

World's Smallest Polymer Processing Lines

The Ultra Micro Series

The Ultra Micro
film blowing line



The Ultra Micro
cast film line



The Ultra Micro Combi line with both film blowing and cast film lines on the same platform, served by one Micro Extruder where each downstream attachment can easily be moved to connect to the common extruder



The Ultra Micro Co-Ex
chill roll line



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The Ultra Micro Film Blowing line

The film tower has a total width of 150 mm and can accommodate a film of a lay flat width up to 100 mm. The nip-rolls are spring loaded and driven with a variable speed DC motor and one roll is made from chromed steel, the other with neoprene rubber coating. The A-frame has polished hard wood slats and is made with adjustable collapsing angle. The film bubble is stabilized with two sets of adjustable frames which can accommodate all applicable bubble diameters.

The tower is adjustable in height with a central turning wheel and it has a height range with die to nip-roll distance from 445 to 640 mm

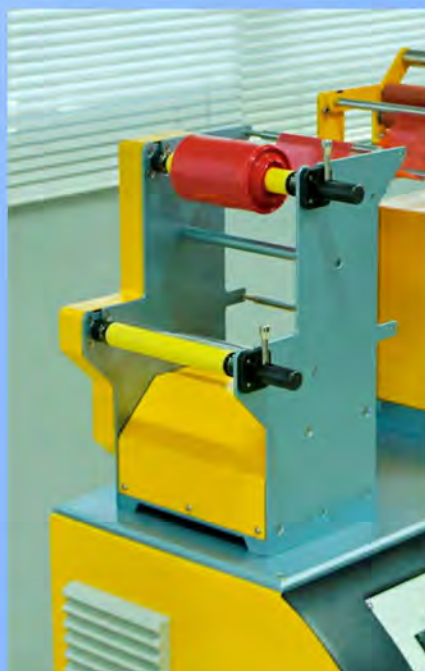


The die is suitable for LDPE, LLDPE and HDPE. It is designed same as our larger versions and it is of spiral mandrel type with inlet at the bottom and connected to the extruder with a c-clamp. The die lip centering is done with 4 adjustable screws which are connected to the outer die lip ring.

The air ring is made with same internal channels as our larger versions and the air flow is adjustable with a turning lip ring. The cooling air is supplied by a high velocity turbo blower built in to the tower sub cabinet and connected to the air ring with four flex hoses. The blower is with variable speed to optimise the cooling rate of the film bubble



Downside of tower is equipped with a film inspection lamp using miniature fluorescent lamps and with a diffuser front. An On/Off switch is mounted on the side of the lamp.



The 2-station wind up shown below is optional and as standard the line is supplied with a single station version. Both version utilizes a variable speed brushless DC motor drive with a slip belt drive. The bobbins are easily installed and removed with spring loaded gripping cones

The Ultra Micro Chill Roll line



All three rolls of the chill roll stack have a diameter of 40 mm and are same as with our larger versions equipped for water cooling and heating. The line includes a roll tempering unit with circulating water, connected to all three rolls giving a temperature regulation from ambient temperature to a maximum of around 90 degrees C



The Ultra Micro Cast Film line is as standard supplied with our 50 mm wide flat die with an adjustable lip gap from 0.1 to 0.3 mm. The die is designed similar as to our larger versions and are suitable for many different polymers, it also has its own heating zone and is connected to the extruder with a quick lock C-Clamp system. Another die width of 75 mm is available as an option



The roll width for the LUMCR-50 is 100 mm and can produce films or sheets with a width after neck-in of around 40 to 45 mm with the standard 50 mm die and 60 to 65 mm with the optional 75 mm die. The thickness range is around 10 to 300 microns. The rolls are made of stainless steel of same high quality as we use for our larger versions and are precision ground and polished to a mirror surface.



The film wind up system comprises of a set of rubber nip-rolls on the out feed conveyor of the cast film unit and a single station wind up unit.



The sub cabinet also contains the water tank and water tempering unit for the chill roll stack including water circulating pumps.

The unique Ultra Micro Co-Ex Chill Roll Line



For 2 and 3 layers A+B and A+B+A configuration with stream lined feed block of sector type for optimum layer distribution



The amazing 8 mm extruder which can be fed with regular pellets thanks to its conical design with a 18 mm in feed section. With 30 L/D, Servo motor drive and PID temp controller.



Technical Data on the Ultra Micro Cast Film , Blow film and Single Screw Extruder

Extruder LE8-30/C	
Conical screw diameter	18 mm at in feed, 8 mm at end
Screw L/D ratio	30
AC servo motor	400 W
Screw speed range	0 to 300 RPM
Barrel heating zone	1
Air cooling on In-feed zone	1
Heating power	650 W
Max pellet size	Standard pellets

Cast Film LCR-50	
Roll width	100 mm
Roll diameter, all 3 rolls	40 mm
Maximum film width after neck-in	40-45 mm standard, 60-65 mm optional die
Film thickness	10 to 300 μ m
Die width, standard	50 mm
Die adjustable lip opening	0.1 to 0.3 mm
Flat die heater power	400 W
Roll stack DC motor power	30 W
Take-off speed, m/min	0.5-5 m/min
DC Nip roll and wind up motor power	15 W
Water temp. range	Max 90°C
Water temp. heater power	1000 W

Film Tower LF-150	
Maximum film lay flat width	100 mm
Haul off film speed, m/min	0.5-5 m/min
Standard film die diameter	20 mm (Gap 0.8 mm)
Height from die to nip-roll	445 to 640 mm
Die Heater, power	530 W
Variable speed air ring blower	24 W
Air compressor power	100 W
Pressure range of compressor	0 to 4 Bar
Total electrical power	654 W
Total height of film tower	1170 to 1365 mm
Resin remains in screw	3 g
Resin remains in die and adaptor	9 g
Total resin remains in screw and die	12 g
Minimum quantity to blow a film	30 to 50 g

Two-Station Windup	
Maximum film lay flat width	100 mm
Film wind up speed, (rpm)	0 to 70 RPM
DC Wind up motor power	15 W

Complete film line	
Voltage	Single phase 220 V