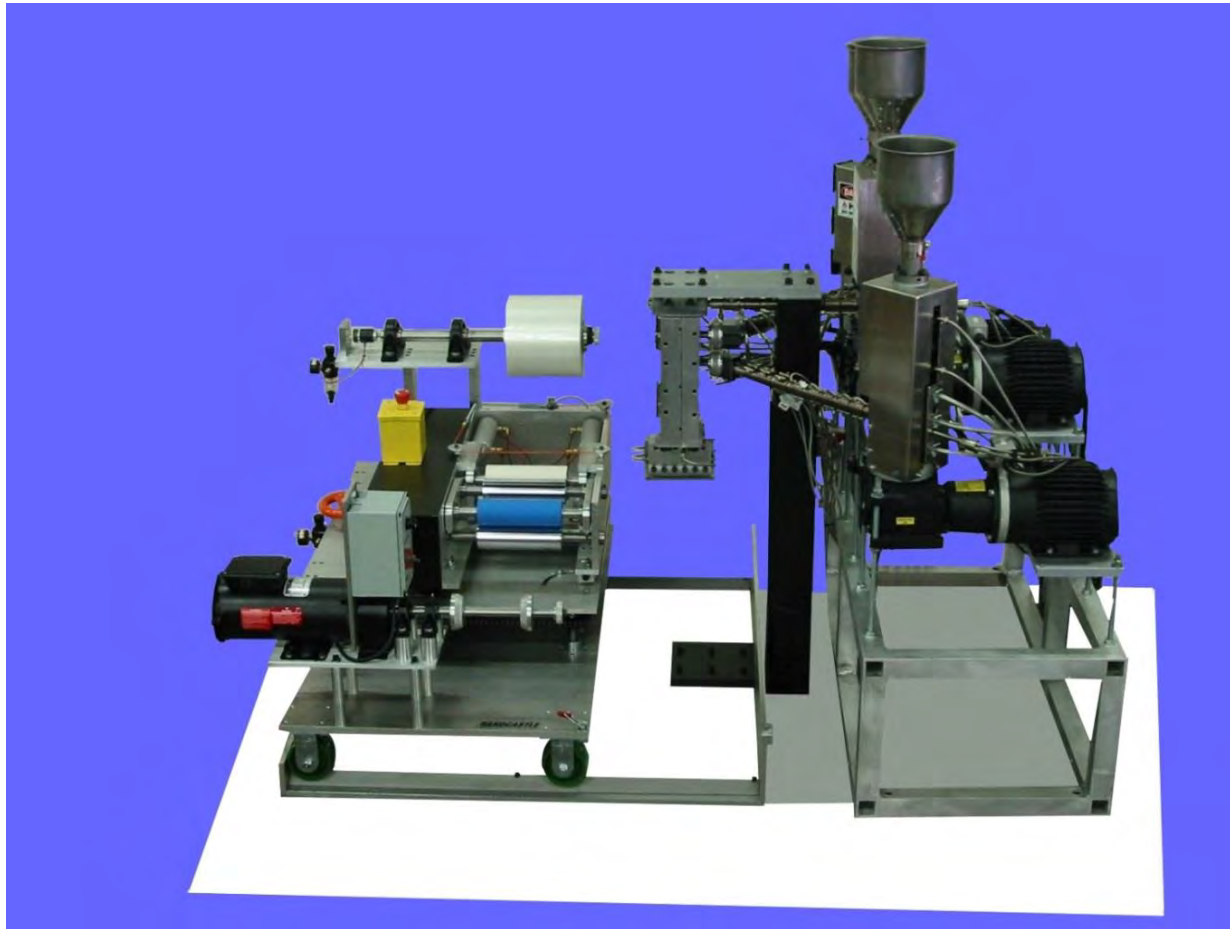
Close up of the feedblock and die. Interchangeable feedblock pins allow the user to turn off layers. Make ABCBA, ABCB, ABC, ABA, AB or monolayer structures. The pins also allow the user to modify the stream confluence to correct for viscosity mismatch, make stripes, etc..

12 Inch 3 Layer Coex Line Cast Film, Coating and Lamination



Line makes ABA, AB or monolayer cast films, coatings and laminations. An RCP-0625 and RCP-0750 Microtruder, feedblock, 12 inch vertical flex lip die, dual payoffs, 6 inch diameter chill roll/coater/laminator, 3 axis adjustment, high PLI nip and torque winder.

6 Inch 5 Layer Coex Line Cast Film and Extrusion Coating



This 3 extruder line makes ABCBA to monolayer cast films and extrusion coats. Two RCP-0625 and one RCP-0750 Microtruders, feedblock, 6 inch flex lip die, payoff, 6 inch diameter chill roll/coater/laminator, high PLI nip and torque winder with three axis adjustment.

6 Inch 5 Layer Coex Line Cast Film and Extrusion Coating



Back view, 3 extruder line makes ABCBA to monolayer cast films and extrusion coats. Two RCP-0625 and one RCP-0750 Microtruders, feedblock, 6 inch flex lip die, dual payoffs, 6 inch diameter chill roll/coater/laminator, high PLI nip and torque winder with three axis adjustment.

6 Inch 5 Layer Coex Line Cast Film and Extrusion Coating



All the coater/laminators allow very close positioning of the die to the chill roll and pressure roll.

Close up of payoff, extruders, feedblock, die and chill roll/coater.

6 Inch 7 Layer Cast Film Line



This line makes ABCDCBA to monolayer structures with one RCP-0625 Microtruder and three RCP-0500 Microtruders, line PLC control panel, feedback, slot die and winder.

Three Sequential Layering Feedblocks

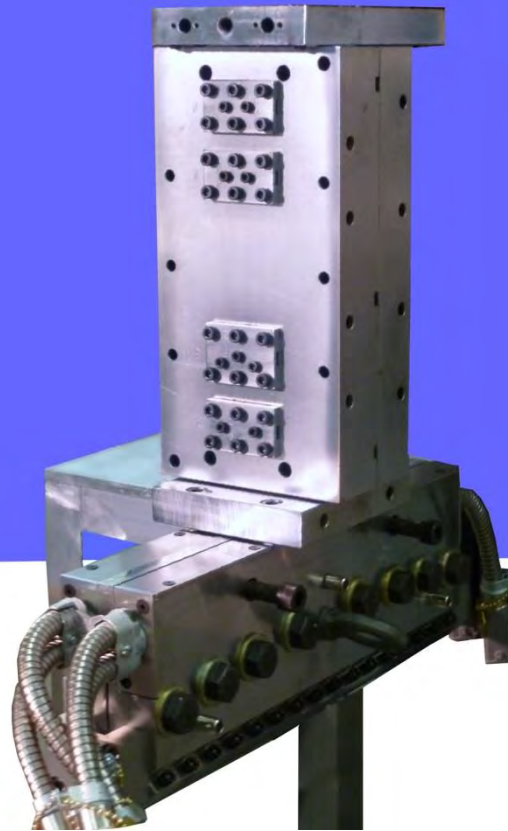
Low Volume Feedblock



Disassemble feedblock to change structures ABCBA, ABCB., ABCA, ABA, AB or A, B or C.

Easy Change Feedblock

Our most popular, versatile model. Change simple pins to turn layers on and off. Insert custom pins to correct for viscosity mismatch between layers or make stripped film. No need to take the feedblock apart since all the pins are accessible from the outside.



Modular Feedblocks

Add additional layers as your needs increase. These 3 modules make up to 7 layers.



PLC For Control and Data Recording



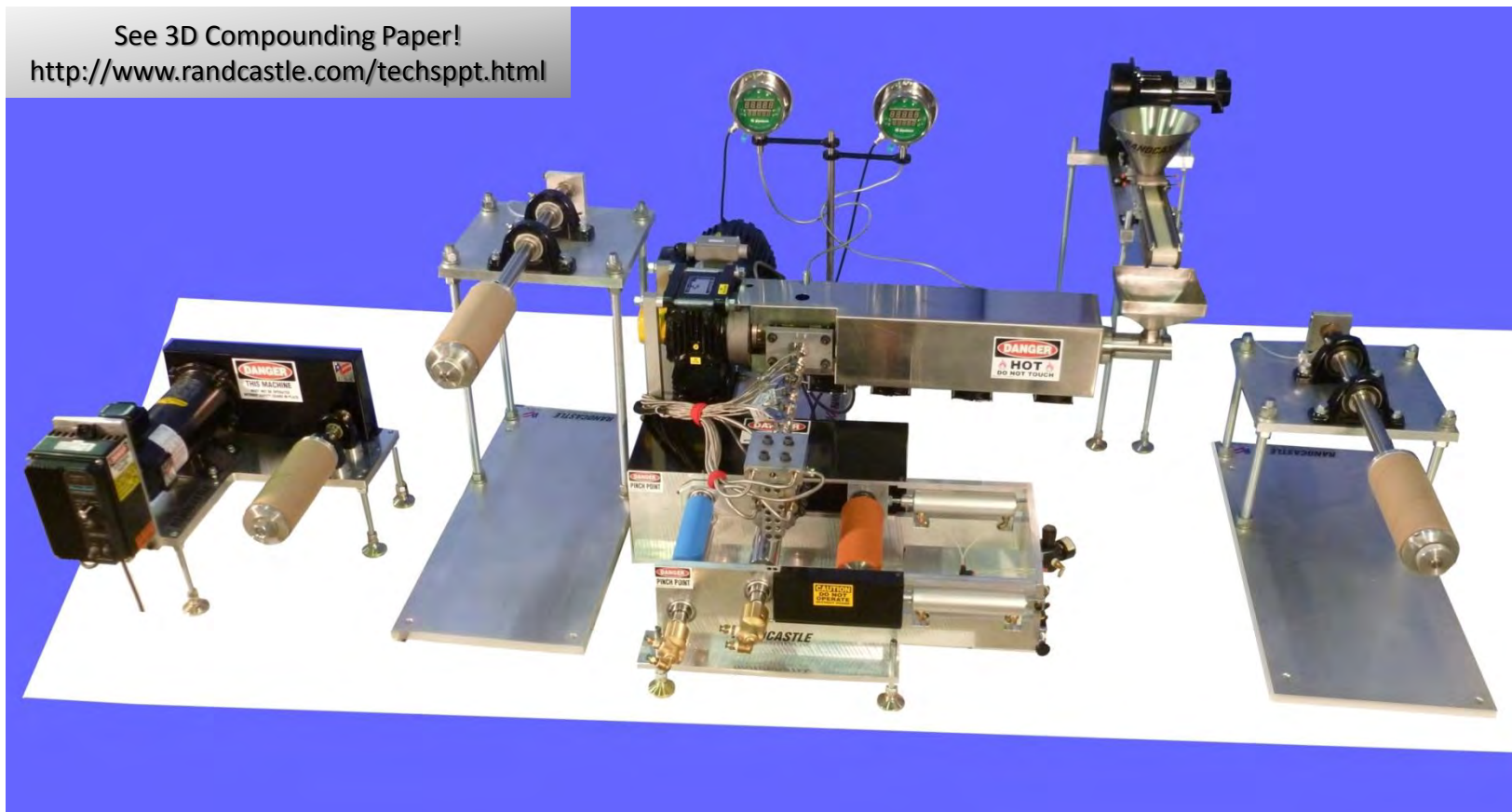
Control and temperature , screw speed, pressure, downstream motors in one convenient touch screen package.

