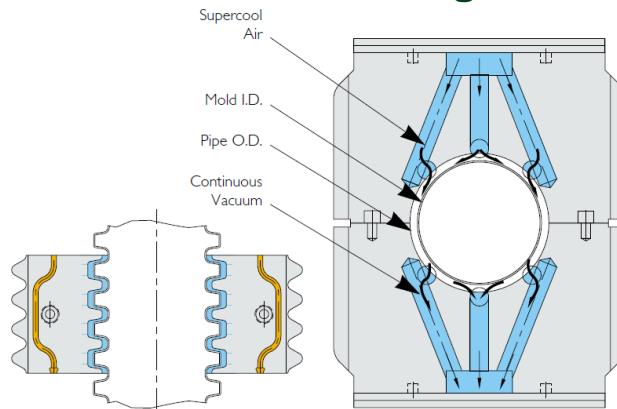




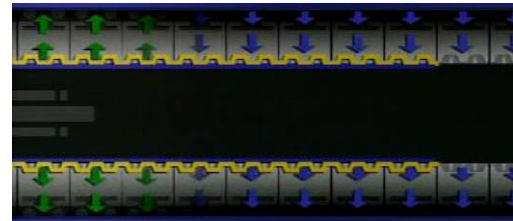
Supercooling - Method and Apparatus of Cooling Product within a Mold



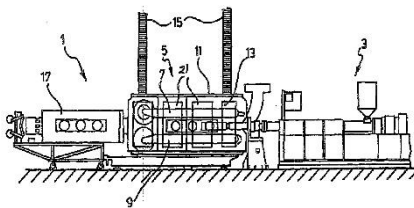
effective machines currently available.

In 1973, Corma introduced the first air-cooled corrugator machine to the world. Since then, every single one of our corrugators has been air-cooled, making it a distinct signature of our product line. At the time, we were ridiculed by our competitors who were all using water-cooling. However, it would appear that their technology has reached its limits as we are noticing more companies developing so-called "new" air cooling systems that we have already been refining for the past 41 years. It has evolved to include our patented Supercooling™ system and patented Insulated Cooling Enclosure, combining to make **Corma air-cooled corrugators** some of the **most efficient** and

When the plastic sets up and cools down it shrinks and pulls away from the mold, creating a gap between the pipe and the mold that effectively acts as an insulator. Picture a cold glass of water with condensation that runs along the sides - if you take both hands and hold the glass, your hands will feel very cold. However, if you remove your hands from the glass and stay close to it without touching, you will feel almost nothing cooling your hands. The small air gap insulates the cold glass from your hands, similar to how a double pane window insulates the outside temperature from the inside the house. This principle is also applicable to mold blocks and plastic.



The concept of our Supercooling™ technology (patented in 1998) is to channel cold air into the gap between the pipe and mold to maximize cooling efficiency. Cold air travels through the vacuum forming slits on one end of our mold block into the gap, then exiting out through the slits on the other end. This method efficiently cools both the pipe as well as the mold blocks.



In addition, our Insulated Cooling Enclosure is a climate controlled system that maintains optimal operating temperature throughout the year. This means energy requirements are lower than conventional cooling systems that continuously blow air because our enclosure only requires energy to cool the corrugator when needed, which also prevents overcooling issues as well.

The combination of our Supercooling™ technology and insulated cooling enclosure **increases productivity from 25% up to 50%** with **less energy usage** and **consistently produces high quality pipes** that have **minimal inherent stress**. As an innovation leader, we are already working on a new patent for mold block technology with a cutting-edge air-cooling system to further enhance the capabilities of our clients' businesses. Please stay tuned for more information on how Corma can make a positive impact on your bottom line!



Technical Data

Corrugator Model Number* Vacuum Forming or Blow Molding	Pipe Range				Maximum Line Speed**		Maximum Output**	
	mm		inches		M/min	ft/min	Kg/hr	lbs/hr
	Min. I.D.	Max. O.D.	Min. I.D.	Max. O.D.				
053	3	20	0.12	0.8	50	165	30	66
130	6	110	0.25	4.5	55	180	360	790
430	6	160	0.25	6.3	35	115	450	990
630***	50	200	2.0	8.0	35	115	1040	2300
830***	50	300	2.0	12.0	35	115	1040	2300
1030	50	365	2.0	14.4	30	100	750	1650
1230	50	400	2.0	16.0	30	100	800	1760
1530	50	700	2.0	27.5	23	75	1000	2200
2030	100	800	4.0	32.0	10	33	1300	2860
3030	100	1200	4.0	48.0	6	20	1300	2860
4030	200	1500	8.0	60.0	5	16.5	1400	3100
6030	450	1800	18.0	72.0	3	10	1500	3300
P 30/60	750	1800	30.0	72.0	1	3.3	1300	2860
P 30/120	750	3000	30.0	120.0	1	3.3	1500	3300
Vertical Corrugator Model Number								
V 053	1	20	0.040	0.8	50	165	30	66
V 130	4	100	0.160	4.0	50	165	215	475
V 630	20	200	0.8	8.0	30	100	600	1320
Rib-Pipe Model Number								
R 2030	100	700	4.0	28.0	10	33	1100	2420
R 3030	100	1000	4.0	40.0	10	33	1300	2860

* Mold blocks are interchangeable within family groupings. Also, molds from smaller corrugators can be used on larger corrugators, using Corma's carrier adaptors.

**Line speeds and outputs are theoretical and depend on: pipe diameter; type of plastic; machine model; cooling options; mold track length; temperature and quantity of cooling water; profile configuration; extruder capacity, etc.

***630-12 and 830-12 line speed and output based on high speed corrugator configuration