Monolayer Using Horizontal Microtruders:

- **Space Saving:** The discharge can be horizontal, vertical (up or down) or in 45 degree increments:
 - Shorten residence time by eliminator transfer tubes.
 - Lower cost without an adaptor zone.
- **Strong Screw:** Horizontal Microtruders use the same tip driven design as vertical Microtruder for vastly better strength than conventional screws.
- **Ease Of Compounding:** Keep the hopper below eye level to make it easy to regulate starve feeding when you compound as you make film, coat or laminate.

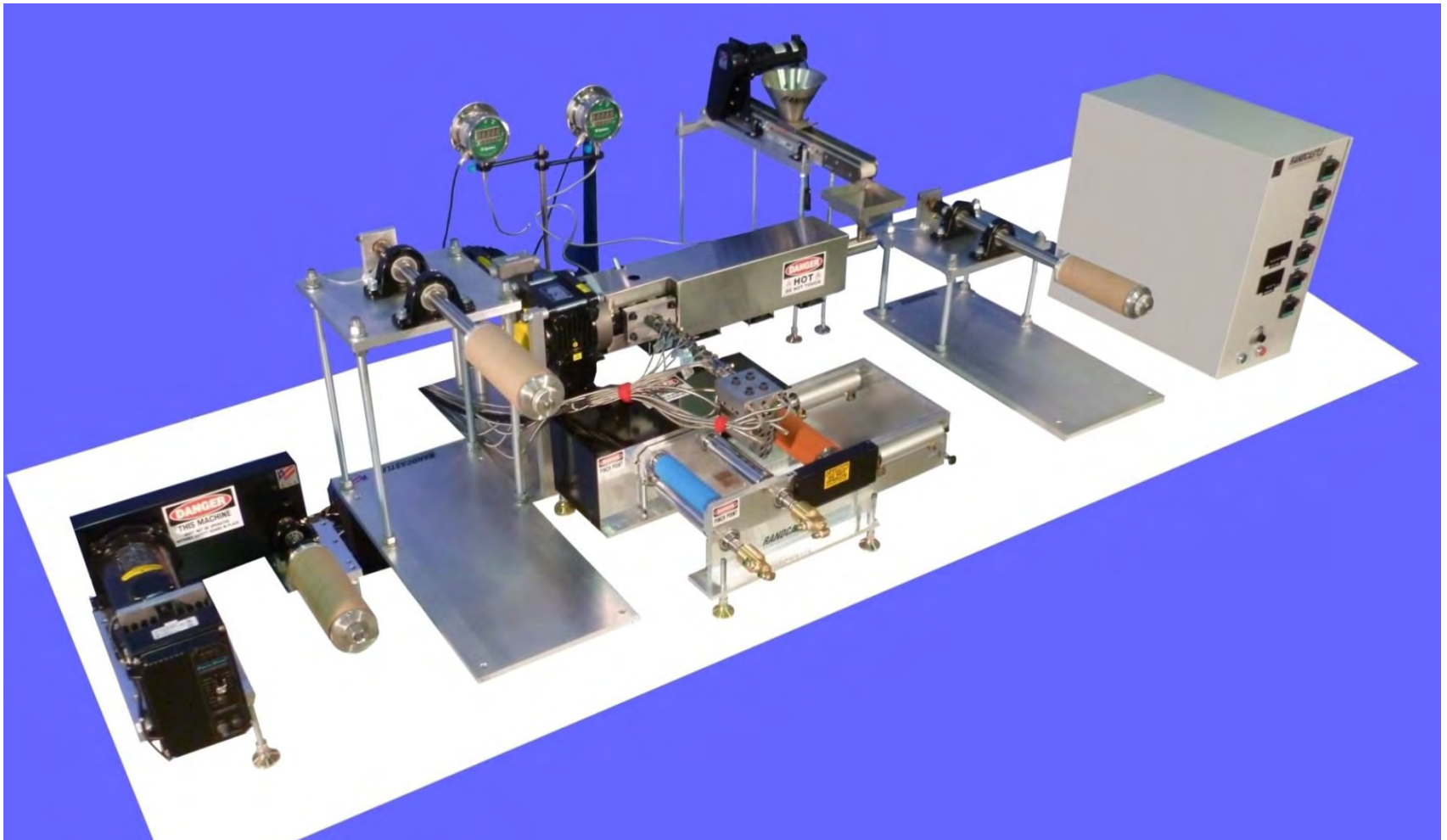
Compound While You Make Cast Film, Or Extrusion Coat or Laminate

See 3D Compounding Paper!
<http://www.randcastle.com/techspt.html>



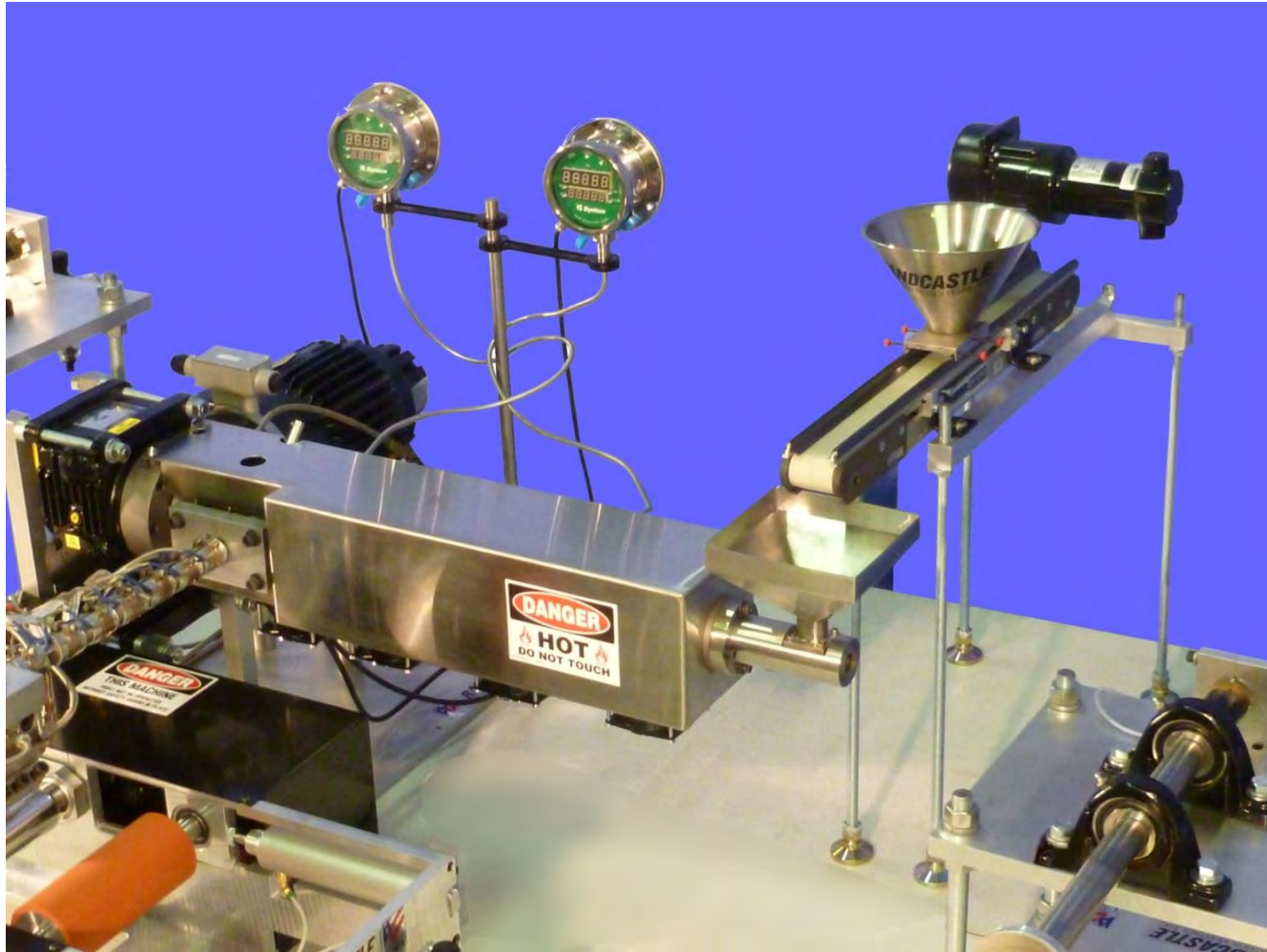
Compound 3 dimensionally for 1,000 times better mixing than conventional single screws. This horizontal RCP-0625 Microtruder is a 36/1 L/D with 3 patented Elongator mixers, starve feeder, dual payoffs, 6 inch die chill roll and winder in a space saving design. Without the payoffs, coat single sheets or guide small sample strips or rolls by hand.

Compound While You Make Cast Film, Or Extrusion Coat or Laminate



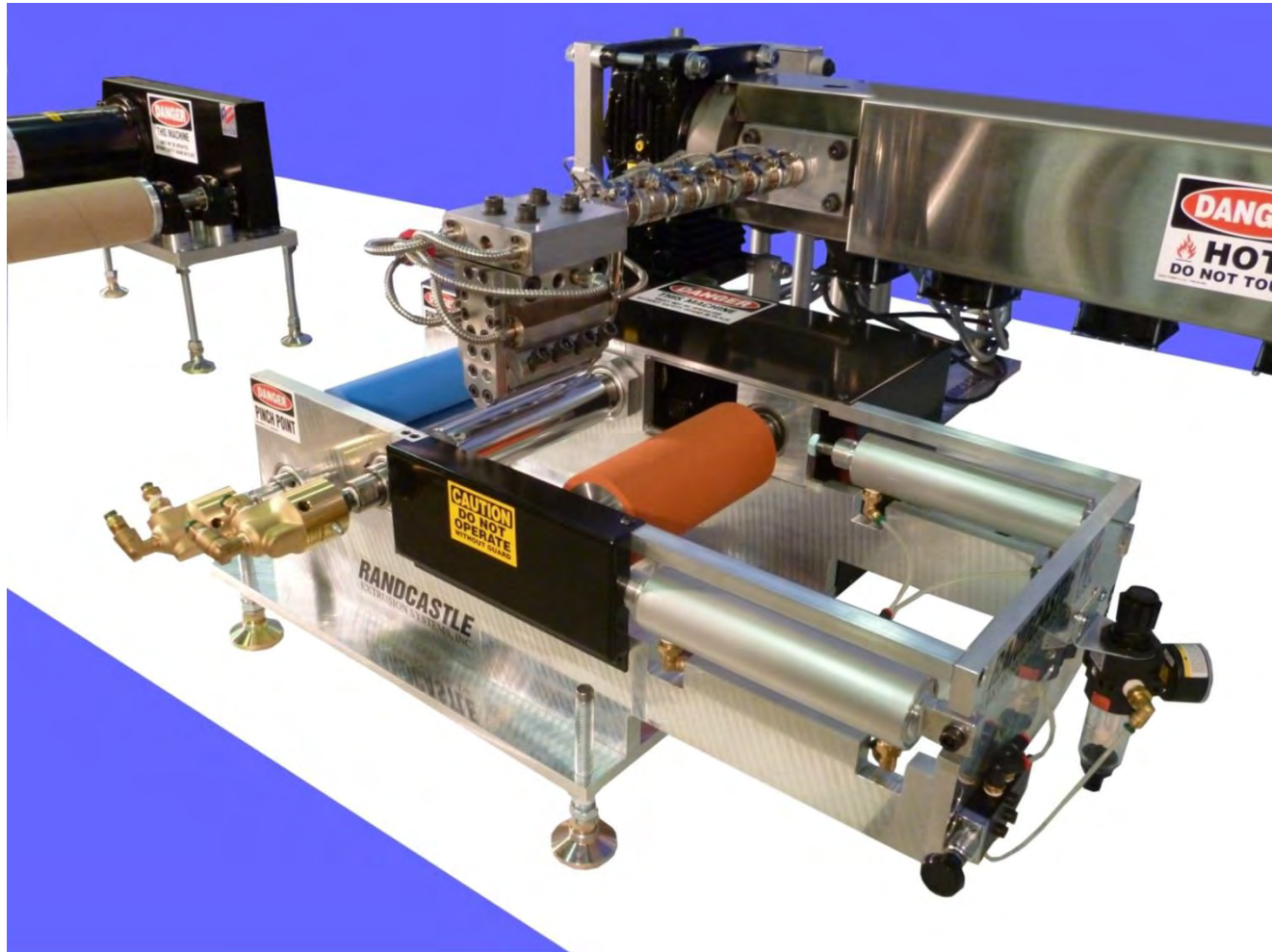
End View Close Up: Bench top line with extruder control panel far right.

Compound While You Make Cast Film, Extrusion Coat or Laminate



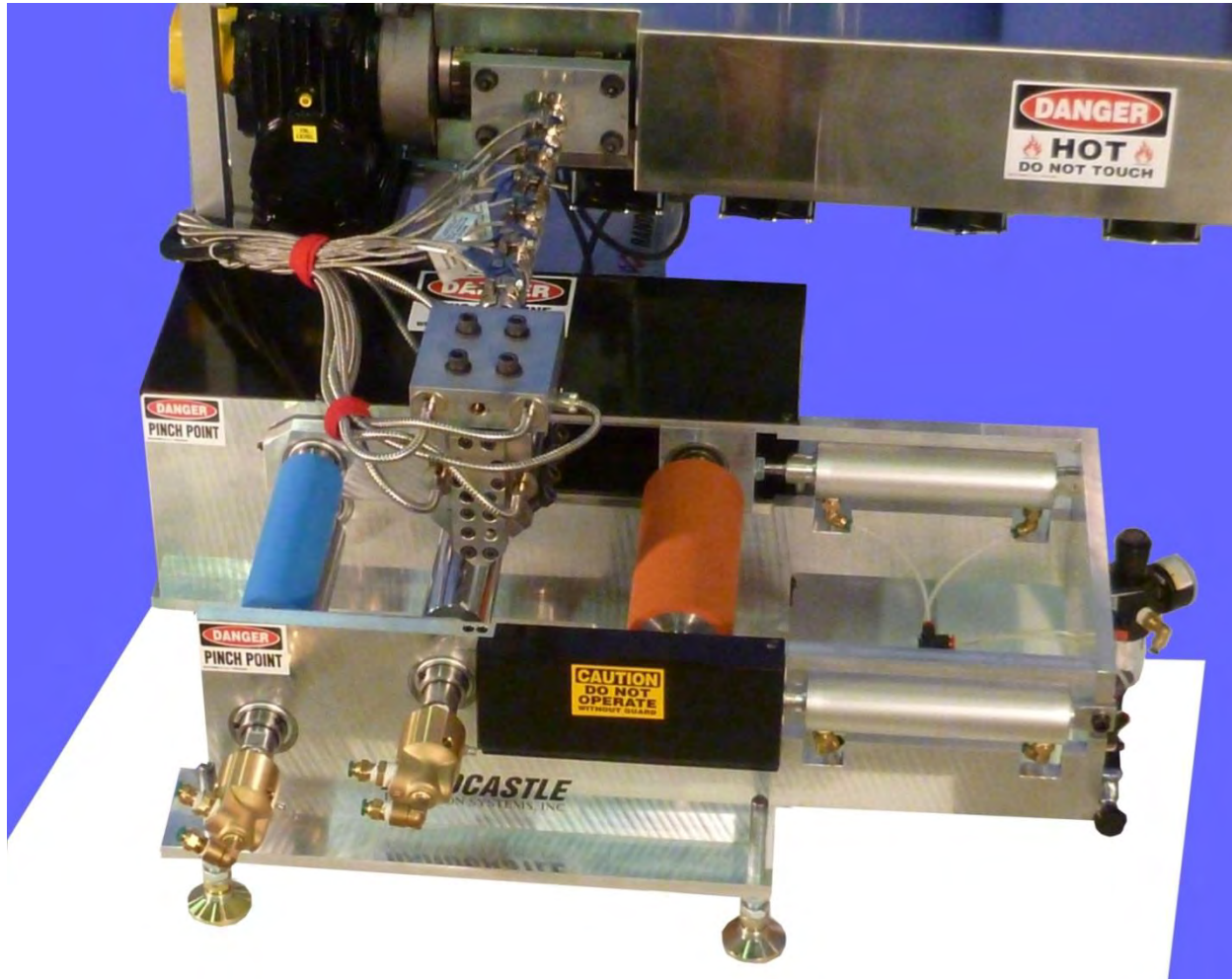
Close up of extruder, feeder with partial view of chill roll and one of the payoffs.

Compound While You Make Cast Film, Or Extrusion Coat or Laminate



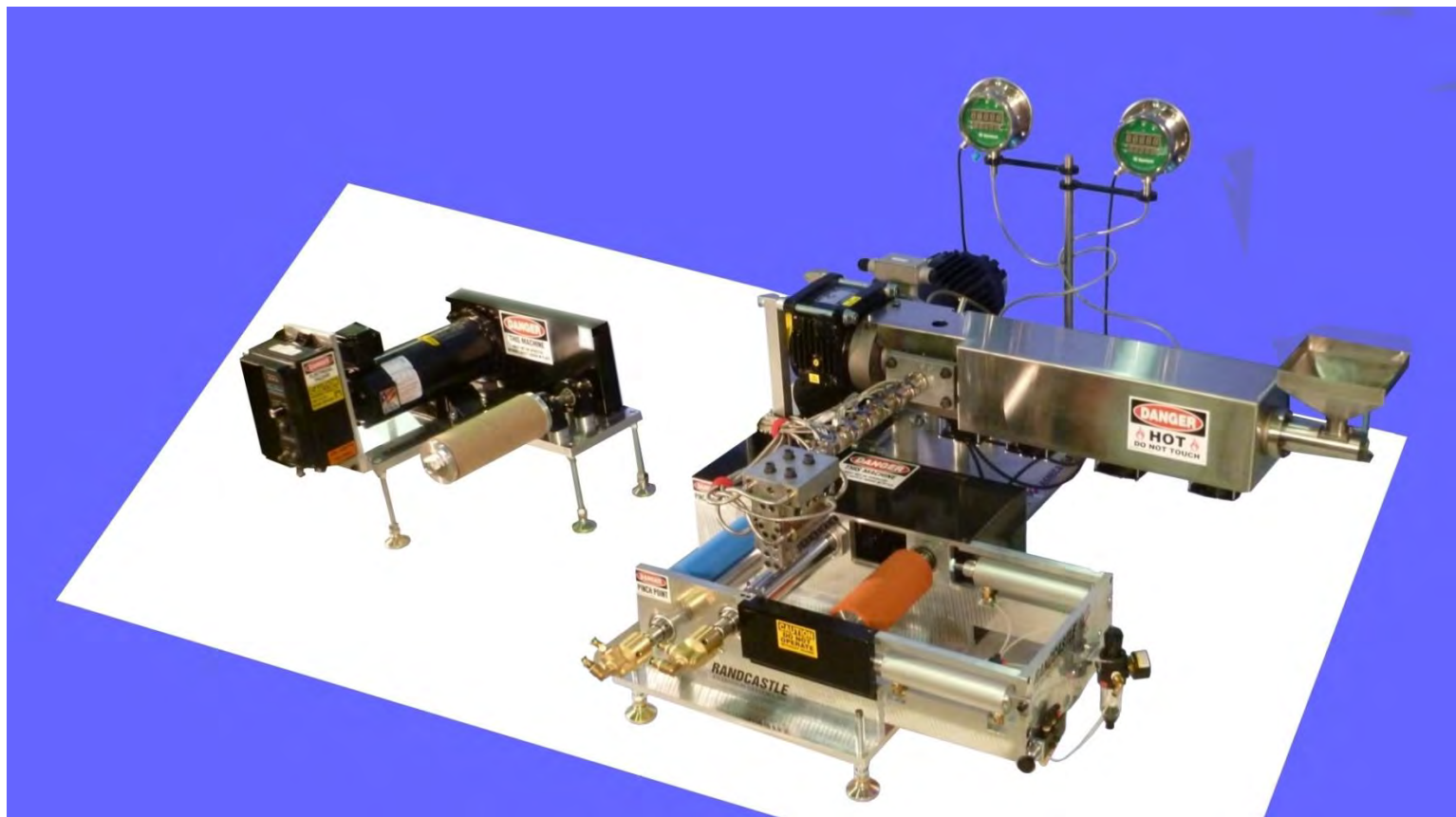
Close up of transfer tube, die and nipped chill roll with air cylinders.

Compound While You Make Cast Film, Or Extrusion Coat or Laminate



Close up of die and nipped chill roll . Clean design is ideal for single test sheets

Compound While You Make Cast Film Or Extrusion Coat Test Sheets



This RCP-0625 compounder mixes 1,000 times better than conventional single screws with polymers or particulate. The space saving line has a horizontal RCP-0625 Microtruderis a 36/1 L/D with three 3D compounding Elongators, starve feeder, payoffs, chill roll and winder. Add the payoffs later to coat rolls of material and extrusion coat or laminate.

Monolayer Film Lines

Using Vertical Microtruders:

Vertical Microtruders feed better:

- ✓ The screw extends into the feed section for better feeding.
- ✓ The screw is surrounded by the feed section for better feeding.
- ✓ Multiple feed section designs are available to match your material to your feedstock for better feeding.
- ✓ The screws agitate the feed stock for better feeding and can include stirrers for irregular or poorly flowing feedstocks .

Monolayer Film Lines

Using Vertical Microtruders:

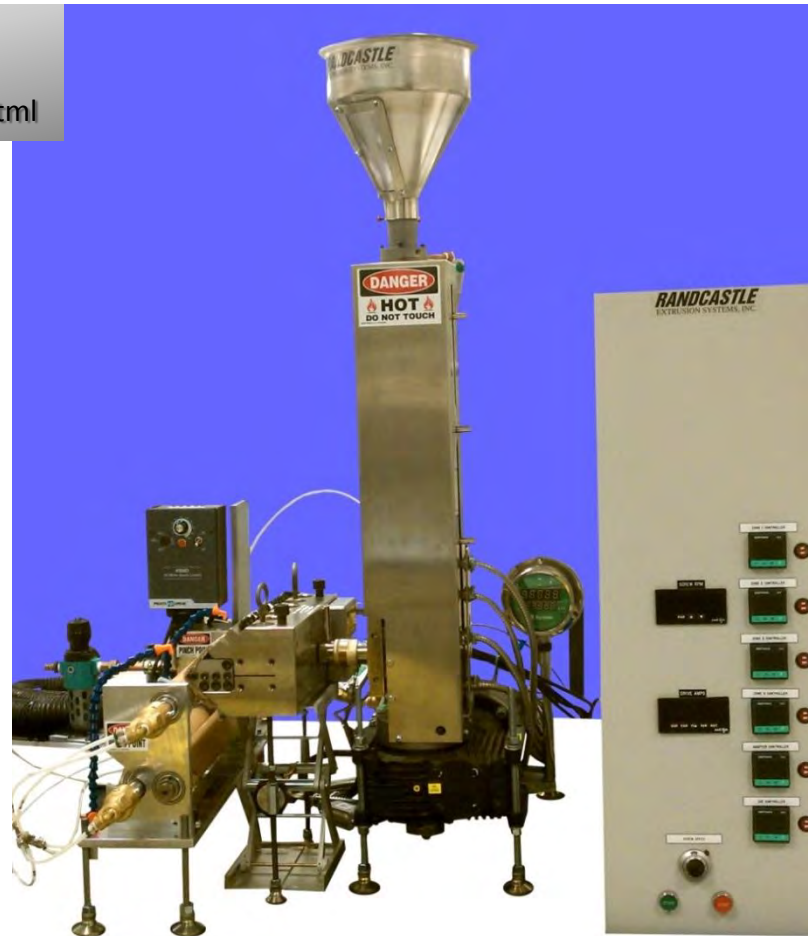
Vertical Microtruders have strong screws:

- ✓ The power is transmitted through the large metering screw which is much stronger than the feed section where the load is low.
- ✓ See <http://www.randcastle.com/ebstgs.html>

3D Compound While Making Cast Film

See 3D Compounding Paper

<http://www.randcastle.com/techspt.html>



Combine excellent flood fed compounding of polymers with this RCP-0625 Microtruder, 36/1, with three Elongator mixers, 12 inch wide die, chill roll and parallel torque winder (not shown) in a space saving design.

12 Inch Cast Film Line



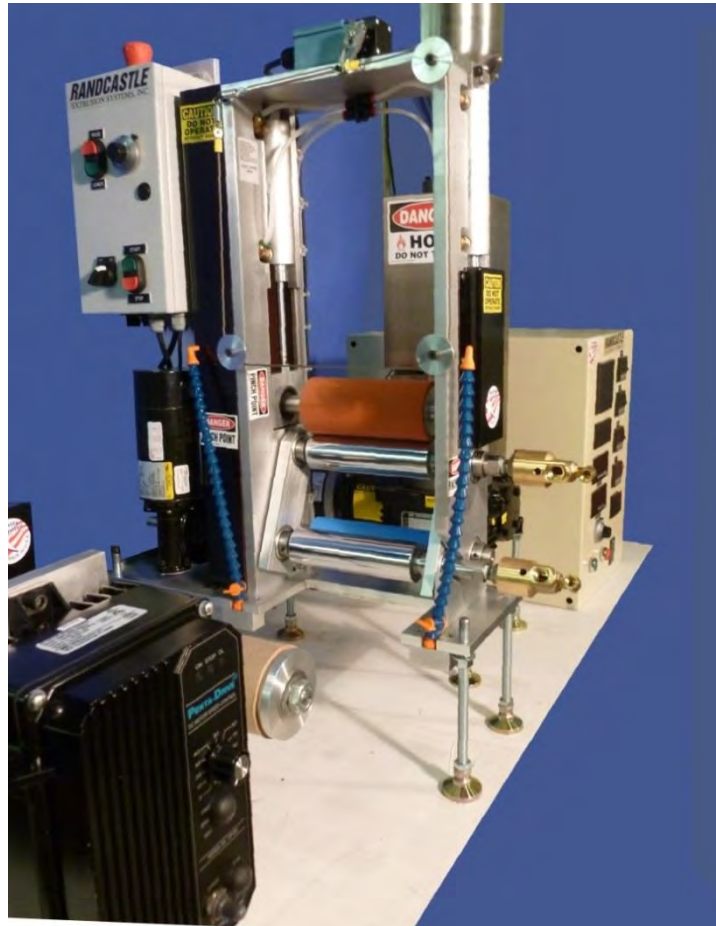
RCP-0750 Microtruder with 12 inch fixed opening slot die, 14 inch chill roll and in-line torque winder.

Cast Film/Coating Line



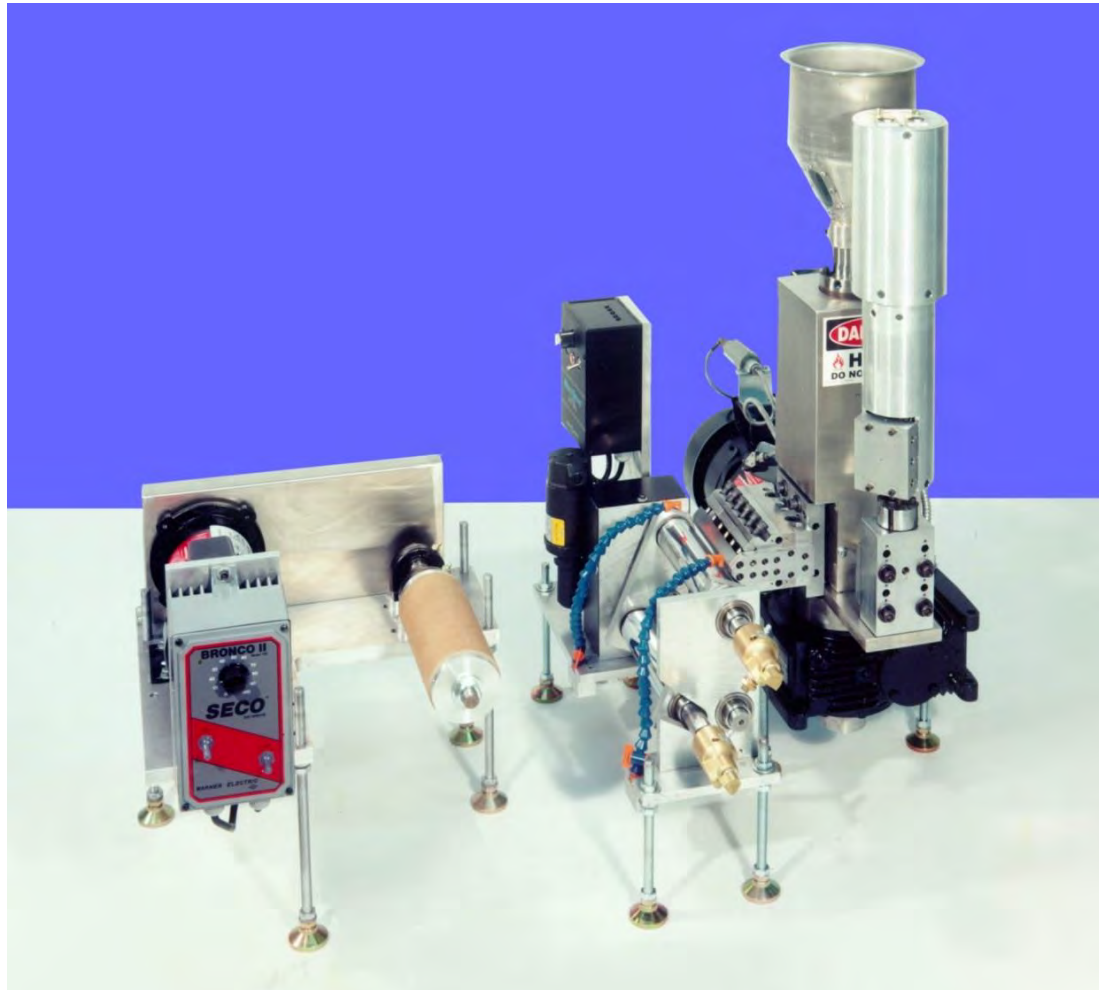
Front view of combination line to make cast film, coat single sheets or coat small hand held rolls of substrate. RCP-0625 Microtruder, 24/1 L/D, 6 inch flex lip die, coater/chill roll and parallel torque winder.

Cast Film/Coating Line



End view of combination line to make cast film, coat single sheets or small rolls of substrate using pneumatically loaded nip roll. RCP-0625 Microtruder, 24/1 L/D, 6 inch flex lip die, coater/chill roll and parallel torque winder.

6 Inch Cast Film Line



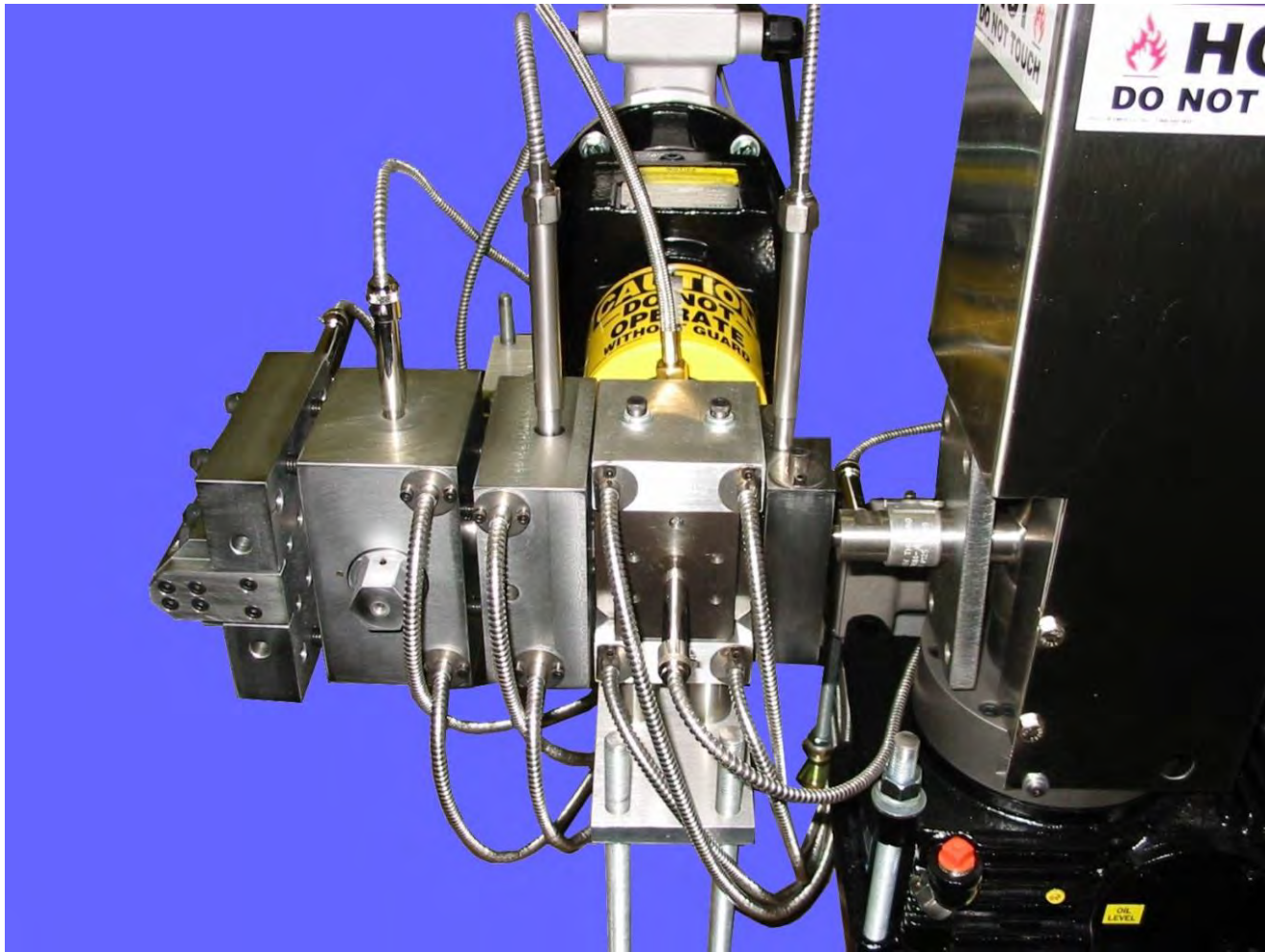
RCP-0625 Microtruder with 6 inch flex lip die, chill roll and parallel torque winder. An in line rheometer is shown in the foreground.

6 Inch Cast Film Line On Cart



This space saving design puts the RCP-0625 Microtruder, 6 inch slot die, chill roll, parallel torque winder affixed to moveable table with the control panel underneath.

Gear Pump In Cast Film Line



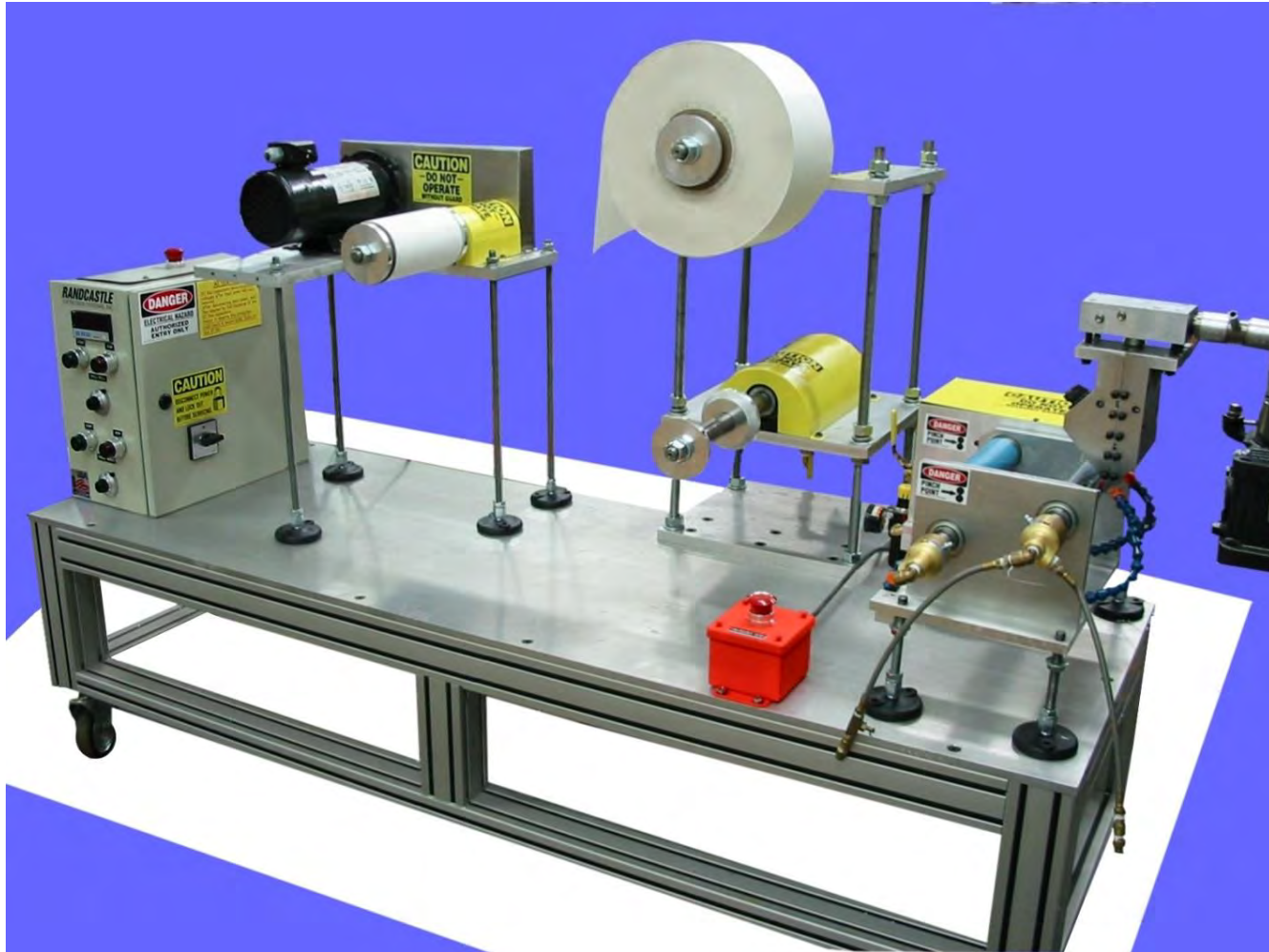
RCP-0625 Microtruder, gear pump, purge valve and 6 inch slot die. Pressure is automatically controlled at the pump inlet and measured and after the gear pump.

4 Inch Cast Film Line



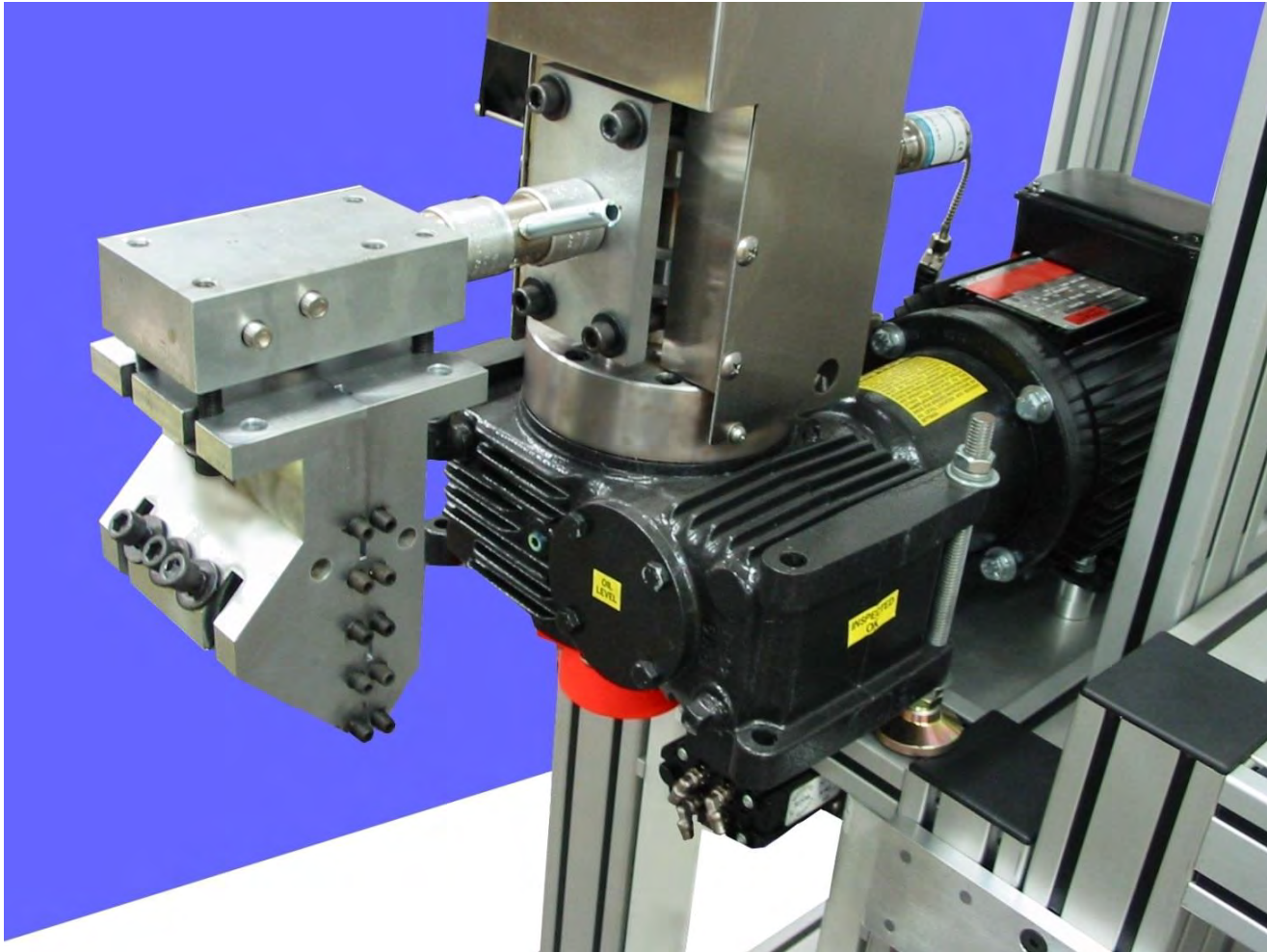
RCP-0500 Microtruder with 4 inch slot die and chill roll.

3 Inch Cast Film Line: Sticky Material



The dual payoffs allow sticky adhesive film capture between layers of release paper. This line also features a 3 inch vertical die, 7 inch chill roll and winder on a mobile cart.

3 Inch Die For Cast Film Line



Close up of 3 inch vertical die in on an adjustable height base

3 Inch Cast Film Line



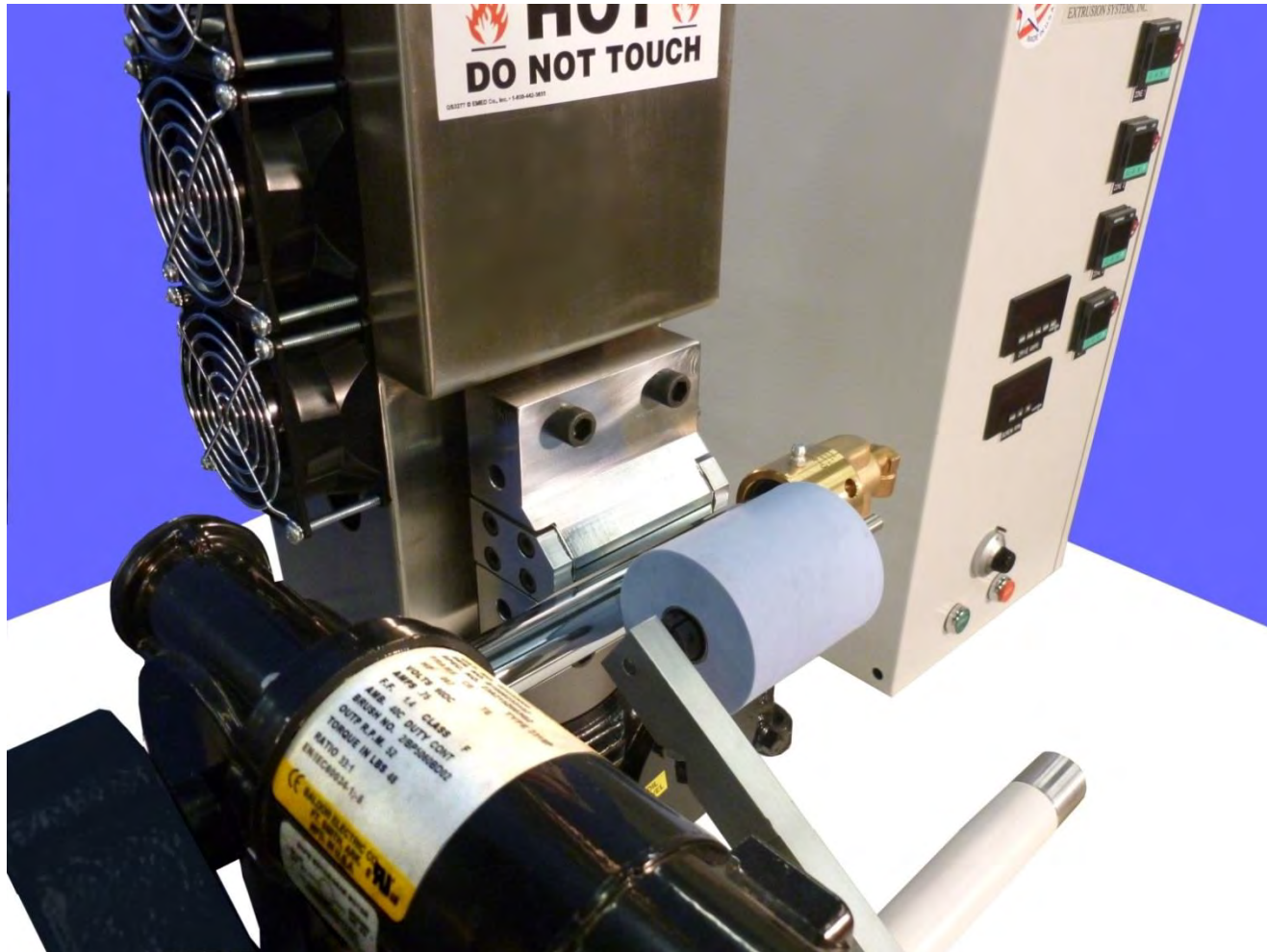
This RCP-0500 has a special low output screw to conserve material , a fixed opening die, micro-chill roll and winder.

3 Inch Cast Film Line



Front View of RCP-0500 has a special low output screw to conserve material , a fixed opening die, micro-chill roll and winder.

3 Inch Cast Film Line



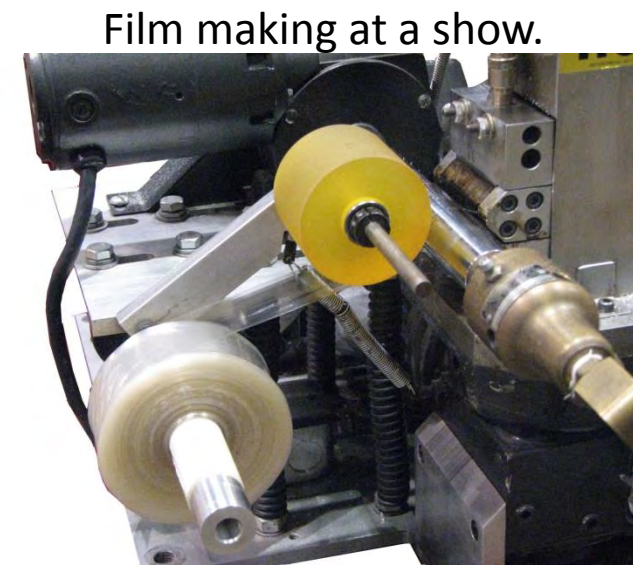
Close up of RCP-0500 with special low output screw to conserve material , a fixed opening die, micro-chill roll and winder.

2.5 Inch Cast Film Line



RCP-0375 Microtruder with control panel
2.5 inch strip die, 7 inch chill roll and in-line torque winder.

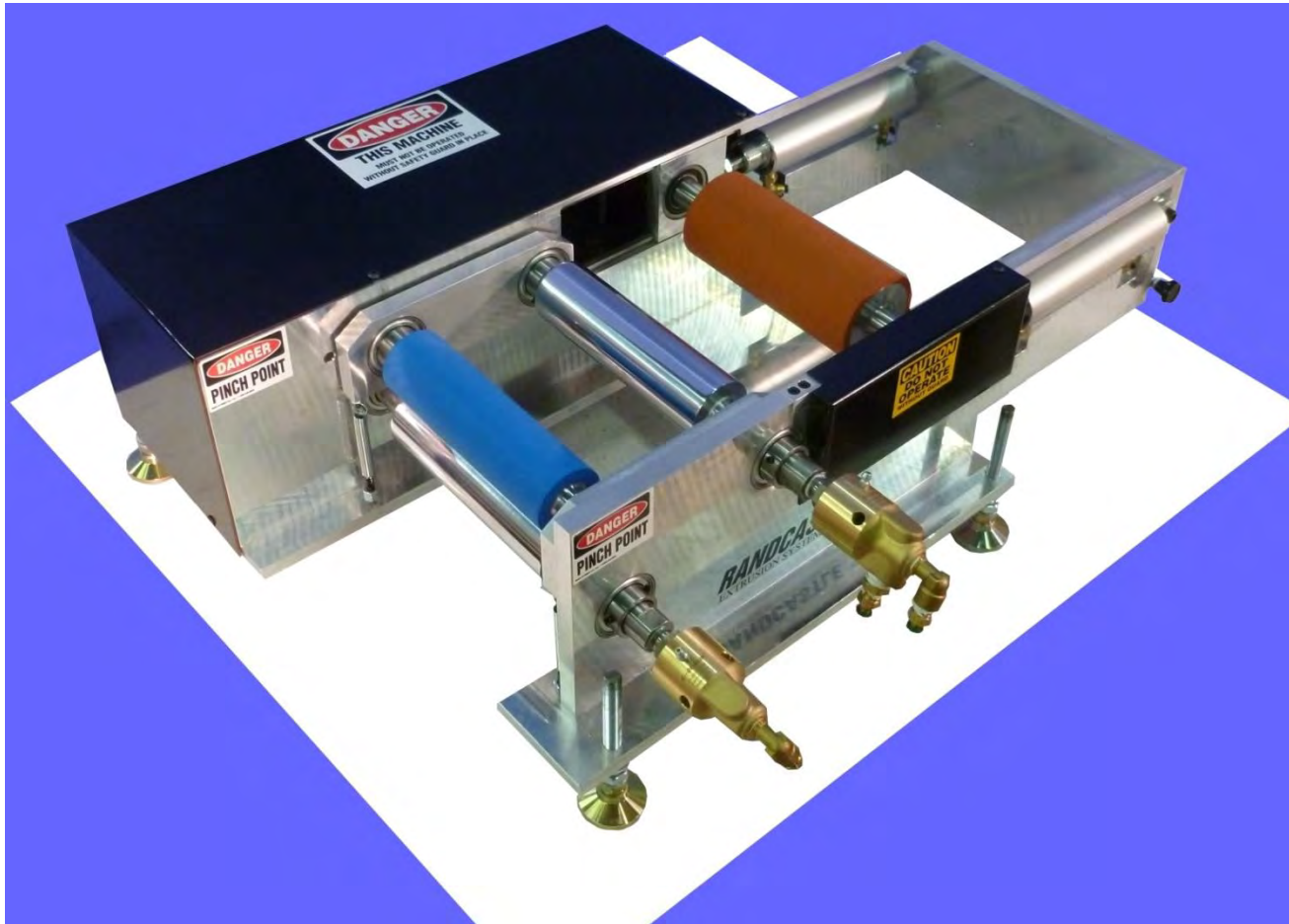
2 Inch Cast Film Line



RCP-0250 Microtruder for powdered feed with 2 inch die, chill roll and winder.

Chill Rolls/Coaters

7 Inch Wide Chill Roll With Nip



Front view, for vertical die, variable speed, ideal for dies 6 inches and smaller. Variable speed chill roll includes rotary unions for roll heating/cooling, pneumatic nip roll to press extrudate to substrate for extrusion coating. Available in 14 inch width.

7 Inch Wide Chill Roll With Nip



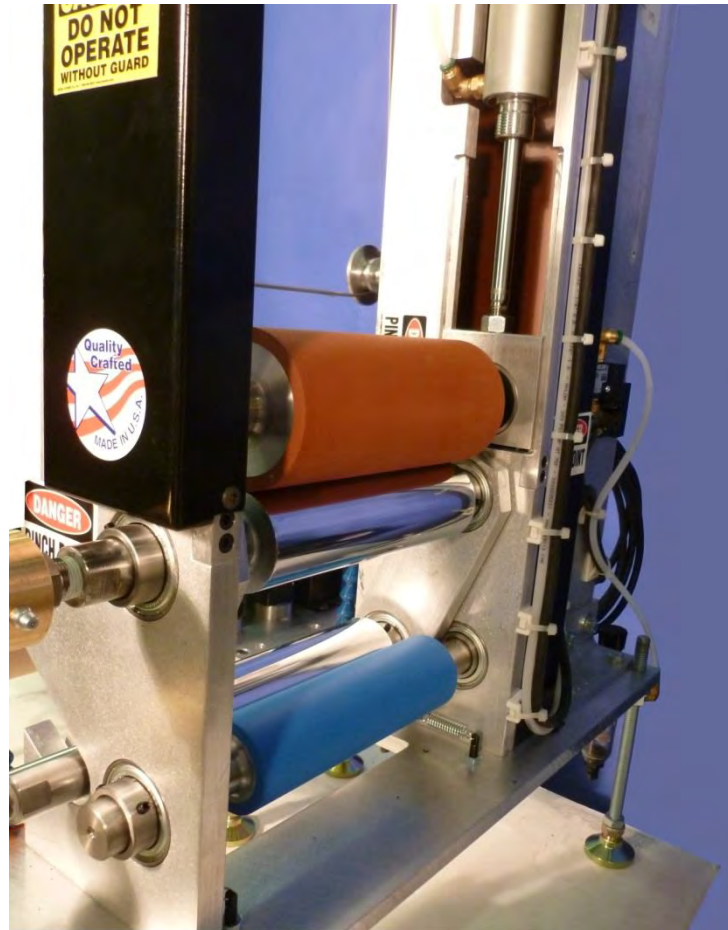
Front view, for horizontal die, variable speed, ideal for dies 6 inches and smaller. Variable speed chill roll includes rotary unions for roll heating/cooling, pneumatic nip roll to press extrudate to substrate for extrusion coating. Available in 14 inch width.

7 Inch Wide Chill Roll With Nip



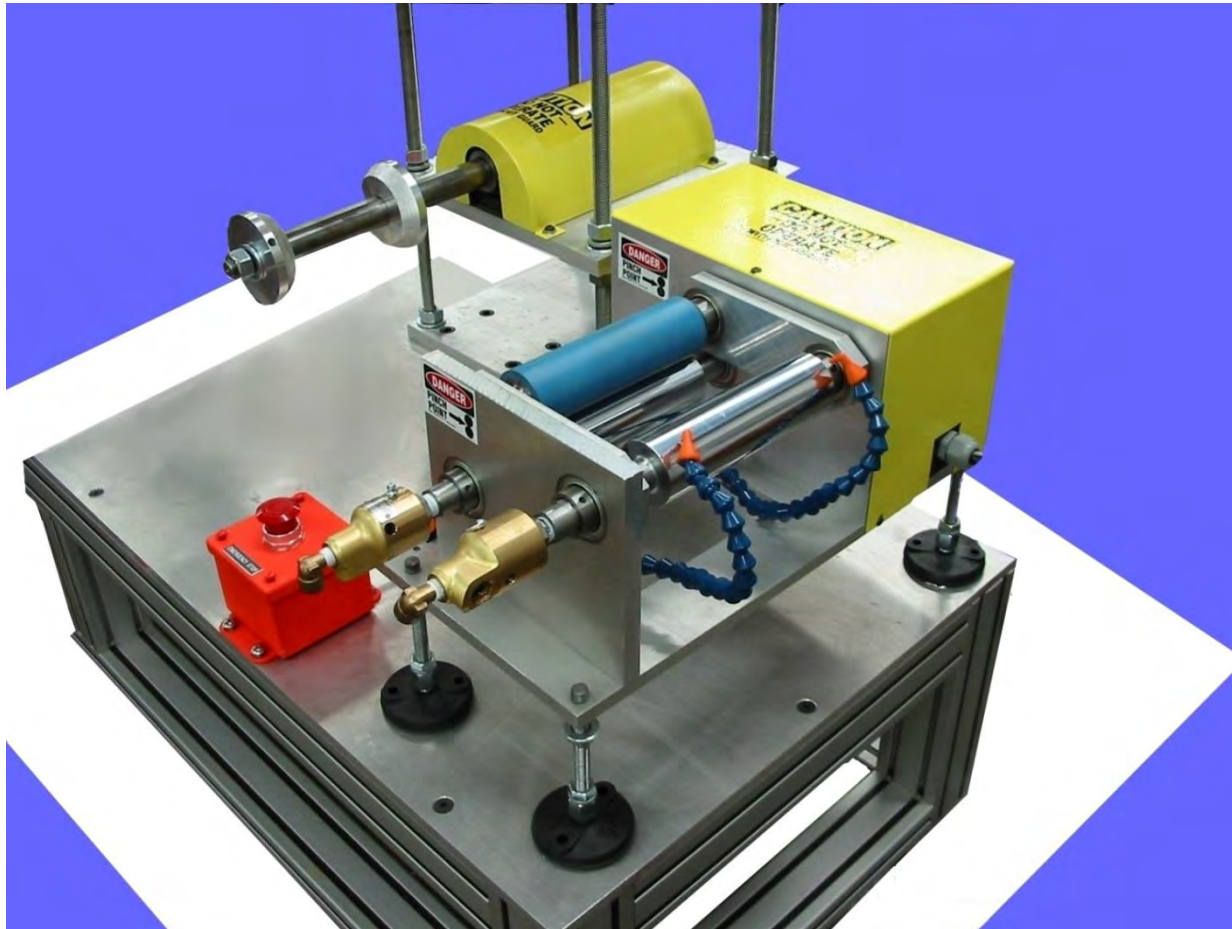
Back view, for horizontal die, variable speed, ideal for dies 6 inches and smaller. Variable speed chill roll includes rotary unions for roll heating/cooling, pneumatic nip roll to press extrudate to substrate for extrusion coating. Available in 14 inch width.

7 Inch Wide Chill Roll With Nip



Back view, for horizontal die, variable speed, ideal for dies 6 inches and smaller. Variable speed chill roll includes rotary unions for roll heating/cooling, pneumatic nip roll to press extrudate to substrate for extrusion coating. Available in 14 inch width.

7 Inch Wide Chill Roll



Front view, for vertical die, variable speed, ideal for dies 6 inches and smaller. Variable speed chill roll includes rotary unions for roll heating/cooling, edge pinners and easy die positioning.

7 Inch Wide Chill Roll



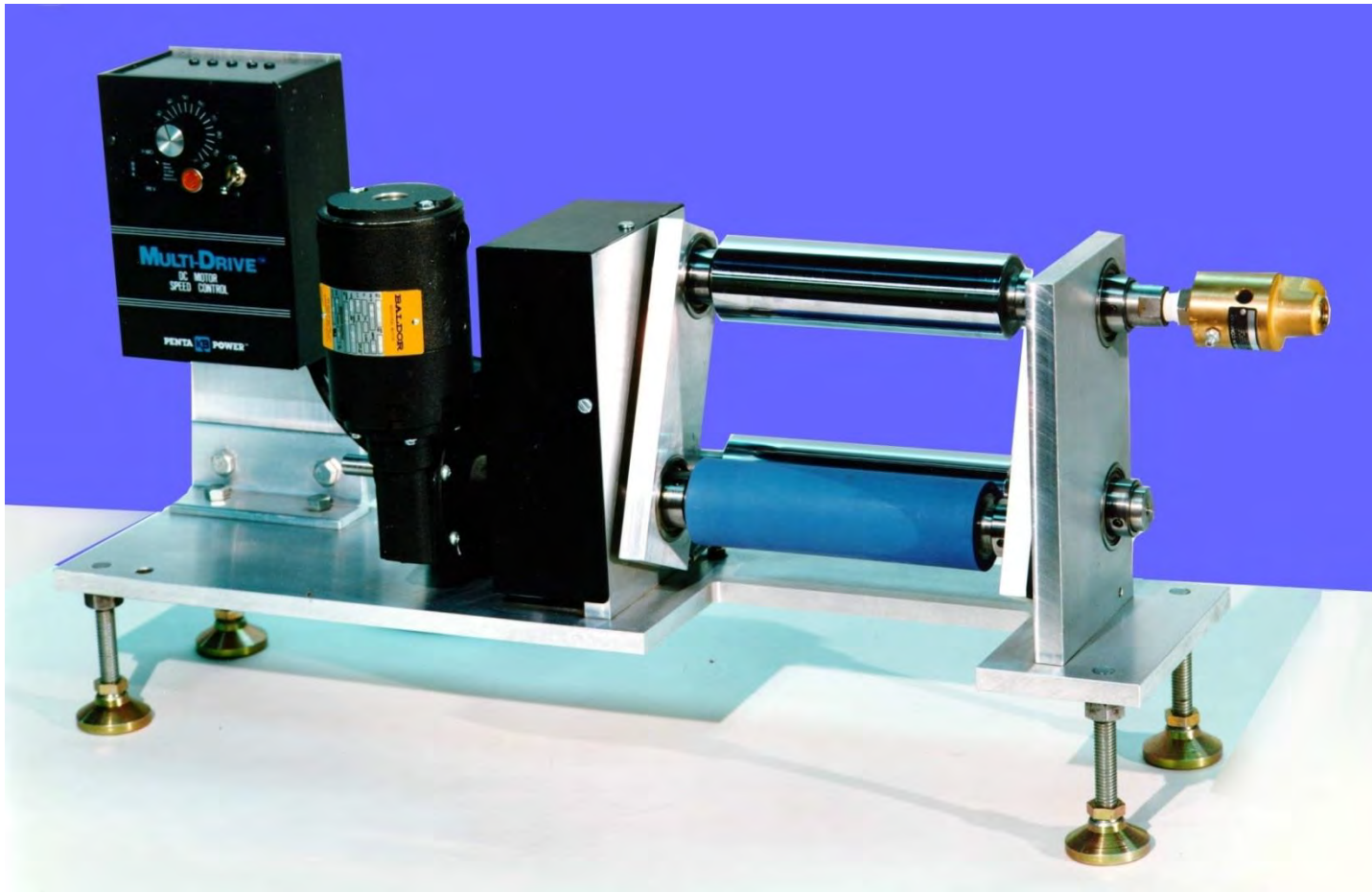
Rear view, for vertical die, variable speed, ideal for dies 6 inches and smaller. Variable speed chill roll includes rotary unions for roll heating/cooling, edge pinner and easy die positioning. Available in 14 inch width.

7 Inch Wide Chill Roll



Back view, for vertical die, variable speed, ideal for dies 6 inches and smaller. Variable speed chill roll includes rotary unions for roll heating/cooling, edge pinner and easy die positioning. Available in 14 inch width.

7 Inch Wide Chill Roll



For horizontal die, variable speed, ideal for dies 6 inches and smaller. Variable speed chill roll includes rotary unions (one not shown) for roll heating/cooling, edge pinner (not shown) and easy die positioning. Available in 14 inch width.

Micro Chill Roll & Winder



For horizontal die, variable speed, ideal for dies 3 inches and smaller where the output is 250 g/hr. Variable speed chill roll includes rotary union for roll heating/cooling and easy die positioning.

Winders/Payoff

8 Inch Wide In Line Torque Winder



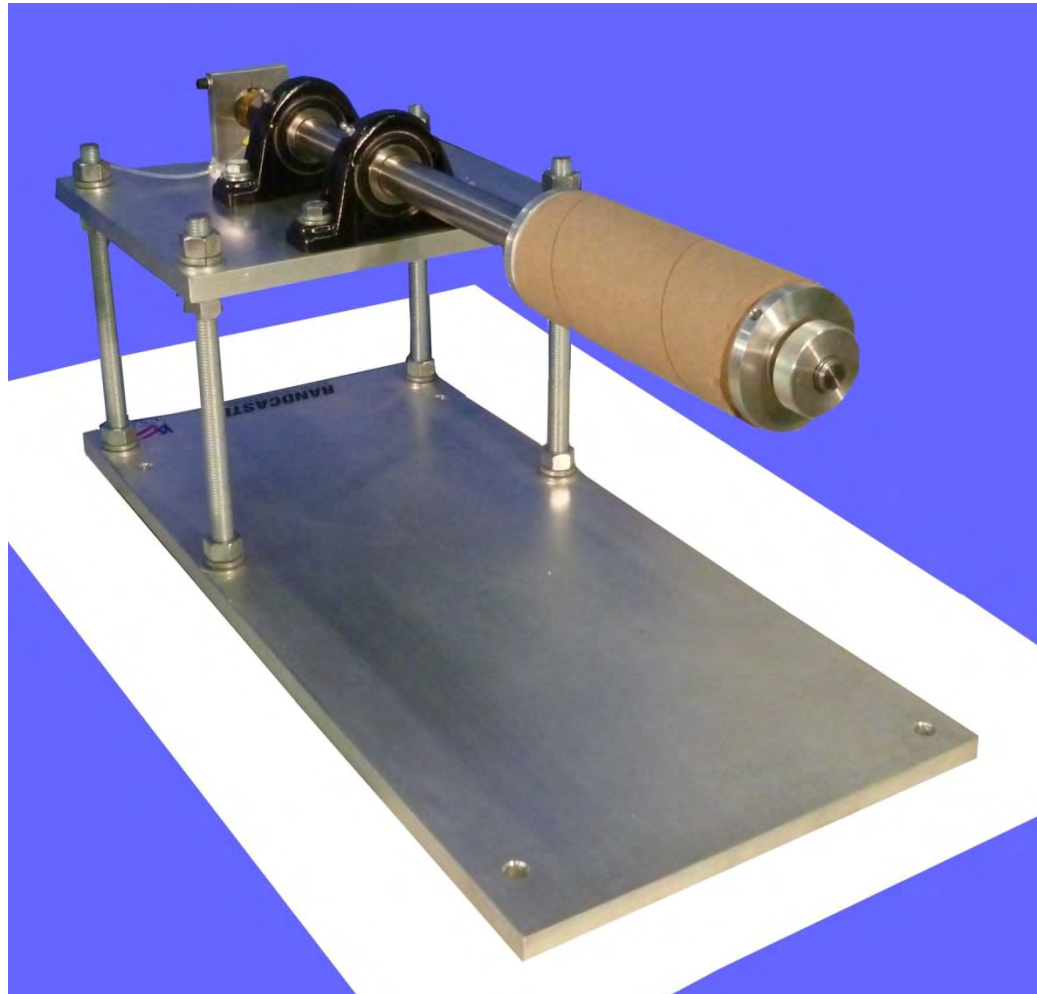
Variable torque controls shaft tension.
Core cones for standard 3 inch ID paper cores.

8 Inch Wide Parallel Torque Winder



Variable torque controls shaft tension.
Core cones for standard 3 inch ID paper cores.

Adjustable Resistance Payoff



Vary the shaft resistance over a wide range by increasing the number of friction plates in the tensioner or just change the air pressure. Core cones for standard 3 inch ID paper cores.